CICS Transaction Server for z/OS
Version 4 Release 1

Diagnosis Reference

GC34-7038-02

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Note

Before using this information and the product it supports, read the information in "Notices" on page 2331.

This edition applies to Version 4 Release 1 of CICS Transaction Server for z/OS (product number 5655-S97) and to all subsequent releases and modifications until otherwise indicated in new editions.

Contents

Preface

What this book is about

When the term ”CICS” is used without any qualification in this manual, it refers to the CICS® element of CICS Transaction Server for z/OS®.

”MVS” is used for the operating system, which is an element of z/OS.

This manual gives a detailed description of the various components that make up a CICS system. It also provides reference tables of CICS source modules and executable modules.

This manual is intended to help you in diagnosing problems with CICS.

This manual documents information NOT intended to be used as a Programming Interface of Version 4 Release 1.

Who this book is for

This book provides a basis for communication between the system programmer and the IBM® support representative whenever a problem with CICS code is suspected.

What you need to know to use this book

You should have system programming experience and a good working knowledge of CICS and of the functions used in your system to support CICS applications.

Before using this book, you should have read the *CICS Problem Determination Guide* to learn about the general approach to CICS problem-solving and the procedures to use when diagnosing and reporting system problems. You should already be familiar with the general layout of CICS traces and dumps.

In addition, you may need to refer to the following books in the CICS library while diagnosing what appears to be a system problem:

- *CICS Data Areas* for details of the layout and contents of CICS data areas
- *CICS Messages and Codes* manual for information about the messages and abend codes that can be issued by a running CICS system

Notes on terminology

The following abbreviations are used throughout this book:

Term	**Meaning**
CICS	When used without qualification in the book, refers to the CICS element of IBM CICS Transaction Server for z/OS
ESA	IBM Enterprise Systems Architecture/370 (ESA/370)
MVS™	The IBM operating system, which can be either an element of OS/390®, or MVS/Enterprise System Architecture System Product (MVS/ESA SP)
VTAM®	IBM Advanced Communications Function/Virtual Telecommunications Access Method (ACF/VTAM)

VTAM/NCP	IBM Virtual Telecommunications Access Method/Network Control Program (VTAM/NCP)
IMS™	IMS/ESA
DL/I	The DL/I facilities of IMS/ESA
FEPI	Front End Programming Interface

Changes in CICS Transaction Server for z/OS, Version 4 Release 1

For information about changes that have been made in this release, please refer to *What's New* in the information center, or the following publications:

- *CICS Transaction Server for z/OS What's New*
- *CICS Transaction Server for z/OS Upgrading from CICS TS Version 3.2*
- *CICS Transaction Server for z/OS Upgrading from CICS TS Version 3.1*
- *CICS Transaction Server for z/OS Upgrading from CICS TS Version 2.3*

Any technical changes that are made to the text after release are indicated by a vertical bar (|) to the left of each new or changed line of information.

Part 1. Introduction

This information describes the functional areas, or components, into which CICS is divided. If you are using this information to diagnose a system problem, to find out whether a function is working as designed, you must also consult the appropriate administration and programming information.

In this and other CICS information, the term *component* is used in a general way to refer to any unit of code that performs an identifiable set of functions and manages a certain type of data.

Some CICS components are shipped as **object code only (OCO)**. If the component causing a problem is OCO, it is the responsibility of IBM to diagnose the problem further. If the component is not OCO, refer to the *Program Directory for CICS Transaction Server for z/OS* for details on how to view the source code. Use this set of detailed information to identify more specifically the cause of the problem. The Chapter 116, “CICS directory,” on page 2055 shows which CICS object modules are regarded as OCO; no source code is available for these modules.

Chapter 1. CICS domains

At the top level, CICS is organized into **domains**. With the exception of the application domain, which contains several components, each domain is a single major component of CICS.

Domains never communicate directly with each other. Calls between domains are routed through kernel linkage routines. Calls can be made only to official interfaces to the domains, and they must use the correct protocols. This structure is shown in Figure 1.

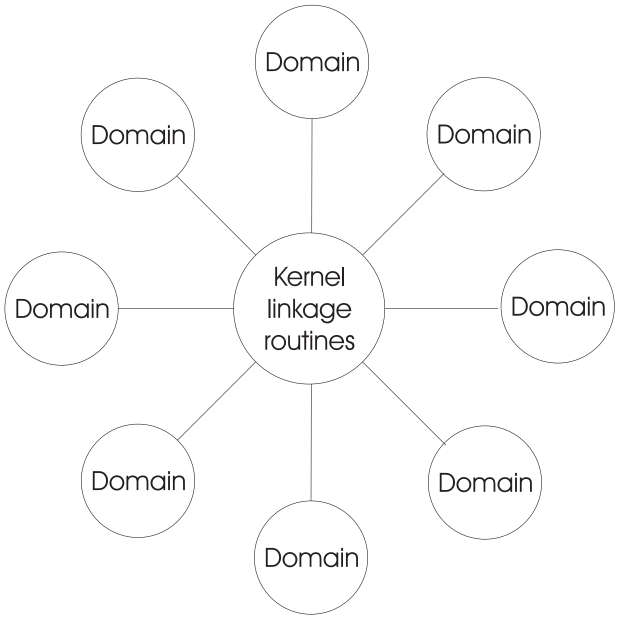


Figure 1. CICS organization—domains

Each domain manages its own data. No domain accesses another domain's data directly. If a domain needs data belonging to another domain, it must call that domain, and that domain then passes the data back in the caller's parameter area.

The following table lists the CICS domains alphabetically by domain identifier. For each domain, the table also shows whether or not the domain is OCO, and gives a reference to the section describing the interfaces to the domain.

Domain ID	Domain	OCO?	See topic
AP	Application	See note	Chapter 70, "Application Manager Domain (AP)," on page 563

Domain ID	Domain	OCO?	See topic
BA	Business Application Manager	Yes	Chapter 71, “Business Application Manager Domain (BA),” on page 869
CC	Local catalog	Yes	Chapter 72, “CICS Catalog Domain (CC),” on page 903
DD	Directory manager	Yes	Chapter 73, “Directory manager domain (DD),” on page 911
DH	Document handler	Yes	Chapter 74, “Document Handler Domain (DH),” on page 923
DM	Domain manager	Yes	Chapter 75, “Domain Manager Domain (DM),” on page 949
DP	Debugging profile domain	Yes	Chapter 76, “Debugging profile domain (DP),” on page 961
DS	Dispatcher	Yes	Chapter 77, “Dispatcher Domain (DS),” on page 997
DU	Dump	No	Chapter 78, “Dump Domain (DU),” on page 1035
EJ	Enterprise Java	No	Chapter 79, “Enterprise Java Domain (EJ),” on page 1063
EM	Event manager	Yes	Chapter 80, “Event Manager Domain (EM),” on page 1135
EP	Event processing	Yes	Chapter 81, “Event processing domain (EP),” on page 1149
GC	Global catalog	Yes	Chapter 72, “CICS Catalog Domain (CC),” on page 903

Domain ID	Domain	OCO?	See topic
IE	IP ECI	Yes	Chapter 82, “IP ECI (IE) domain,” on page 1153
II	IIOP	No	Chapter 83, “IIOP domain (II),” on page 1157
IS	Inter-system (IS) domain	Yes	Chapter 84, “Inter-system (IS) domain,” on page 1179
KE	Kernel	Yes	Chapter 85, “Kernel Domain (KE),” on page 1215
LD	Loader	Yes	Chapter 86, “Loader Domain (LD),” on page 1249
LG	Log manager	Yes	Chapter 87, “Log manager domain (LG),” on page 1279
LM	Lock manager	Yes	Chapter 88, “Lock Manager Domain (LM),” on page 1319
ME	Message	Yes	Chapter 89, “Message Domain (ME),” on page 1323
MN	Monitoring	Yes	Chapter 91, “Monitoring Domain (MN),” on page 1349
NQ	Enqueue	Yes	Chapter 92, “Enqueue Domain (NQ),” on page 1361
OT	Object transaction service	No	Chapter 93, “Object transaction service domain (OT),” on page 1383
PA	Parameter manager	Yes	Chapter 94, “Parameter Manager Domain (PA),” on page 1393
PT	Partner	Yes	Chapter 97, “Partner Management Domain (PT),” on page 1523

Domain ID	Domain	OCO?	See topic
PG	Program manager	Yes	Chapter 95, “Program Manager Domain (PG),” on page 1397
RM	Recovery manager	Yes	Chapter 99, “Recovery Manager Domain (RM),” on page 1551
RX	Resource recovery service	Yes	Chapter 101, “RRMS domain (RX),” on page 1627
RZ	Request Stream	No	Chapter 102, “Request Streams Domain (RZ),” on page 1633
SH	Scheduler services	Yes	Chapter 103, “Scheduler Services Domain (SH),” on page 1643
SJ	JVM Domain	No	Chapter 70, “Application Manager Domain (AP),” on page 563
SM	Storage manager	Yes	Chapter 105, “Storage Manager Domain (SM),” on page 1677
SO	Sockets Domain	No	Chapter 106, “Sockets Domain (SO),” on page 1715
ST	Statistics	Yes	Chapter 107, “Statistics Domain (ST),” on page 1771
TI	Timer	Yes	Chapter 108, “Timer Domain (TI),” on page 1781
TR	Trace	No	Chapter 109, “Trace Domain (TR),” on page 1791
TS	Temporary storage	Yes	Chapter 110, “Temporary Storage Domain (TS),” on page 1801
WB	Web	Yes	Chapter 112, “Web Domain (WB),” on page 1861

Domain ID	Domain	OCO?	See topic
W2	Web 2.0	Yes	Chapter 113, "Web 2.0 Domain (W2)," on page 1925
XM	Transaction manager	Yes	Chapter 114, "Transaction manager domain (XM)," on page 1939
XS	Security manager	Yes	Chapter 115, "Security Domain (XS)," on page 2005

Note: The application domain is mainly non-OCO, but it contains these OCO components:
- CICS data table services
- RDO for VSAM files and LSR pools
- Some EXEC CICS system programming functions
- Autoinstall terminal model manager
- Partner resource manager
- SAA Communications and Resource Recovery
- Some of the file control functions
- Recovery manager connectors interfaces.

The offline statistics utility program (DFHSTUP) and the system dump formatting routines are also treated as OCO.

Domain gates

A **domain gate** is an entry point or interface to a domain. It can be called by any authorized caller who needs to use some function provided by the domain.

A number of domain functions are available through the exit programming interface (XPI). For details, see the The *CICS Customization Guide*.

In practice, every domain has several gates. Each gate has a 4-character identifier; the first two characters are the identifier of the owning domain, and the second two characters differentiate between the functions of the domain's gates. Here, for example, are two of the dispatcher (DS) domain's gates:

DSAT
DSSR

Functions provided by gates

An individual gate can provide many functions. The required function is determined by the parameters included on the call. The DSSR gate of the DS domain, for example, provides all these functions:

ADD_SUSPEND
DELETE_SUSPEND
INQUIRE_SUSPEND_TOKEN
RESUME
SUSPEND
WAIT_MVS

WAIT_OLDC
WAIT_OLDW.

Specific gates, generic and call-back gates

It is useful to distinguish between **specific gates**, **generic gates** and **callback gates**:

- A specific gate gives access to a set of functions that are provided by that domain alone. The functions are likely to be requested by many different callers.

  DS domain, for example, has a specific gate (DSAT) that provides CHANGE_MODE and CHANGE_PRIORITY functions (among other functions). Only the DS domain provides those functions, but they can be requested by many different callers.
- A generic gate gives access to a set of functions that are provided by several domains.

  Most domains provide a QUIESCE_DOMAIN function, for example, so that they can be quiesced when CICS is shutting down normally. They each have a generic gate that provides this function. DM domain makes a **generic call** to that gate in any domain that is to be quiesced.
- A call-back gate also gives access to a set of functions that can be provided by several domains. Unlike a generic gate where the call is broadcast to all domains that have provided a gate a call-back is restricted to specific domains but uses a format owned by the calling domain.

  For example the Recovery Manager calls the domains that have registered an interest in syncpoint processing using the PERFORM_PREPARE function format that it owns.

Domain call formats

Any module calling a domain gate must use the correct **format** for the call. The format represents the parameter list structure. It describes the parameters that must be provided on the call (the **input** parameters), and the parameters that are returned to the caller when the request has been processed (the **output** parameters).

For example, Table 1 lists the input and output parameters for the ATTACH function of the DS domain's DSAT gate.

Table 1. Domain call formats

Input parameters	Output parameters
PRIORITY	TASK_TOKEN
USER_TOKEN	RESPONSE
[TIMEOUT]	[REASON]
TYPE	
[MODE]	
[TASK_REPLY_GATE_INDEX]	
[SPECIAL_TYPE]	

Parameters not shown in brackets are mandatory, and are always interpreted in trace entries. Parameters shown in brackets are optional, and are in trace entries only if values have been set. An exception to this rule is that, regardless of whether REASON is mandatory or optional for a particular function, its value is included in a trace entry only for a non-'OK' response.

The domain call formats described are in the sections dealing with the domains that own them, as discussed in “Ownership of formats.”

Ownership of formats

Every format is ‘owned’ by a domain:

- The formats for specific calls are owned by the domain being called. DS domain, for example, owns the format for the CHANGE_MODE and CHANGE_PRIORITY calls. This book uses the term **specific format** to refer to such formats.
- The formats for generic calls and call-back calls are owned by the calling domain. DM domain, for example, owns the format for calls to (generic) gates providing the QUIESCE_DOMAIN function in other domains. This book uses the term **generic format** to refer to such formats.

Tokens

Tokens are passed as parameters on many domain calls. They identify uniquely objects that are operands of domain functions.

Here are some examples:

TASK_TOKEN
uniquely identifies a task to be used as the operand of a function.

DOMAIN_TOKEN
uniquely identifies a domain to be used as the operand of a function.

SUSPEND_TOKEN
uniquely identifies a task for the purpose of a suspend or resume dialog.

The `BROWSE_TOKEN` parameter on domain interfaces

Some domains provide functions that callers can use to browse through a set of objects in the domain. These functions normally use a *browse token* that encapsulates the state of the browse operation.

The browse token is represented in most cases by the **`BROWSE_TOKEN`** parameter, although some domains use a different name.

1. The called domain creates the token when the calling domain issues a START_BROWSE request, and returns it to the caller.
2. The calling domain passes the token to the called domain on GET_NEXT and similar requests. The called domain uses the token to distinguish concurrent browse operations from one another, and to maintain the state of the browse operation.
3. Finally the calling domain passes the token to the called domain on an END_BROWSE request, after which the token is invalid.

The `RESPONSE` parameter on domain interfaces

All domain calls return the **`RESPONSE`** parameter to indicate whether the call was successful.

The **`RESPONSE`** parameter has the following values:

`OK` The requested function has been completed successfully.

EXCEPTION
Processing of the function could not be completed, and the domain state is unchanged. More information is given in the **REASON** parameter.

DISASTER
The domain could not complete the request because of some irrecoverable system problem. More information is given in the **REASON** parameter.

INVALID
The parameter list is not valid. More information is given in the **REASON** parameter.

KERNERROR
The kernel was unable to call the required function gate.

PURGED
A purge has been requested for the task making the domain call.

Chapter 2. Application domain

Application programs are run in the application (AP) domain, which contains several major components, as shown in Figure 2 on page 12.

Most application domain CICS functions are either provided by modules that are part of the CICS nucleus, that is to say they are an integral part of the system and are loaded at system initialization time, or they are system application programs, which are loaded as needed in the same way as user application programs.

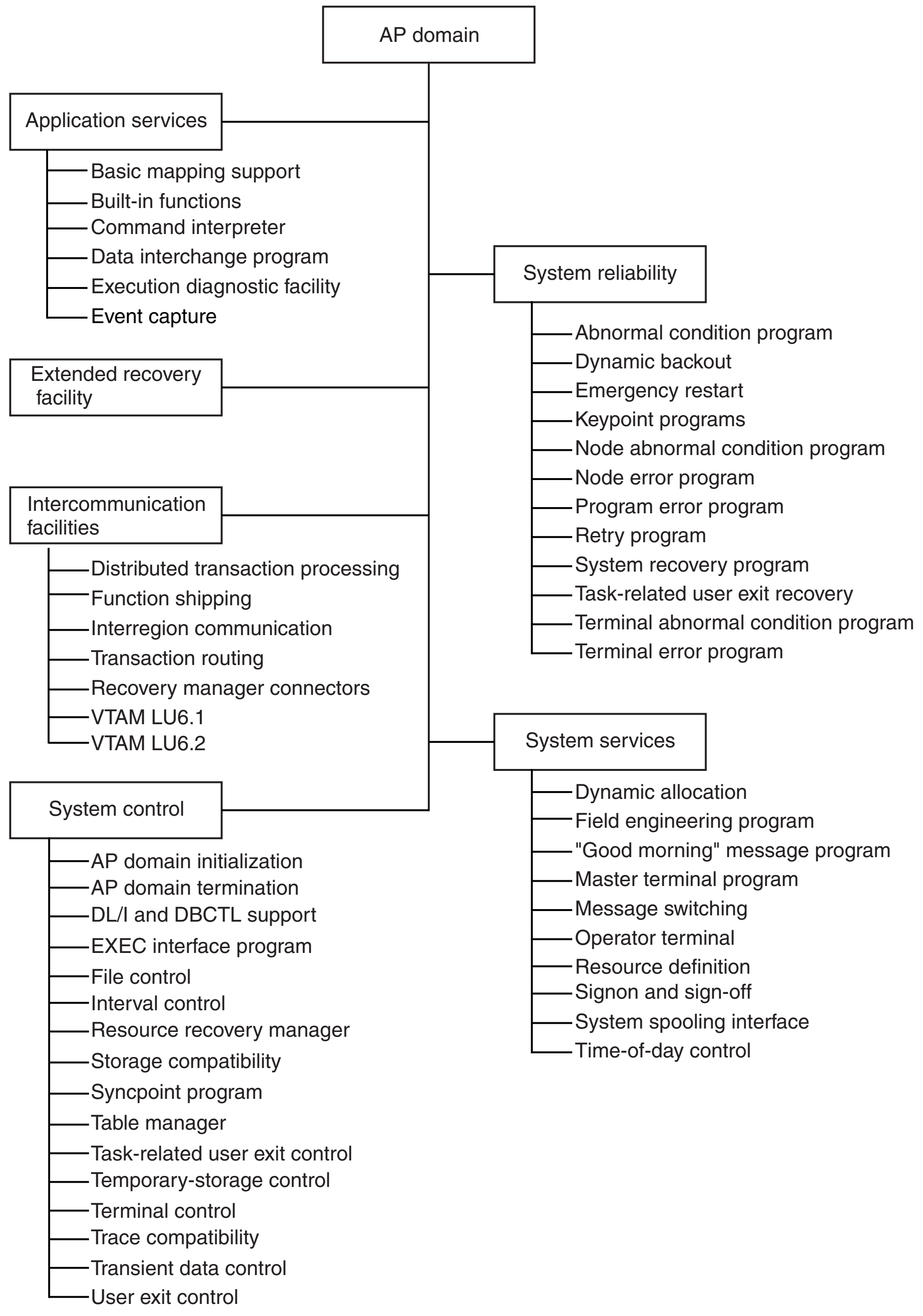


Figure 2. AP domain - major components

Part 2. CICS components

Topics describing the major components of a CICS system that do not use a domain interface. Offline utilities, such as the statistics utility program, are also covered.

Chapter 3. Autoinstall for terminals, consoles and APPC connections

Autoinstall for terminals provides the ability to log on to CICS from a logical unit (LU), known to VTAM but not previously defined to CICS, and to make a connection to a running CICS system.

A new connection is created and installed automatically if autoinstall for connections is enabled, and either of the following occurs:

- An APPC BIND request or CINIT request is received for an APPC service manager (SNASVCMG) session that does not have a matching CICS CONNECTION definition
- A BIND is received for a single session that does not have a matching CICS CONNECTION definition.

A new console is created and installed automatically if autoinstall for consoles is enabled and a CIB (Command Input Buffer sent from MVS) is received by CICS (DFHZCNA) and the console TCTTE does not already exist.

For an introduction to autoinstall, and information about how to implement it, see the*CICS Resource Definition Guide*.

The *CICS Customization Guide* gives information about implementing the autoinstall user program. The CICS-supplied programs are:

- DFHZATDX, which provides autoinstall for terminals only
- DFHZATDY, which provides autoinstall for terminals and APPC connections.

These programs are user-replaceable, because you may need to tailor the basic function to suit your CICS environment.

Design overview

Before a VTAM device can communicate with CICS, a VTAM session must be established between the device and CICS. The sequence of operations is LOGON, Open Destination (OPNDST), and Start Data Traffic (SDT). CICS can also initiate the LOGON by using a SIMLOGON.

The session can be requested by:

- Specifying AUTOCONNECT when the terminal is defined to CICS
- A VTAM master terminal command requesting a LOGON to CICS for a given terminal; for example, V NET,LOGON=CICSA,ID=L3277C1
- An individual terminal operator issuing a LOGON request (LOGON APPLID(CICSA))
- A CICS master terminal command requesting LOGON for a given terminal (CEMT SET TERMINAL(xxxx) INSERVICE ACQUIRED)
- CICS internally requesting a LOGON; for example, to process an ATI request
- LOGAPPL=CICS in the LU statement.

Consoles are not VTAM resource but they usse a similar mechanism to autoinstall the TCTTE.

Autoinstall of a terminal logon flow

This section describes the flow of control for a terminal that is to be logged on by autoinstall.

1. When a terminal or single session APPC device attempts to log on, VTAM drives the **logon exit**. The CICS logon exit is DFHZLGX (load module DFHZCY).

   In the following circumstances, an LU is a candidate for autoinstall:

   - If it is not already defined to CICS (using RDO)
   - If neither CICS nor VTAM is quiescing
   - If the autoinstall user program (specified by the AIEXIT system initialization parameter) exists
   - If the VTAM RPL is present
   - If it is not an LU6.1 session or an LU6.2 parallel session
   - If it is an LU6.2 single session terminal and the ISC=YES system initialization parameter is specified
   - If the maximum number of concurrent logon requests (specified by the AIQMAX system initialization parameter) has not been exceeded.

   DFHZLGX searches for the terminal in the terminal control table (TCT) by comparing the NETNAME passed by VTAM with the NETNAME found in the NIB descriptor for each installed terminal.

   If a match is not found and AUTOINSTALL is enabled (TCTVADEN is set), CICS verifies that the terminal is eligible for autoinstall. Processing then consists of:

   - Building an autoinstall work element (AWE) by issuing an MVS GETMAIN for subpool 1
   - Copying the CINIT RU into the AWE
   - Adding the AWE to the end of the AWE chain, which is chained from the TCT prefix.

   If a match is found showing that this autoinstall terminal already exists, a postponed work element (PWE) is created and the terminal is reinstalled after deletion of the TCTTE (TCTEDZIP is ON) or if AILDELAY=0. If, however, AILDELAY¬=0 but TCTEDZIP is not ON (that is, the TCTTE deletion is pending), the TCTTE is reused after cleanup.
2. Later, the work element (AWE) is actioned by DFHZACT attaching transaction CATA. For every AWE on the AWE chain, the DFHZATA autoinstall program is dispatched, passing to DFHZATA the AWE's address.
3. The DFHZATA program:
   a. Validates the BIND image in the CINIT RU. If the image is not valid, issue message DFHZC6901.
   b. If VTAM Model Terminal Support (MTS) is being used (ACF/VTAM 3.3 or later), and the name of a CICS model has been supplied in a X'2F' MTS control vector, DFHZATA checks that the model exists by using the AIIQ subroutine interface of the AITM manager (see Chapter 4, "Autoinstall terminal model manager," on page 29). If the model does not exist, issue message DFHZC6936.

      DFHZATA compares the BIND image contained in the MTS model with the BIND image passed in the CINIT RU. If there is a mismatch, issue message DFHZC6937.

      This validated MTS model is the only model passed to the autoinstall control program.

c. In the absence of an MTS model name, DFHZATA browses the autoinstall terminal model (AITM) table using the AIIQ subroutine interface of the AITM manager. These models must have been installed, with appropriate TYPETERM definitions, either at system initialization or by a CEDA INSTALL command.

   Compare the BIND image contained in each model with the BIND image passed in the CINIT RU, and build a list of suitable models to be passed to the autoinstall control program.

   For autoinstall of an LU to be successful, the following ***must match***:

   - CINIT BIND image, taken from the VTAM LOGMODE entry specified for the LU in the VTAMLST
   - Autoinstall terminal model BIND image, built according to the specifications in the TYPETERM and TERMINAL definitions.

   (Both versions of the BIND image should accurately define the characteristics of the device.) If the model BIND matches the CINIT BIND, the model is added to the list of candidate entries.

   If the list is empty (no matching models are found), the request is rejected and message DFHZC6987 is written to the CADL log.
d. On completion of the model search, if any, DFHZATA links to the autoinstall control program (the CICS-supplied default is DFHZATDX).
e. Issue DFHZCP_INSTALL to create the TCTTE. DFHZATA uses information from the model selected by the exit program and the associated TYPETERM entry to build the TCTTE.
f. If the install was successful, commit the TCTTE and queue it for LOGON processing. The new TCTTE is queued for OPNDST processing, then later the “good morning” message is written.
g. Free the AWE.

Autoinstall of APPC device logon flow

This section describes the flow of control for an APPC parallel session device (or single session via a BIND) that is to be logged on by autoinstall.

1. When an APPC device attempts to logon, VTAM drives the logon exit DFHZLGX if a CINIT is received, or the SCIP exit DFHZBLX if a BIND is received.

   Note that DFHZBLX is a new VTAM exit module that is called by DFHZSCX if an LU62 BIND has been received.

   In the following circumstances, an APPC LU is a candidate for autoinstall.

   - If the connection is not already defined to CICS.
   - If the connection is not already installed.
   - If the autoinstall user program (specified by the AIEXIT system initialization parameter) exists and caters for functions 2-4 as well as functions 0-1.
   - If the VTAM ACB is open.
   - If it is an APPC parallel session connection.
   - If it is an APPC single session connection with an incoming BIND (as opposed to CINIT - which uses terminal autoinstall).
   - If ISC=YES is specified in the SIT.
   - If the maximum number of concurrent logon requests (specified by AIQMAX) has not been exceeded.
   - If the customer has installed the correct 'template' connection that is to be 'cloned' (or copied) to create the new connection.

DFHZLGX or DFHZBLX searches for the connection in the terminal control table (TCT) by comparing the NETNAME passed by VTAM with the NETNAME found in the NIB descriptor for each installed session.

If a match is found and AUTOINSTALL is enabled (TCTVADEN is set), CICS verifies that the terminal is eligible for autoinstall. Processing then consists of:

- Building an autoinstall work element (AWE) by issuing an MVS GETMAIN for subpool 1.
- Copying the CINIT RU (DFHZLGX) or BIND (DFHZBLX) into the AWE.
- Adding the AWE to the end of the AWE chain, which is chained from the TCT prefix.

If a match is found showing that this connection already exists then the logon proceeds as for a defined connection.

2. Later, the AWE is actioned by DFHZACT attaching transaction CATA. For every AWE on the AWE chain, the DFHZATA autoinstall program is dispatched, passing to DFHZATA the AWE's address.
3. The DFHZATA program:
   a. Validates the BIND image passed in the AWE. If the image is not valid, issue message DFHZC6901.
   b. Calls DFHZGAI Function(CREATE_CLONE_BPS) to create a Builder Parameter Set from which to create the new connection ('clone'). This is done by calling the customer supplied autoinstall user exit program (which can be based on DFHZATDY) in which the customer chooses which 'template' connection the new connection should be copied from.

      If at any point DFHZGAI finds a problem it issues message DFHZC6920 or DFHZC6921 or DFHZC6922 with an exception trace entry which will explain the reason for failure.
   c. Issue DFHZCP function(INSTALL) to create the CONNECTION, MODEGROUP and SESSIONs, based on the attributes of the template connection.
   d. For parallel sessions with an incoming BIND, chose the SNASVCMG secondary session and call DFHZGAI (SET_TCTTE_FOR_OPNDST). This mimics code in DFHZBLX to check the session against the incoming BIND.

      If at any point DFHZGAI finds a problem it issues message DFHZC6923 with an exception trace entry which explains the reason for failure.
   e. For parallel session with an incoming CINIT, chose the SNASVCMG primary session.
   f. If the install was successful, commit the CONNECTION and queue it for logon processing. The new CONNECTION is queued for OPNDST processing.
   g. Free the AWE.

Autoinstall of an APPC Generic Resource connection

If this system is registered as a generic resource and a bind is received from another generic resource then VTAM exit DFHZBLX will initiate an autoinstall if there is no generic or member name connection available for use.

An AWE is created with extra parameters such as the generic resource name and member name of the partner and possibly a suggested template.

Autoinstall then continues as for normal APPC and the extra parameters are reflected into the TCSE and TCTTE via the BPS.

Autoinstall of consoles install flow

1. The modify command comes into DFHZCNA via a CIB (Command Input Buffer) from MVS when a user types a console command for CICS.
2. DFHZCNA scans the Console Control Elements for a matching console name. If no CCE is found and autoinstall for consoles is enabled then an Autoinstall Work Element is created and added to the AWE queue.
3. DFHZACT scans the AWE queue and attached the CATA transaction.
4. The CATA transaction calls DFHZATA which sees the AWE is fir a console (sometimes called a Console Work Element) and calls DFHZATA2.
5. DFHZATA2 does the following:
   a. Finds the console models (AICONS is supplied in group DFHTERMC).
   b. If SIT AICONS(YES) is specified the models are passed to the autoinstall user-replaceable program which returns the termid. The default autoinstall user-replaceable program returns the last 4-characters of the consolename.
   c. If SIT AICONS(AUTO) is specified DFHZGBM is called to get a name in the console bitmap in the form ^AAA. The autoinstall user-replaceable program is not called.
   d. Calls DFHZCP FUNCTION(INSTALL).
   e. Issues EXEC CICS SYNCPOINT.
   f. Signs on if using preset security of USERID=*EVERY|*FIRST specified in the AI model TYPETERM.
   g. Geta a TIOA to hold the data specified in the command, e.g. if /f jobname,CEMT I TE was typed at the console then CEMT I TE is put into the TIOA.
   h. Call DFHZATT to attach the transaction specified in the MODIFY command (e.g. CEMT).

Sign-on to consoles flow

If a CIB is received with the same console name but with a different USERID then the autoinstall program DFHZATA2 is called to sign off the original USERID and sign on to the new USERID as follows:

1. DFHZCNA receives the modify and
   a. Finds the CCE
   b. Finds that the USERID is different and is already signed on
   c. Creates an AWE for signoff/on
   d. Chains the AWE for DFHZACT.
2. DFHZACT attaches CATA
3. CATA calls DFHZATA which calls DFHZATA2 for signoff/on
4. DFHZATA2 issues preset security sign off for the original USERID followed by sign on for the new USERID
5. DFHZATA2 then gets a TIOA for the modify command data and calls DFHZATT to attach the transaction as for normal autoinstall for consoles.

Disconnection flow for terminals (LU-initiated)

This section describes the flow of control when a request is made to disconnect an autoinstalled terminal (for example, by entering a CESF LOGOFF command), ultimately causing an EXEC CICS ISSUE LOGOFF command to be issued.

1. First the following functions are performed:
   - Set on the CLSDST flag in the TCTTE.

- Put the TCTTE on the **activate chain** for DFHZACT to dispatch.

2. Control is then passed to the **Close destination program**, DFHZCLS, which performs the following functions:
   - Set on the SHUTDOWN_IN_PROGRESS flag in the TCTTE.
   - Set on the REQUEST_SHUTDOWN flag in the TCTTE.
3. The **Send asynchronous commands program**, DFHZDSA is then called to send a VTAM SHUTD command to the LU (autoinstalled terminal) to be disconnected. The DFHZDSA program removes the TCTTE from the activate chain, pending completion of the SHUTD command.
4. When the VTAM SHUTD command has completed, VTAM calls the **asynchronous send exit**, DFHZSAX, which performs the following functions:
   - Set off the REQUEST_SHUTDOWN flag in the TCTTE.
   - Set on the SHUTDOWN_SEND flag in the TCTTE.
   - Put the TCTTE back on the activate chain for DFHZACT to dispatch.
5. VTAM then drives the **asynchronous receive exit**, DFHZASX, with the SHUTC ("shutdown complete") command sent by the LU to be disconnected. DFHZASX performs the following functions:
   - Ensures that the NODE_QUIESCED_BY_CICS, SHUTDOWN_IN_PROGRESS, and CLSDST flags are still on.
   - Puts the TCTTE back on the activate chain for DFHZACT to dispatch.
6. Control is then passed to the **Close_Destination program**, DFHZCLS. The DFHZCLS program performs the following functions:
   - Set on the PENDING_DELETE flag in the TCTTE to prevent VTAM exits scheduling requests for the device.
   - Issue UNBIND (CLSDST POST=RESP) for the device.
7. The **Close destination exit**, DFHZCLX, is driven. If the CLSDST request is successful (that is, there is a positive response from UNBIND), the following functions are performed:
   - Set on the SESSION_CLOSED flag in the TCTTE.
   - Flag the TCTTE for deletion.
   - Enqueue the TCTTE to DFHZNAC.
8. Control is passed to the DFHZNAC program, which performs the following functions:
   - Set on the DELETE_REQUIRED flag in the TCTTE.
   - Put the TCTTE on the activate chain for DFHZACT to dispatch.
   - Issue message DFHZC3462 (session terminated).
9. On the delete request, the DFHZNCA copybook of DFHZNAC checks the value of the system initialization parameter AILDELAY.
   - If AILDELAY is zero, the TCTTE is queued via DFHZACT with the address of the TCTTE as input. Its function is to perform cleanup operations, the principal operation being to ask DFHZCQ to delete the TCTTE.
   - If AILDELAY is not zero, DFHZNCA initiates CATD using the delay specified and passes the address of the TCTTE.

   Up to three attempts are made to delete the TCTTE. This is because the reason for the failure may be the existence of a transient condition, such as the TCTTE being on the DFHZNAC queue to output a message to CSMT. If the initial delete attempt fails, it is attempted again after one second; if this fails, another attempt is made after a further 5 seconds. If the third attempt fails, it is assumed that the failure is a hard failure, which will not disappear until the device is reconnected; in this case, message DFHZC6943 is issued, a syncpoint is taken, and the TCTTE delete status is reset to make the TCTTE reusable.

If the deletion is successful, the delete is committed, the autoinstall control program is invoked to permit any specific cleanup operations to take place, and message DFHZC6966 is issued.

If a PWE exists for this TCTTE, the PWE is requeued onto the AWE chain.

Disconnection of an autoinstalled terminal can also be requested by CICS shutdown, terminal time-out, and terminal errors. In these cases the flow is slightly different.

Deletion of autoinstalled APPC devices.

This section describes the flow of control when an APPC sync level 1 device has its last session released. This can occur as a result of unbind flows from the partner or a RELEASE command being issued against the connection in this system.

Only synclevel 1 autoinstalled connections are deleted in this way. They will have had TCSE_IMPLICIT_DELETE set by the builders from zx_delete_x in the BPS (set by DFHZGAI).

TCSE_CATLG_NO indicates that the connection is not to be written to the catalog (SIT Parameter AIRDELAY=0).

1. After DFHZCLS, the CLSDST program, issues DFHTCPLR TIDYUP TCSEDDP and TCSE_DELETE_SCHEDULE are set and CATD is initiated with a delay of AILDELAY.
2. CATD runs DFHZATD which sets TCSE_DELETE_STARTED and calls DFHZCP FUNCTION=DELETE to delete the sessions, modegroup and connection.

If a SIMLOGON or BIND occur before the delete starts (TCSE_DELETE_SCHEDULED) then the connection delete is aborted and the connection reused.

If a SIMLOGON occurs during the actual delete (TCSE_DELETE_STARTED) then the delete is vetoed and the connection is reacquired.

If a BIND occurs during the actual delete (TCSE_DELETE_STARTED) then the delete goes ahead and the PWE that was created is turned into an AWE and the logon will create a new connection.

If TCSE_DELETE_AT_RESTART is set then DFHZATR will delete the connection if it has not been used after restart with a delay specified in the **AIRDELAY** system initialization parameter.

Disconnection flow (APPC devices)

These connections are not deleted at LOGOFF time, so the disconnection flow is the same as for a defined connection.

Deletion of autoinstalled consoles

Consoles are deleted after a certain period of inactivity. The default is 60 minutes but this can be overridden in the autoinstall user-replaceable program.

1. The delete time is saved in the CCE during install in TCTCE_TIMEOUT_TIME.
2. DFHCESC runs at certain intervals
3. DFHCESC checks the CCEs for any console whose delete time has expired

4. For each expired CCE DFHCESC does the following
   a. Attaches CATD to do the delete
   b. CATD calls DFHZATD as for a terminal

Shipping a TCTTE for transaction routing

For transaction routing, a terminal can be defined by an entry in the terminal-owning region (TOR) with the SHIPPABLE=YES attribute.

In this case, the terminal definition is shipped to any application-owning region (AOR) when the terminal user invokes a transaction owned by and defined to that region. Definitions for advanced program-to-program communication (APPC) devices always have the SHIPPABLE=YES attribute set.

The entry in the TOR could have been installed using CEDA INSTALL, the GRPLIST at system initialization, or autoinstall. When an autoinstalled TCTTE in a TOR is deleted, the relevant shipped terminals are deleted using a separate timing mechanism.

The first time a transaction is invoked

For non-APPC devices (see Figure 3 on page 23), the following processing is performed:

1. In the AOR, look for an existing skeleton TCTTE (TCTSK) whose REMOTENAME is the same as the local name in the TOR. If found, skip the following steps; otherwise:
2. Issue ZC_INQUIRE to the TOR.
3. In the TOR:
   - Send a builder parameter set (BPS) representing the TCTTE to the AOR.
   - Set on the SHIPPED flag (TCTEMROP) in the TCTTE.
   - Set on the SHIPPED flag (TCSEMROP) in the TCTSE for the AOR system.
   - Rewrite each entry to the catalog.
4. In the AOR:
   - Use the existing name from the TOR.
   - INSTALL the terminal (DFHZATS does the remote install).
   - Set on the SHIPPED flag (TCTSKSHI) in the TCTSK.
   - Set on the SHIPPED flag (TCSEMROG) in the TCTSE for the TOR system.
   - Rewrite each entry to the catalog.

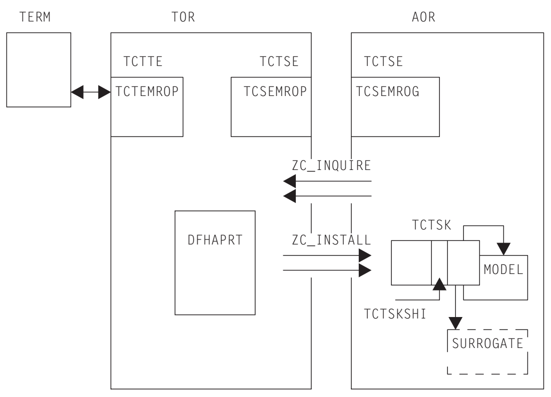


Figure 3. Transaction-routing flow for non-APPC devices

For APPC devices:

1. In the AOR, look for an existing skeleton TCTTE (TCTSK) whose REMOTENAME is the same as the local name in the TOR. If found, skip the following steps; otherwise:
2. INSTALL the terminal (DFHZATS does the remote install).
3. Set on the SHIPPED flag (TCTSKSHI) in the TCTSK.
4. Set on the SHIPPED flag (TCSEMROG) in the TCTSE for the TOR system.
5. Rewrite each entry to the catalog.

Modules

ZC (terminal control) together with the following:

Module	Function
DFHZATA	Autoinstall program
DFHZATA2	Console autoinstall program linkedits with DFHZATA
DFHZATD	Autoinstall delete program
DFHZATDX	Autoinstall control program
DFHZATDY	Sample autoinstall user exit
DFHZATR	Autoinstall restart program
DFHZATS	Remote autoinstall|delete program
DFHZCTRI	Trace interpretation for DFHZGAI
DFHZGAI	APPC-specific autoinstall functions

DFHZATDX

The DFHZATDX module provides user input to autoinstall processing. This module is a component of ZCP, and is the default autoinstall user program (that is, it is used if you choose not to provide your own). For further information about the DFHZATDX sample program, see the *CICS Customization Guide*.

DFHZATDX is also called when creating and deleting shipped terminals (skeletons).

DFHZATDY

DFHZATDY is a sample autoinstall user-replaceable program, which you must modify before you can use it. Its main function is to choose a template connection which is to be used in creating the new autoinstall connection clone. It also has to chose a name for the new connection. For further information about the DFHZATDY sample program see the the *CICS Customization Guide*.

DFHZATDY is also called when creating and deleting shipped terminals (skeletons).

Diagnosing autoinstall problems

When diagnosing problems with autoinstall, consult the following list. If you have a problem with autoinstall of APPC devices, and the following list does not resolve the problem, see “Diagnosing APPC autoinstall problems” on page 25.

- The autoinstall model table (AMT) in an SDUMP
- CEMT INQUIRE AUTINSTMODEL—showing which models are installed
- TC level-1 trace, point ID AP FC8A—showing the CINIT RU contained in the AWE on entry to DFHZATA
- CADL, CSMT, and CSNE logs:
  - Autoinstall messages (DFHZC69xx)
  - Builder messages (DFHZC59xx, DFHZC62xx, and DFHZC63xx)
  - Terminal error messages
  - Information produced by DFHZNAC
- Dump taken in the user install program (the CICS-supplied default is DFHZATDX).

Most autoinstall problems can be grouped into three categories:

1. CICS rejects the LOGON request (message DFHZC2411 on the CSNE log).
2. The device rejects the actual BIND parameters (message DFHZC2403 on the CSNE log).
3. DFHZATA diagnoses a problem (message DFHZC69xx on the CADL log).

The first category of problem is caused by CICS being in the wrong state to accept an autoinstall, for example, CICS is shutting down or AUTOINSTALL is disabled (message DFHZC2433).

The second category of problem arises when the two BIND images match, but the BIND is rejected by the actual device (message DFHZC2403). For information about valid BIND parameters, consult the *3274 Control Unit Description and Programmer's Guide*, GA23-0061.

The BIND image is contained in the CINIT RU passed to the LOGON exit. This is shown in trace point ID AP FC8A.

The reason for the third category of problem should be shown in the contents of the associated DFHZC69xx message on the CADL log. For example, message DFHZC6987 shows a BIND image mismatch between the incoming CINIT and the best available model (unlikely).

The length of each BIND image is found in the halfword preceding the image. A comparison is made for the ***smaller*** of the two length values, but not exceeding X'19' (decimal 25) bytes. The comparison is accomplished by an XC (exclusive OR) of the two BIND images into a work area. The result is ANDed with a mask that defines the required settings.

Additional bits are reset if the LU type, found in byte 14 of the BIND image, is 1, 2, 3, or 4. The final result in the work area must be 256 bytes of X'00'; any other value causes DFHZATA to reject the LOGON and write message DFHZC6987 to the CADL log.

For autoinstall to function correctly, three items must match:

1. The CINIT BIND image taken from the LOGMODE entry specified for the LU in the VTAMLST
2. The CICS MODEL BIND image built according to the specifications in the TYPETERM and TERMINAL entries
3. Device characteristics.

Diagnosing APPC autoinstall problems

When diagnosing APPC autoinstall problems, first refer to “Diagnosing autoinstall problems” on page 24. Most of points in that section apply to APPC autoinstall problems except for points that refer to autoinstall models.

Any APPC autoinstall problem should be accompanied by message DFHZC6920 to 23. These messages each have exception trace entries which should trace enough information to allow you to diagnose the problem.

There are three autoinstall instances of DFHZC2411:

- 4 System termination - CSASTIM tested.
- 5 VTAM termination - TCTVVTQS tested.
- 6 ISC=NO specified in the SIT.

There are two additional instances of DFHZC2433:

- 3 Autoinstall disabled - TCTVADEN tested in DFHZBLX.
- 4 Autoinstall temporarily disabled - TCTVADIN tested in DFHZBLX.

There are two additional instances of DFHZC3482:

- 3 No MVS storage for DFHZBLX to obtain MVS AWE storage.
- 4 No MVS storage for reporting a failure in a dummy work element.

Diagnosing console autoinstall problems

Much of the autoinstall for terminal advice is relevant. However, the following points should also be helpful.

1. Information about autoinstalled consoles is contained in:
   - The AWE (CWE)
   - The TCT prefix in the console BITMAP
   - The CCE
   - The SNEX
   - The interface to the autoinstall user-replaceable program.
2. When DFHZCNA is called with a modify command trace point AP FCF0 is issued and traces the CIB and CIB extension.
3. Trace point AP FCA7 shows the AWE/CWE created by DFHZCNA and passed to DFHZATA2.
4. DISCARD (used via CEMT or EXEC CICS) is useful whilst testing autoinstall for consoles.

5. CEMT INQUIRE TERMINAL is useful for seeing what consoles are installed and what their console names are.
6. The console names can vary depending on how the modify command was issued:
   - /f jobname,CEMT I TE from a TSO SDSF panel gives a console name of the USERID or the console name if changed using option 8 of SDSF.
   - f jobname,CEMT I TE from a TSO console gives a console name of the TSO USERID.
   - M/F jobname, CEMT I TE from the TSO SDSF panel gives a console name of MASTnn where nn is the names of the system. If SEC=YES is specified in the SIT then the user must first sign on with m/f jobname,CESN.
   - // MODIFY jobname,CEMT I TE from a job stream gives a console names of INTERNAL. If SEC=YES is specified in the SIT then the user must first sign on with m/f jobname,CESN.
7. The console name BITMAP is dumped in the TCP section of system dumps.
8. The extended control blocks are dumped if present when a system dump is taken.

VTAM exits

A VTAM exit is a special-purpose user-written routine that is scheduled by VTAM when the requested operation is complete. VTAM creates a trace record when the exit is given control.

RE entries represent RPL exits except SEND, RECEIVE, OPNDST, and CLSDST. UE entries represent non-RPL and asynchronous exits SCIP, LOGON, and LOSTERM.

See *OS/390 eNetwork Communications Server: SNA Programming* for general VTAM exit information.

Trace

The following point IDs are provided for the autoinstall programs (DFHZATA, DFHZATD, DFHZATR, and DFHZATS), as part of terminal control:
- AP FC80 through AP FC8C, for which the trace levels are TC 1 and TC 2.

The following point IDs are provided for APPC autoinstall:
- AP FA00 to FA21, for which the trace levels are TC1 and TC2.

The following point IDs are provided for console autoinstall:
- AP FCF0
- AP FCA3 to FCA7

RE and UE trace points are recorded when the VTAM trace API option is requested by:
```
F NET,TRACE,TYPE=VTAM,OPTION=API,MODE=EXT
```

GTF must have been started with the USR option.

Each VTAM exit routine in CICS sets an ID byte in the TCTTE exit trace field (TCTEEIDA).

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 4. Autoinstall terminal model manager

The autoinstall terminal model manager (an OCO component of the AP domain) is responsible for managing all operations involving the autoinstall terminal model table. Autoinstall terminal models are used during the autoinstall logon process (see step 3 on page 16). They are installed either at system initialization or using CEDA INSTALL (see Chapter 42, "Resource definition online (RDO)," on page 373), and can be discarded using either the CEMT transaction or EXEC CICS commands.

The acronym AITM is often used for "autoinstall terminal model" in the contexts of both the manager and the associated table; it is also the name of one of the subroutine call formats.

The AITM manager is implemented as a set of subroutine interfaces.

Functions provided by the autoinstall terminal model manager

Table 2 summarizes the external subroutine interfaces provided by the autoinstall terminal model manager. It shows the subroutine call formats, the level-1 trace point IDs of the modules providing the functions for these formats, and the functions provided.

Table 2. Autoinstall terminal model manager's subroutine interfaces

Format	Trace	Function
AIIN		
	AP 0F10	START_INIT
	AP 0F11	COMPLETE_INIT
AIIQ		
	AP 0F18	LOCATE_TERM_MODEL
	AP 0F19	UNLOCK_TERM_MODEL
		INQUIRE_TERM_MODEL
		START_BROWSE
		GET_NEXT
		END_BROWSE
AITM		
	AP 0F08	ADD_REPL_TERM_MODEL
	AP 0F09	DELETE_TERM_MODEL

AIIN format, START_INIT function

The START_INIT function of the AIIN format is used to attach a CICS task to perform initialization of the AITM manager.

Input parameters

None.

Output parameters

RESPONSE

is the subroutine's response to the call. It can have any of these values:

`OK|DISASTER|KERNERROR`

AIIN format, COMPLETE_INIT function

The COMPLETE_INIT function of the AIIN format is used to wait for the initialization task attached by the START_INIT function to complete processing.

Input parameters

None.

Output parameters

RESPONSE
is the subroutine’s response to the call. It can have any of these values:

`OK|DISASTER|KERNERROR`

AIIQ format, LOCATE_TERM_MODEL function

The LOCATE_TERM_MODEL function of the AIIQ format is used to obtain the attributes of a named autoinstall terminal model, and obtain a read lock on that entry in the AITM table in virtual storage.

Input parameters

TERM_MODEL_NAME
specifies the name of the autoinstall terminal model to be located.

BPS identifies a buffer into which the attributes of the autoinstall terminal model are to be placed.

Output parameters

RESPONSE
is the subroutine’s response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|KERNERROR`

[REASON]
is returned when RESPONSE is DISASTER or EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
DISASTER	TM_LOCATE_FAILED
EXCEPTION	TERM_MODEL_NOT_FOUND

AIIQ format, UNLOCK_TERM_MODEL function

The UNLOCK_TERM_MODEL function of the AIIQ format is used to release a read lock on a previously located entry from the AITM table in virtual storage.

Input parameters

TERM_MODEL_NAME
specifies the name of the autoinstall terminal model to be unlocked.

Output parameters

RESPONSE
is the subroutine’s response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|KERNERROR`

[REASON]
is returned when RESPONSE is DISASTER or EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
DISASTER	TM_UNLOCK_FAILED

RESPONSE	Possible REASON values
EXCEPTION	TERM_MODEL_NOT_FOUND

AIIQ format, INQUIRE_TERM_MODEL function

The INQUIRE_TERM_MODEL function of the AIIQ format is used to obtain the attributes of a named autoinstall terminal model. (No read lock is retained.)

Input parameters

TERM_MODEL_NAME
specifies the name of the autoinstall terminal model to be located.

BPS identifies a buffer into which the attributes of the autoinstall terminal model are to be placed.

Output parameters

RESPONSE
is the subroutine's response to the call. It can have any of these values:

```
OK|EXCEPTION|DISASTER|KERNERROR
```

[REASON]
is returned when RESPONSE is DISASTER or EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
DISASTER	TM_LOCATE_FAILED TM_UNLOCK_FAILED
EXCEPTION	TERM_MODEL_NOT_FOUND

AIIQ format, START_BROWSE function

The START_BROWSE function of the AIIQ format is used to initiate a browse of the AITM table. The browse starts at the beginning of the table.

Input parameters

None.

Output parameters

BROWSE_TOKEN
is a token used to refer to this browse session on subsequent browse requests.

RESPONSE
is the subroutine's response to the call. It can have any of these values:

```
OK|DISASTER|KERNERROR|PURGED
```

[REASON]
is returned when RESPONSE is DISASTER. It has this value:

```
START_BROWSE_FAILED
```

AIIQ format, GET_NEXT function

The GET_NEXT function of the AIIQ format is used to obtain the name and attributes of the next autoinstall terminal model in the AITM table for the specified browse session.

Input parameters

BROWSE_TOKEN
is the token identifying this browse session.

BPS identifies a buffer to receive the attributes of the next entry in the AITM table.

Output parameters

TERM_MODEL_NAME
is the name of the next entry in the AITM table.

RESPONSE
is the subroutine's response to the call. It can have any of these values:

```
OK|EXCEPTION|DISASTER|KERNERROR
```

[REASON]
is returned when RESPONSE is DISASTER or EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
DISASTER	TM_GET_NEXT_FAILED TM_UNLOCK_FAILED
EXCEPTION	END_OF_MODELS

AIIQ format, END_BROWSE function

The END_BROWSE function of the AIIQ format is used to terminate a browse of the AITM table.

Input parameters

BROWSE_TOKEN
is the token identifying this browse session.

Output parameters

RESPONSE
is the subroutine's response to the call. It can have either of these values:

```
OK|KERNERROR
```

AITM format, ADD_REPL_TERM_MODEL function

The ADD_REPL_TERM_MODEL function of the AITM format is used to add or update an entry in the AITM table in virtual storage, and record the entry on the CICS catalog.

Input parameters

TERM_MODEL_NAME
specifies the name of the autoinstall terminal model to be added or updated.

BPS specifies the attributes of the named autoinstall terminal model.

SYSTEM_STATUS
specifies the status of the CICS system at the time of the call. It can have any one of these values:

```
COLD_START|WARM_START|ONLINE
```

where ONLINE means during execution.

Output parameters

RESPONSE
is the subroutine's response to the call. It can have any of these values:

```
OK|EXCEPTION|DISASTER|KERNERROR
```

[REASON]
is returned when RESPONSE is DISASTER or EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
DISASTER	NOT_INITIALISED ADD_REPL_FAILED
EXCEPTION	TERM_MODEL_IN_USE

AITM format, DELETE_TERM_MODEL function

The DELETE_TERM_MODEL function of the AITM format is used to remove an entry from the AITM table in virtual storage and the CICS catalog.

Input parameters

TERM_MODEL_NAME
specifies the name of the autoinstall terminal model to be added or updated.

SYSTEM_STATUS
specifies the status of the CICS system at the time of the call. It can have any one of these values:

```
COLD_START|WARM_START|ONLINE
```

where ONLINE means during execution.

Output parameters

RESPONSE
is the subroutine's response to the call. It can have any of these values:

```
OK|EXCEPTION|DISASTER|KERNERROR
```

[REASON]
is returned when RESPONSE is DISASTER or EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
DISASTER	NOT_INITIALISED DELETE_FAILED
EXCEPTION	TERM_MODEL_IN_USE TERM_MODEL_NOT_FOUND

Modules

Module	Function
DFHAIDUF	Formats the AITM manager control blocks in a CICS system dump
DFHAIIN1	Handles the following requests: • START_INIT • COMPLETE_INIT
DFHAIIN2	Runs as a CICS task to perform initialization of the AITM manager

Module	Function
DFHAIIQ	Handles the following requests: • LOCATE_TERM_MODEL • UNLOCK_TERM_MODEL • INQUIRE_TERM_MODEL • START_BROWSE • GET_NEXT • END_BROWSE
DFHAIRP	Initializes the AITM table at CICS startup
DFHAITM	Handles the following requests: • ADD_REPL_TERM_MODEL • DELETE_TERM_MODEL
DFHAPTRN	Interprets AITM manager trace entries

Exits

No global user exit points are provided for this component.

Trace

The following point IDs are provided for the AITM manager:
- AP 0F00 through AP 0F1F, for which the trace levels are AP 1 and Exc.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 5. Basic mapping support

Basic mapping support (BMS) allows the CICS application programmer to have access to input and output data streams without including device-dependent code in the CICS application program.

BMS provides the following services:

Message routing
: This allows application programs to send output messages to one or more terminals not in direct control of the transaction.

Terminal paging
: This allows the user to prepare a multipage output message without regard to the physical size of the output terminal; the output can then be retrieved by page number in any order.

Device independence
: This allows the user to prepare output without regard to the control characters required for a terminal; CICS automatically inserts the control characters and eliminates trailing blanks from each line.

Most of the BMS programs are resident in the CICS nucleus.

Design overview

BMS is an interface between CICS and its application programs. BMS formats input and output display data in response to BMS commands in programs. To do this, it uses device information from CICS system tables, and formatting information from **maps** that you have prepared for the program.

BMS enables an application program to read in device-dependent data and convert it to a device-independent standard form, or to generate device-dependent output data from this device-independent standard form. In both cases, the structure of the device-independent standard form, and the layout of the data on the display terminal, are determined by a user-defined map. Related maps—for example, maps used in the same application program—are grouped together into a **map set**. See the *CICS Application Programming Guide* for further information about the definition and use of maps and map sets.

On some terminals (such as the IBM 8775 display terminal and the IBM 3290 information panel), the available display area may be divided into a set of related “logical” screens called **partitions**. The layout and properties of the set of partitions that can be simultaneously displayed on a terminal are defined by the BMS user in a **partition set**. See the the *CICS Application Programming Guide* for further details about the definition and use of partition sets.

Maps, map sets, and partition sets are assembled offline using CICS macros. The user defines and names fields and groups of fields that can be written to and read from the devices supported by BMS. The assembled maps contain all the device-dependent control characters necessary for the proper manipulation of the data stream.

Associated with each map is a table of field names which is copied into each application program that uses the map. Data is passed to and from the application program under these field names. The application program is written to manipulate the data under the various field names so that alteration of a map format does not necessarily lead to changes in program logic. New fields can be added to a map format without making it necessary to reprogram existing applications.

Output data can be supplied from the application program by placing the data in the table under the appropriate field name. As an alternative, output maps can contain field default data that is sent when data is not supplied by an application program. This facility permits the specification of titles, headers, and so on, for output maps.

Optionally, the display of all the default data can be suppressed by the application program for any output map. Each time a map is used, the application program can temporarily modify the attributes of any named field in the output map. The extended attributes can also be modified if maps are defined with the DSATTS operand.

Output map fields with no field names can contain default data, but the application program cannot replace the default data or modify the attributes of unnamed fields.

For input, the user assembles a map defining the fields that can be written to and received from a particular device. Any data received for a particular field is moved across using the field name in the symbolic storage definition for the map. Light-pen-detectable fields defined in an input map are flagged as detected if present in an IBM 3270 Information Display System input stream. An input map for a particular case can specify a subset of the fields potentially receivable; any fields received and not represented in that map are discarded. This permits the number of fields from a map that can be typed or selected to be changed, without making it necessary to reprogram applications that currently receive data from the map.

Maps are stored in the CICS program load library. When a map is required by BMS, a copy is automatically retrieved by CICS from the program load library without application program action. Multiple users of a map contained in the program load library share a single copy in main storage.

BMS permits any valid combination of field attributes to be specified by the user when generating maps. Inclusion of BMS in CICS is a system generation option and does not prevent the application program from accessing a particular device in native mode (without using BMS). Intermixing BMS and native mode support for a terminal from the same application program may yield unpredictable results. When using mixed mode support, it is the user’s responsibility to ensure the correct construction and interpretation of native mode data streams.

BMS permits the application program to pass a native mode data stream that has already been read in, and (if, for a terminal of the IBM 3270 Information Display System, the screen has been formatted) to interpret this data stream according to a given input map. This facility allows data entered with the initial reading of a transaction to be successfully mapped using BMS.

BMS provides the following services:

- Message routing
- Terminal paging
- Device independence.

Message routing

Message routing permits the application program to send an output message to one or more terminals not in direct control of the transaction. The message is automatically sent to a terminal if the terminal status allows reception of the message. If a terminal is not immediately eligible to receive the message, the message is preserved for that terminal until a change in terminal status allows it to be sent. The message routing function is used by the CICS message-switching transaction.

A BMS map that specifies extended attributes can be used for terminals that do not support extended attributes. When sending data to a variety of terminals, some of the terminals may support extended attributes and others may not. When a BMS ROUTE request is processed, BMS looks at the TCTTEs for all specified terminals and constructs a set of all the supported attributes.

A data stream is produced by BMS using this set of attributes, and the data stream and set of attributes for each page are written to a temporary-storage record. When the page is later read from temporary storage, the data stream for each terminal is modified, if necessary, to delete attributes not supported by that terminal.

Terminal paging

Terminal paging allows the user to prepare more output than can be conveniently or physically displayed at the receiving terminal. The output can then be retrieved by pages in any order; that is, in the order in which they were prepared or by skipping forward or backward in the output pages.

Terminal paging also provides the ability to combine several small areas into one area, which is then sent to the terminal. This enables the user to prepare output without regard for the record size imposed by the output terminal.

CICS provides the terminal operator with a generalized page retrieval facility that can be used to retrieve and dispose of pages.

Device independence

Device independence allows the user to prepare output without regard for the control characters required for message heading, line separation, and so on. Input to device independence consists of a data string with optional new-line characters.

Device independence divides the data string into lines no longer than those defined for the particular terminal. If new-line characters appear occasionally in the data string to further define line lengths, they are not ignored. CICS inserts the appropriate leading characters, carriage returns, and idle characters, and eliminates trailing blanks from each line. If the device does not support extended attributes, the extended attributes are ignored.

CICS allows the user to set horizontal and vertical tabs on those devices that support the facility (for example, the IBM 3767 Communication Terminal, and the IBM 3770 Data Communication System). For such devices, CICS supports data compression inbound and data compression outbound, based on the tab characteristics in the data stream under the control of the appropriate maps.

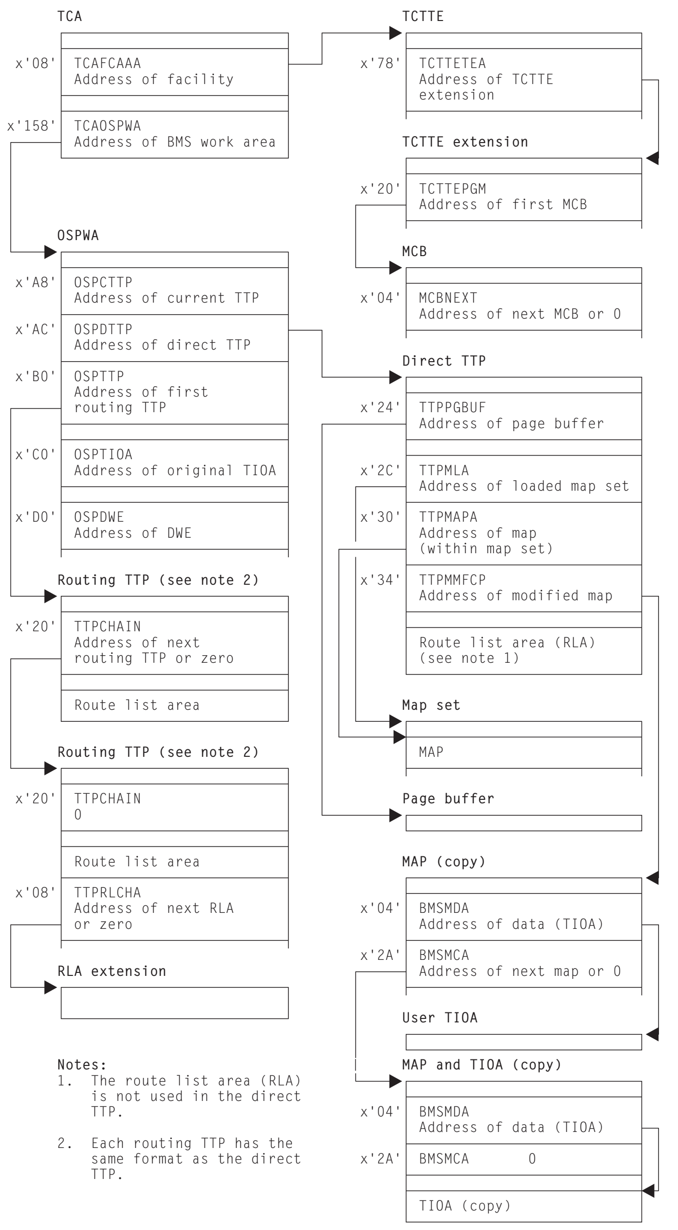
Control blocks

BMS makes use of the following control blocks (see Figure 4 on page 40):

DSECT	Function
DFHMAPDS	Defines a physical map. It contains overlays for map set data, map data, and field data. The physical map set is stored in the CICS program library and requires a resource definition when loaded into main storage by BMS.
DFHMCAD	Defines a mapping control area (MCA). MCAs are used in DFHM32 and DFHML1 to merge (both) and sort (DFHML1 only) fields in different maps in the chain of map copies. The MCA contains field position, flags, and pointers to map and application data structure relating to this field.
DFHMCBDS	Defines the message control block (MCB). MCBs are built and referenced by DFHTPR. There is one MCB per level of page chaining. The MCBs are chained together, with the head of the chain anchored off the TCTTE BMS extension. The MCB contains a copy of the MCR, with additional working data.
DFHMCRDS	Defines the message control record (MCR). MCRs are held in CICS temporary storage. There is one MCR per BMS message in temporary storage. The MCR contains data such as the number of pages in this message, the list of target terminals for this message, data on which pages are for which LDCs or partitions, and so on. The MCR is written to temporary storage by DFHMCP. It is read and purged by DFHTPR, DFHTPS, and DFHTPQ.
DFHOSPWA	Defines the output services processor work area (OSPWA). This is the main BMS control block. For standard and full-function BMS, there is an OSPWA that is chained off the TCA and is built by DFHMCP on the first BMS command in a transaction. It contains a copy of the BMS TCA request bytes, together with the BMS status and working area. DFHTPR has its own private OSPWA. This overlays the TWA for DFHTPR unless SEND PAGE RETAIN is used. If SEND PAGE RETAIN is used, DFHTPR obtains an additional OSPWA, and chains the base OSPWA off the new OSPWA. This avoids DFHTPR damaging the base OSPWA. The OSPWA is deleted during task termination. A shorter version of the OSPWA is used by DFHMCPE (part of both the minimum-function BMS mapping control program DFHMCPE$ and also the BMS fast-path module DFHMCX). It is built in DFHMCPE's LIFO storage, and includes space for the request information from the TCA. The DFHMCPE OSPWA is defined within DFHMCPE.
DFHPGADS	Defines a page control area (PGA). DFHTPP builds a PGA at the end of the device data stream in the terminal input/output area (TIOA) (addressed as ADDR(TIOADBA) + TIOATDL) for the SET and PAGING disposition. The PGA contains the 3270 write control character (WCC), flags about the type of TC write required, and the extended features used in this page of data stream.
DFHPSDDS	Defines a physical partition set. The partition set is stored in the CICS program library and requires a resource definition when loaded into main storage by BMS.

DSECT	Function
DFHTTPDS	Defines the terminal type parameter (TTP). This contains information for a terminal type. Note that BMS builds pages on a TTP basis. For standard and full-function BMS, DFHRLR builds TTPs as follows: 1. A “direct TTP” is built for the transaction terminal. If this supports partitions or LDCs, a further direct TTP is built for each referenced LDC or partition. This contains data for that LDC or partition. These direct TTPs are chained together, and the head of the chain is contained in the OSPWA. Direct TTPs are deleted by DFHMCP on a SEND PAGE, PURGE MESSAGE, or SEND PARTNSET command. 2. If routing is in effect, there is a chain of routed TTPs, with one TTP per terminal type in the route list. Routed TTPs are deleted by DFHMCP on a SEND PAGE or PURGE MESSAGE command. Most of BMS uses the TTP rather than the TCTTE to determine terminal-related information.
TCTTETTE	The TCTTETTE DSECT in the DFHTCTZE macro defines the TCTTE BMS extension. It is chained off the TCTTE (TCTTETEA field).
DFHTPE	Defines the BMS partition extension. This is chained off the TCTTE BMS extension if the terminal supports partitions.

See *CICS Data Areas* for a detailed description of these control blocks.



TCA
x'08' TCAFCAAA Address of facility
x'158' TCAOSPWA Address of BMS work area
OSPWA
x'A8' OSPCTTP Address of current TTP
x'AC' OSPDTTP Address of direct TTP
x'B0' OSPTTP Address of first routing TTP
x'C0' OSPTIOA Address of original TIOA
x'D0' OSPDWE Address of DWE
Routing TTP (see note 2)
x'20' TTPCHAIN Address of next routing TTP or zero
Route list area
Routing TTP (see note 2)
x'20' TTPCHAIN 0
Route list area
x'08' TTPRLCHA Address of next RLA or zero
RLA extension
Notes:
1. The route list area (RLA) is not used in the direct TTP.
2. Each routing TTP has the same format as the direct TTP.
TCTTE
x'78' TCTTETEA Address of TCTTE extension
TCTTE extension
x'20' TCTTEPGM Address of first MCB
MCB
x'04' MCBNEXT Address of next MCB or 0
Direct TTP
x'24' TTPPGBUF Address of page buffer
x'2C' TTPMLA Address of loaded map set
x'30' TTPMAPA Address of map (within map set)
x'34' TTPMMFCP Address of modified map
Route list area (RLA) (see note 1)
Map set
MAP
Page buffer
MAP (copy)
x'04' BMSMDA Address of data (TIOA)
x'2A' BMSMCA Address of next map or 0
User TIOA
MAP and TIOA (copy)
x'04' BMSMDA Address of data (TIOA)
x'2A' BMSMCA 0
TIOA (copy)

Figure 4. Control blocks associated with basic mapping support (BMS)

Modules

BMS makes use of the following modules (see Figure 5 on page 43):

Module	Function
DFHDSB	Addresses the page buffer, which was composed by the page and text build program (DFHPBP).
DFHEMS	The EXEC interface processor for BMS commands.
DFHIIP	Called in response to requests for BMS services involving terminals other than IBM 3270 Information Display Systems.

Module	Function
DFHMCP	The interface between application programs and the modules that perform mapping, message switching, page and text building, device-dependent output preparation, and message disposition to terminals, temporary-storage areas, or the application program.
DFHMCX	The BMS fast path module for standard and full-function BMS, and the program for minimum BMS support. It is called by DFHMCP if the request satisfies one of the following conditions: • It is a non-cumulative direct terminal send map or receive map issued by a command-level program. • It is for a 3270 display or an LU3 printer which does not support outboard formatting. If the terminal supports partitions, it is in the base state. • The CSPQ transaction has been started. • The message disposition has not changed.
DFHM32	Called in response to requests for BMS services involving terminals of the 3270 Information Display System.
DFHPBP	Processes all BMS output requests (SEND MAP, SEND PAGE, and SEND TEXT). It performs the following functions: • Positions the data in the page, either by placing it in a buffer, or by copying it and adjusting the map for an IBM 3270 Information Display System (SEND MAP ACCUM) • Places the data into the page buffer (SEND TEXT ACCUM) • Inserts device-dependent control characters for other than 3270 Information Display System devices, removing extended attributes.
DFHPHP	Processes terminal operations that involve partitions.
DFHRLR	Builds terminal type parameters (TTPs), which are the main blocks for building and writing out data in BMS.
DFHTPP	Directs completed pages to a destination specified in the BMS output request: SEND TEXT sends to the originating terminal; SEND MAP PAGING or SEND TEXT PAGING directs to temporary storage; and SEND MAP SET or SEND TEXT SET directs to a list of completed pages that are returned to the application program).
DFHTPQ	Checks the chain of automatic initiate descriptors (AIDs) to detect and delete AIDs that have been on the chain for an interval exceeding the purge delay time interval specified by the PRGDLAY system initialization parameter, if this has a nonzero value.
DFHTPR	Processes messages built by BMS and placed in temporary storage.
DFHTPS	Invoked for each terminal type to which a BMS logical message built with SEND MAP PAGING or SEND TEXT PAGING is to be sent. For each terminal designated by the originating application program, DFHTPR is scheduled to display the first page of the logical message if the terminal is in paging status, or the complete message if it is in autopage status.

Basic mapping support (BMS) is provided by means of a number of modules, each of which interfaces with other BMS modules, CICS control components, and application programs. The maps that are handled by BMS may be new maps, created to utilize BMS mapping capabilities. The interrelationships of CICS programs requesting mapping services are summarized in Figure 5 on page 43. Further details for specific programs within BMS are given in the topics that follow.

One of three versions (MINIMUM, STANDARD, or FULL) of basic mapping support can be selected by the system initialization parameter BMS (see the *CICS System Definition Guide*). Where the generated versions of a BMS module differ according to the level of function provided, a suffix identifies the version as follows:
- E$ for minimum function
- A$ for standard function
- 1$ for full function.

In the module lists that follow, an asterisk (*) after a module name shows that the module is suffixed in this way. Elsewhere in this book, however, the BMS modules are usually referenced by their unsuffixed names with no distinction made between the minimum, standard, and full-function versions.

The module used by all three versions of BMS (minimum, standard, and full-function) is:
- DFHMCP* (mapping control program).

Additional modules used by both standard and full-function versions of BMS are:
- DFHDSB* (data stream build)
- DFHIIP* (non-3270 input mapping)
- DFHMCX (fast path module)
- DFHML1 (LU1 printer mapping)
- DFHM32* (3270 mapping)
- DFHPBP* (page build program)
- DFHPHP (partition handling program)
- DFHRLR* (route list resolution)
- DFHTPP* (terminal page processor).

Additional modules used only by full-function BMS are:
- DFHTPQ (terminal page cleanup)
- DFHTPR (terminal page retrieval)
- DFHTPS (terminal page scheduling).

A detailed description of each of these modules follows in alphabetic order of module name.

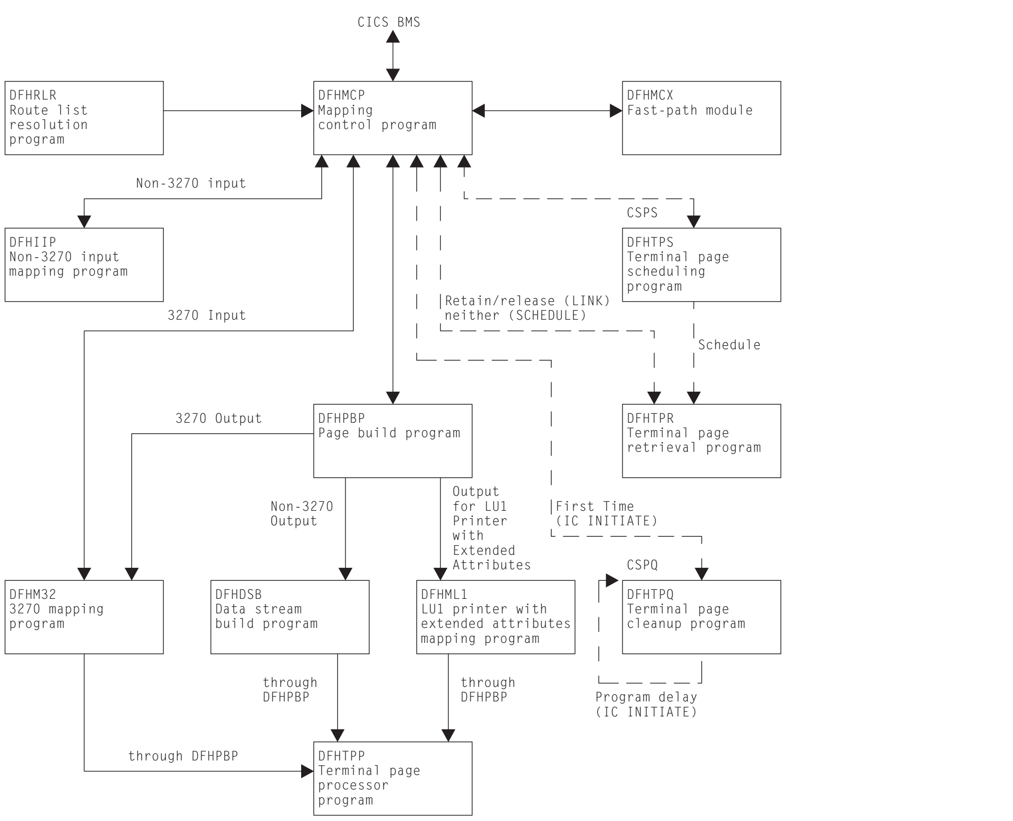

CICS BMS
DFHRLR Route list resolution program
DFHMCP Mapping control program
DFHMCX Fast-path module
Non-3270 input
DFHIIP Non-3270 input mapping program
CSPS
DFHTPS Terminal page scheduling program
Retain/release (LINK) neither (SCHEDULE)
3270 Input
Schedule
3270 Output
DFHPBP Page build program
DFHTPR Terminal page retrieval program
Non-3270 Output
Output for LU1 Printer with Extended Attributes
First Time (IC INITIATE)
CSPQ
DFHM32 3270 mapping program
DFHDSB Data stream build program
DFHML1 LU1 printer with extended attributes mapping program
DFHTPQ Terminal page cleanup program
through DFHPBP
through DFHPBP
Program delay (IC INITIATE)
through DFHPBP
DFHTPP Terminal page processor program

Figure 5. Modules associated with basic mapping support (BMS)

DFHDSB (data stream build)

The data stream build program addresses the page buffer, composed by the page and text build program (DFHPBP). The page buffer contains lines of output data that are to be written to a terminal other than an IBM 3270 Information Display System. The number of lines is contained in the TTPLINES field. The data stream build program performs the following functions on the data in the page buffer:

- Truncates trailing blanks within data lines
- Substitutes strings of physical device control characters for logical new-line characters that terminate each line of data
- Provides a format management header (FMH) for some VTAM-supported devices
- Allows horizontal and vertical tab processing.

Figure 6 on page 44 shows the relationships between the components of data stream build.

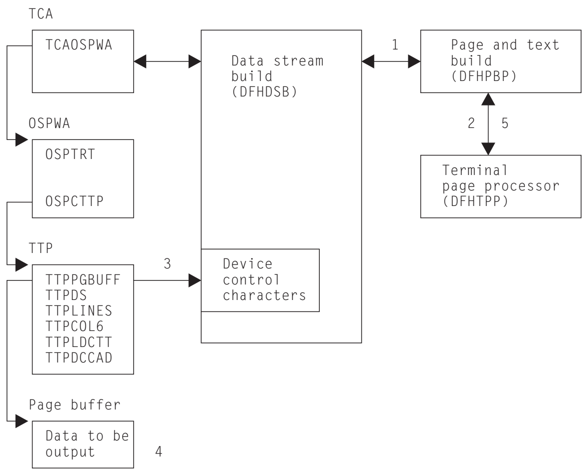

TCA
TCAOSPWA
Data stream build (DFHDSB)
1
Page and text build (DFHPBP)
OSPWA
OSPTRT
OSPCTTP
2
5
Terminal page processor (DFHTPP)
TTP
3
TTPPGBUFF
TTPDS
TTPLINES
TTPCOL6
TTPLDCTT
TTPDCCAD
Device control characters
Page buffer
Data to be output
4

Figure 6. Data stream build interfaces

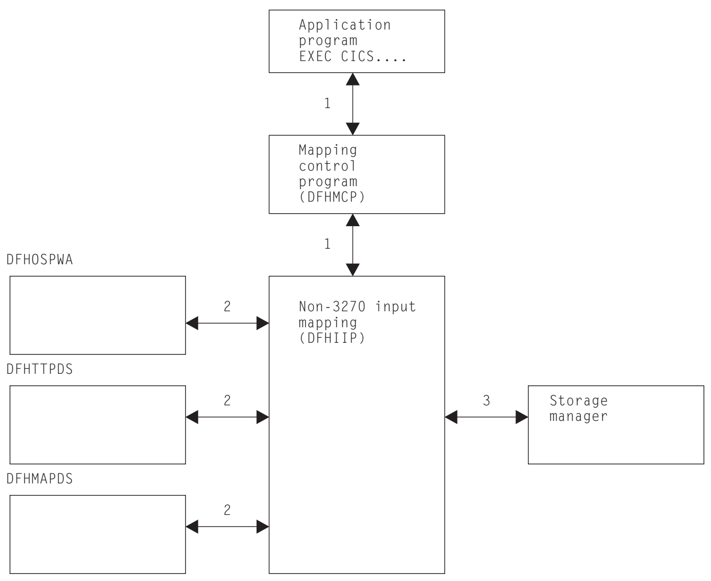
Note:

1. DFHDSB is entered from the page build program to process the page buffer.
2. For SEND TEXT commands with the NOEDIT option specified, page buffer compression is skipped and control returns to DFHPBP, which calls the terminal page processor (DFHTPP).
3. For SEND TEXT commands without the NOEDIT option, the appropriate device control characters for the target device are selected for substitution.
4. The page buffer containing the data to be compressed is located through the address stored at TTPPGBUF.
5. After compression of the page buffer data, control returns to DFHPBP, which calls DFHTPP to provide disposition of the page.

DFHIIP (non-3270 input mapping)

The non-3270 input mapping program (DFHIIP) is called in response to requests for BMS services involving terminals other than IBM 3270 Information Display Systems.

Figure 7 on page 45 shows the relationships between the components of non-3270 input mapping.



Application program EXEC CICS....
1
Mapping control program (DFHMCP)
1
DFHOSPWA
2
Non-3270 input mapping (DFHIIP)
DFHTTPDS
2
3
Storage manager
DFHMAPDS
2

Figure 7. Non-3270 input mapping interfaces

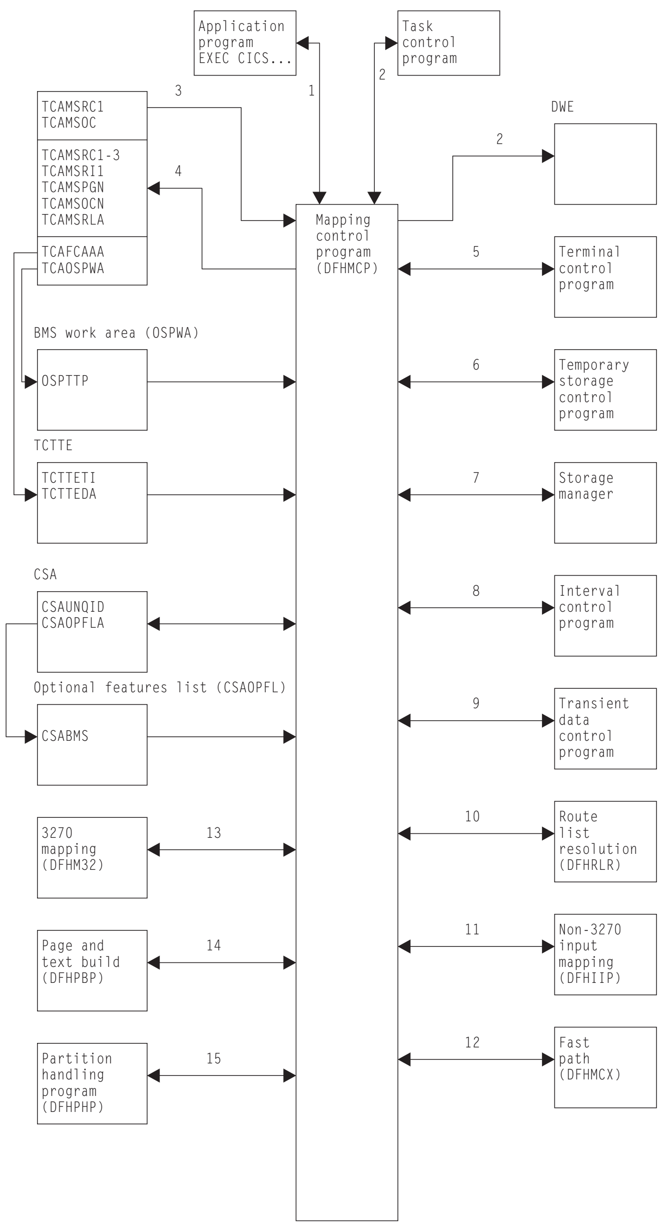
Note:

1. A RECEIVE MAP request by an application program, communicating with other than an IBM 3270 Information Display System, passes information through the TCA through the mapping control program (DFHMCP) to DFHIIP.
2. The map required for an operation is either passed by the application program or loaded by DFHMCP.
3. DFHIIP communicates with storage control to obtain and release buffers for mapping operations.

DFHMCP (mapping control program)

The mapping control program (DFHMCP) is the interface between application programs and the modules that perform mapping, message switching, page and text building, device-dependent output preparation, and message disposition to terminals, temporary-storage areas, or the application program.

Figure 8 on page 46 shows the relationships between the components of mapping control.



Application program EXEC CICS...
Task control program
TCAMSRC1 TCAMSOC
TCAMSRC1-3 TCAMSRI1 TCAMSPGN TCAMSOCN TCAMSRLA
TCAFCAAA TCAOSPWA
BMS work area (OSPWA)
OSPTTP
TCTTE
TCTTETI TCTTEDA
CSA
CSAUNQID CSAOPFLA
Optional features list (CSAOPFL)
CSABMS
3270 mapping (DFHM32)
Page and text build (DFHPBP)
Partition handling program (DFHPHP)
Mapping control program (DFHMCP)
DWE
Terminal control program
Temporary storage control program
Storage manager
Interval control program
Transient data control program
Route list resolution (DFHRLR)
Non-3270 input mapping (DFHIIP)
Fast path (DFHMCX)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

Figure 8. Mapping control program interfaces

Note:

1. This program is entered when an application program issues a request for basic mapping support services.
2. It may also be called by task control to process a deferred work element (DWE) if an application program terminates and there are partial pages in storage, or the message control record (MCR) created during execution of the task has not been placed in temporary storage.
3. The following information is returned to the requester: error codes, page overflow information, and (for a SEND MAP SET or SEND TEXT SET command) a list of completed pages.
4. DFHMCP communicates with temporary storage control to put the MCR for routed or stored messages, if a ROUTE command, or SEND MAP PAGING or

SEND TEXT PAGING command is issued. A DELETEQ TS command is issued to request that a message be purged from temporary storage if a PURGE MESSAGE command is issued.

5. DFHMCP communicates with storage control to:
   - Acquire and free storage in which the MCR is built (a SEND MAP command after a SEND MAP PAGING, SEND TEXT PAGING, or ROUTE command)
   - Acquire and free storage in which to copy the message title (a ROUTE command with the TITLE option specified)
   - Acquire storage to build automatic initiate descriptors (AIDs) for non-routed messages, or routed messages to be delivered immediately (a SEND PAGE command)
   - Acquire a BMS work area (OSPWA) at the time of the initial BMS request
   - Acquire and free an area used for user request data if a SEND PAGE command must be simulated before processing the user's request
   - Free the returned page list (a DELETEQ TS command)
   - Free map copies if SEND PAGE command was issued and pages were being built in response to SEND PAGE commands
   - Free terminal type parameters (TTPs) (SEND PAGE command).
6. DFHMCP communicates with program manager to:
   - Load and delete map sets
   - Link to the terminal page retrieval program (DFHTPR) to process one or more pages of a message if a SEND PAGE command is issued with the RETAIN® or RELEASE option specified
   - Abnormally terminate tasks that incur errors that cannot be corrected.
7. DFHMCP communicates with interval control to:
   - Initiate transaction CSPQ
   - Obtain the current time of day, which is then used to time stamp AIDs for routed messages
   - Initiate transaction CSPS for messages to be delivered later.
8. DFHMCP communicates with task control to schedule transaction CSPQ for every terminal that is to receive a routed message to be delivered immediately.
9. Transient data control is used to send error and information messages to the master terminal.
10. Route list resolution (DFHRLR) is used to collect terminals from a user-supplied route list or from the entire TCT by terminal type, and build a terminal type parameter (TTP), which controls message building, for each terminal type. It is also used to build a single-element TTP for the originating terminal.
11. Non-3270 input mapping (DFHIIP) is used to process RECEIVE MAP requests for a terminal other than an IBM 3270 Information Display System.
12. The mapping control program calls DFHMCX if the request is eligible for the BMS fast-path module.
13. 3270 mapping (DFHM32) is used to process RECEIVE MAP requests for an IBM 3270 Information Display System.
14. Page and text build (DFHPBP) processes the following output requests:
15. Page and text build program (DFHPBP) processes all BMS output requests
   - SEND MAP
   - SEND MAP PAGING

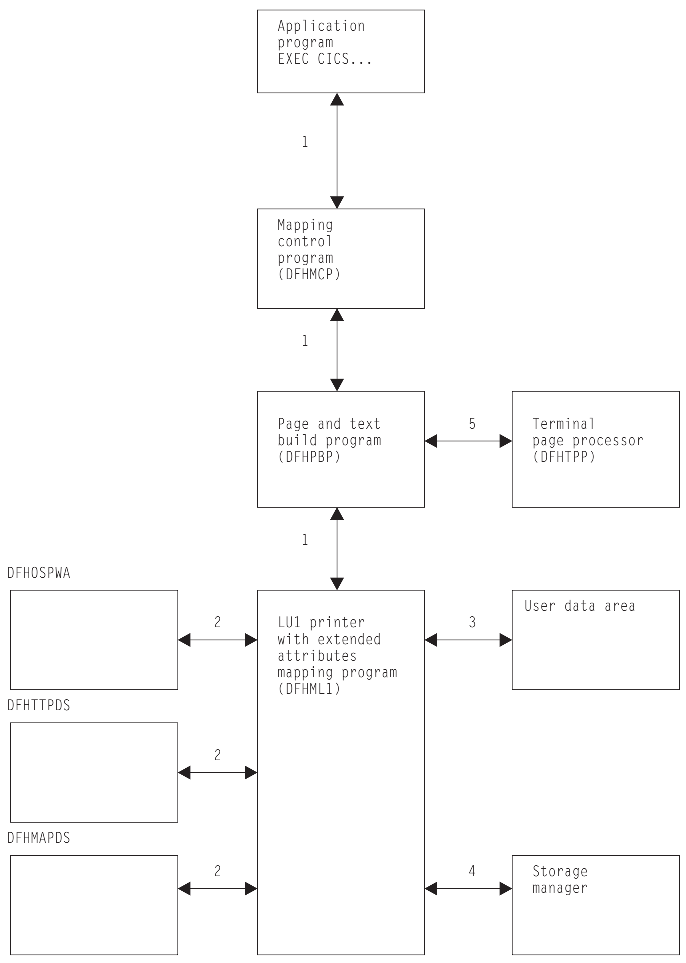
- SEND MAP SET
- SEND PAGE
- SEND TEXT
- SEND TEXT PAGING
- SEND TEXT SET.

For 3270 output, DFHM32 is called; for other output, DFHML1 is called.

16. The partition handling program (DFHPHP) is called when the data is in an inbound structured field. DFHPHP extracts the partition ID, device AID, and cursor address.

DFHML1 (LU1 printer with extended attributes mapping)

The LU1 printer with extended attributes mapping program, DFHML1, is called in response to requests for BMS services involving terminals of the 3270 Information Display System. Figure 9 shows how the DFHML1 program responds to these requests.



Application program EXEC CICS...
1
Mapping control program (DFHMCP)
1
Page and text build program (DFHPBP)
5
Terminal page processor (DFHTPP)
1
DFHOSPWA
2
LU1 printer with extended attributes mapping program (DFHML1)
3
User data area
DFHTTPDS
2
DFHMAPDS
2
4
Storage manager

Figure 9. LU1 printer with extended attributes mapping program interfaces

Note:

1. The following types of requests, by application programs communicating with LU1 printer mapping, pass information through the mapping control program (DFHMCP), and the page and text build program (DFHPBP), to DFHML1:

- SEND MAP ACCUM
- SEND MAP SET
- SEND TEXT
- SEND TEXT ACCUM
- SEND TEXT SET

For one page of output, DFHML1 acquires an area and formats it into a chain of control blocks known as map control areas (MCAs). Each MCA corresponds to one map on the page and contains information about chaining down the maps and processing the fields in each map. DFHML1 then builds the data stream directly from the maps and the TIOAs.

2. Maps are either passed by the application program or loaded by DFHMCP.
3. The address of a terminal input/output area (TIOA) is supplied by the application program for all requests.
4. DFHML1 communicates with storage control to obtain and release storage for MCAs and for the mapped data.
5. All requests (see note 1 on page 48) are sent to a designated destination by the terminal page processor (DFHTPP), after the return of control to DFHPBP.

DFHM32 (3270 mapping)

The 3270 mapping program (DFHM32) is called in response to requests for BMS services involving terminals of the 3270 Information Display System. Figure 10 shows how the 3270 mapping program responds to these requests.

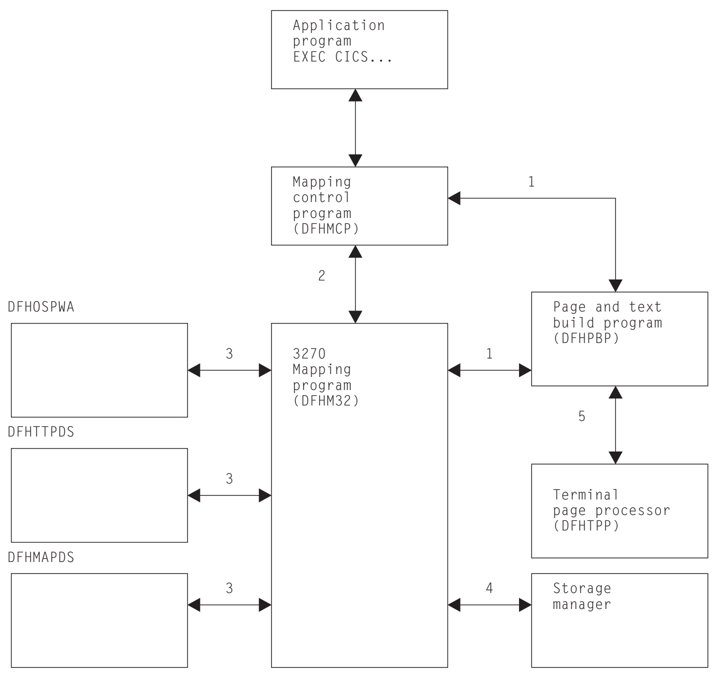

Application program EXEC CICS...
Mapping control program (DFHMCP)
1
2
DFHOSPWA
3
3270 Mapping program (DFHM32)
1
Page and text build program (DFHPBP)
5
DFHTTPDS
3
Terminal page processor (DFHTPP)
DFHMAPDS
3
4
Storage manager

Figure 10. 3270 mapping program interfaces

Note:

1. The following types of requests by an application program communicating with an IBM 3270 Information Display System passes information through the TCA by way of the mapping control program (DFHMCP) and the page and text build program (DFHPBP) to DFHM32:

- SEND MAP ACCUM
- SEND MAP PAGING
- SEND MAP SET
- SEND TEXT
- SEND TEXT ACCUM
- SEND TEXT PAGING
- SEND TEXT SET

For one page of output, DFHM32 acquires an area and formats it into a chain of control blocks known as map control areas (MCAs). Each MCA corresponds to one map on the page and contains information for chaining down the maps and processing the fields in each map. DFHM32 then builds the data stream directly from the maps and the TIOAs.

2. A RECEIVE MAP or RECEIVE MAP FROM request by an application program communicating with an IBM 3270 Information Display System passes information through the TCA through the message control program (DFHMCP) to DFHM32.
3. Maps are either passed by the application program or loaded by DFHMCP.
4. DFHM32 communicates with storage control to obtain and release storage for MCAs and for the mapped data.
5. All output requests (see note 1 on page 49) are sent to a designated destination by the terminal page processor (DFHTPP) after control is returned to DFHPBP.

DFHPBP (page and text build)

The page and text build program (DFHPBP) processes all BMS output requests

- SEND MAP
- SEND MAP PAGING
- SEND MAP SET
- SEND PAGE
- SEND TEXT
- SEND TEXT PAGING
- SEND TEXT SET.

It performs the following functions:

- Positions the data in the page, either by placing it in a buffer, or by copying it and adjusting the map for an IBM 3270 Information Display System (SEND MAP ACCUM)
- Places the data into the page buffer (SEND TEXT ACCUM)
- Inserts device-dependent control characters for other than 3270 Information Display System devices, removing extended attributes.

Figure 11 on page 51 shows the relationships between the components of page and text build.

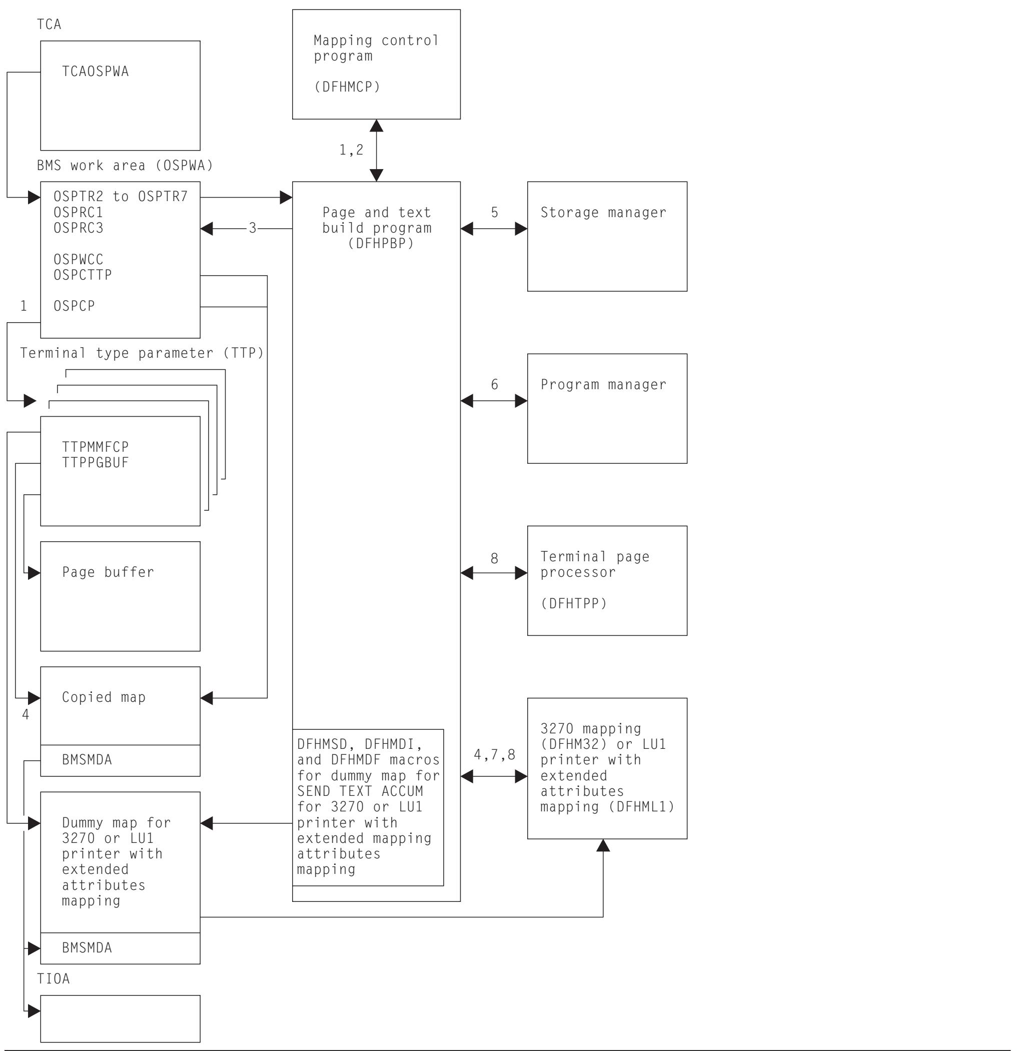

TCA
TCAOSPWA
Mapping control program
(DFHMCP)
1,2
BMS work area (OSPWA)
OSPTR2 to OSPTR7
OSPRC1
OSPRC3
OSPWCC
OSPCTTP
OSPCP
1
3
Page and text build program (DFHPBP)
5
Storage manager
Terminal type parameter (TTP)
6
Program manager
TTPMMFCP
TTPPGBUF
8
Terminal page processor
(DFHTPP)
Page buffer
Copied map
4
BMSMDA
DFHMSD, DFHMDI, and DFHMDF macros for dummy map for SEND TEXT ACCUM for 3270 or LU1 printer with extended mapping attributes mapping
4,7,8
3270 mapping (DFHM32) or LU1 printer with extended attributes mapping (DFHML1)
Dummy map for 3270 or LU1 printer with extended attributes mapping
BMSMDA
TIOA

Figure 11. Page and text build program interfaces

Note:

1. DFHPBP is entered from the mapping control program, DFHMCP, to process all BMS output requests. It is called once for each terminal type parameter (TTP) on the TTP chain pointed to by OSPTTP. The current TTP in the chain is pointed to by OSPCTTP.
2. DFHPBP returns control to DFHMCP when request processing is complete, or when the page must be written out before a SEND MAP ACCUM request can be processed and an OFLOW=symbolic address operand was specified.
3. OSPTR2, OSPTR3, ..., OSPTR7 contain request data from the DFHBMS macro expansion. OSPRC1 and OSPRC3 contain return codes to be examined by DFHMCP.
4. For a SEND MAP ACCUM request for an IBM 3270 Information Display System, the map is copied and chained to the TTP. For a SEND TEXT ACCUM request for an IBM 3270 Information Display System, a dummy map is created and chained to the TTP. When a page is complete, control is given to 3270 mapping (DFHM32), which combines the map copies chained to the TTP and maps the data.

For a SEND MAP ACCUM request for an LU1 printer with extended attributes, the map is copied and chained to the TTP. For a SEND TEXT ACCUM request, a dummy map is created and chained to the TTP. When a page is complete, control is given to the LU1 printer mapping program (DFHML1), which combines the map copies chained to the TTP and maps the data.

5. DFHPBP communicates with storage control to:
   - Acquire and free buffers in which pages are built
   - Acquire storage for copies of maps for SEND MAP ACCUM or SEND TEXT ACCUM
   - Acquire storage for a copy of the user's data for SEND MAP ACCUM or SEND TEXT ACCUM.
6. DFHPBP requests program manager to terminate a transaction abnormally (ABEND) if certain errors occur that cannot be corrected.
7. A SEND TEXT ACCUM request for an IBM 3270 Information Display System causes a map set consisting of one dummy map to be passed to 3270 mapping (DFHM32). The map has one field with attributes FREEKB and FRSET.

   SEND TEXT ACCUM requests for an LU1 printer cause a map set consisting of one dummy map to be passed to the LU1 printer mapping program (DFHML1). The map has one field with attributes FREEKB and FRSET.
8. If the page is being constructed for an IBM 3270 Information Display System, control is given to DFHM32 to map the data and then to DFHTPP to output the page.

   If the page is being constructed for an LU1 printer, control is given to DFHML1 to map the data, and then to DFHTPP to output the page. Otherwise, control is given to DFHDSB to add device dependencies to the page, and then to the terminal page processor (DFHTPP) to output the page.

DFHPHP (partition handling program)

The partition handling program (DFHPHP) processes terminal operations that involve partitions. DFHPHP has one entry point, and starts with a branch table that passes control to the required routine according to the request. It consists of routines that perform the following functions:

- PHPPSI tests whether there is a partition set in storage. If there is and it is not the required partition set, that partition set is deleted. When no partition set is in storage, an attempt is made to load the appropriate partition set.
- PHPPSC builds a data stream to destroy any partitions that may already be loaded on the terminal, creates the partition set designated by the application partition set, and sets the name of the partition set in the TCTTE to be the name of the application partition set.
- PHPPIN extracts the AID, cursor address, and partition ID. The AID and cursor address are put in the TCTTE, and the partition ID is converted to a partition name and returned to the caller. A check is made that the partition ID is a member of the application partition set.
- PHPPXE sends a data stream to a terminal to activate the appropriate partition and sends an error message to any error message partition if input arrived from an unexpected partition.

Figure 12 on page 53 shows the relationships between the components of partition handling.

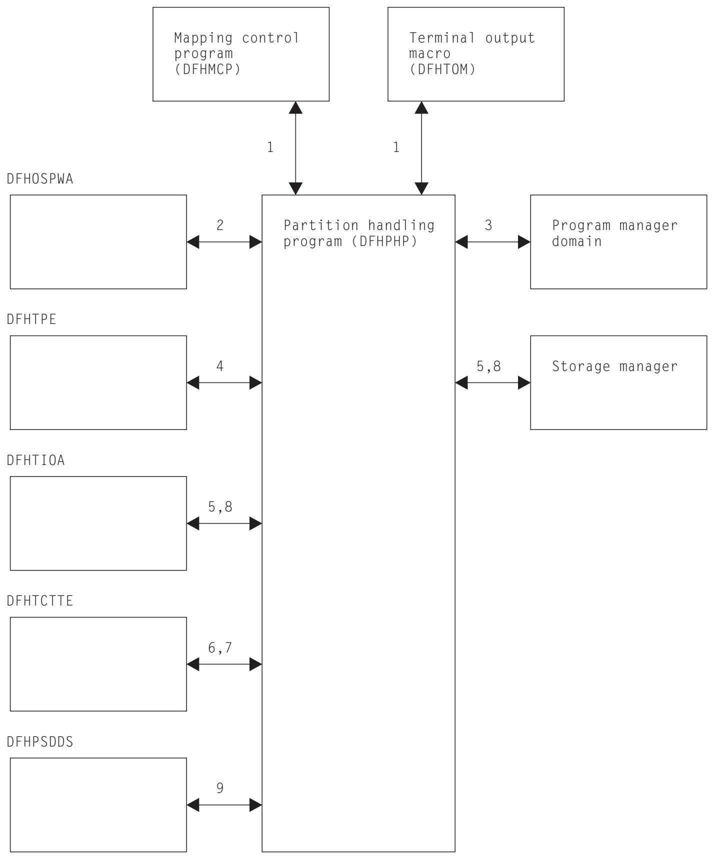

Mapping control program (DFHMCP)
Terminal output macro (DFHTOM)
1
1
DFHOSPWA
2
Partition handling program (DFHPHP)
3
Program manager domain
DFHTPE
4
5,8
Storage manager
DFHTIOA
5,8
DFHTCTTE
6,7
DFHPSDDS
9

Figure 12. Partition handling program interfaces

Notes:

1. DFHPHP is called by the mapping control program (DFHMCP) and by the terminal output macro (DFHTOM).
2. PHPPSI refers to OSPWA to check whether a partition set is loaded.
3. PHPPSI communicates with program manager to load the partition set.
4. PHPPSI puts the name of the partition set in TPE (terminal partition extension) as the application partition set.
5. PHPPSC calls storage control to acquire a TIOA in which to build and free the original TIOA.
6. PHPPSC sets a slot in the TCTTE to be the partition set data stream concatenated with the terminal partition set name if the terminal is not in the base state.
7. PHPPIN places the AID and the cursor address in the TCTTE.
8. PHPPXE calls storage control to get a TIOA, retrieves the error message text by calling the message domain, fills the TIOA with data, transmits the data, and frees the TIOA.
9. PHPPSC references the partition set object to build the partition creation data stream.

DFHRLR (route list resolution program)

The route list resolution program (DFHRLR) builds terminal type parameters (TTPs), which are the main blocks for building and writing out data in BMS.

Figure 13 shows the route list resolution program interfaces.

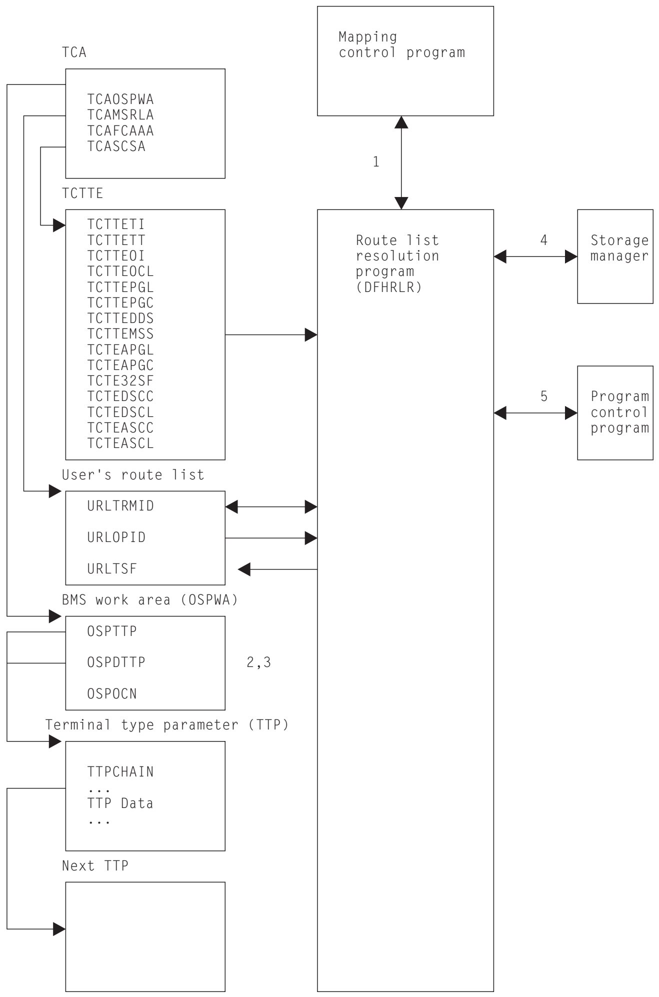


Figure 13. Route list resolution program interfaces

Note:

1. DFHRLR is called by the mapping control program (DFHMCP) to determine the grouping of terminal destinations.
2. If data is to be routed, DFHRLR groups the terminals in the user's route list by terminal type and builds a routing TTP for each type. For each TTP, the supported attributes of the corresponding terminals are accumulated. The address of the first routing TTP in the chain of TTPs is placed in OSPTTP.
3. If data is not to be routed, a direct TTP is built for the originating terminal and its address is placed in OSPDTTP.
4. DFHRLR communicates with storage control to acquire storage for the TTP.
5. Program manager services are requested by means of an ABEND command if errors occur that cannot be corrected.

DFHTPP (terminal page processor)

The terminal page processor (DFHTPP) directs completed pages to a destination specified in the BMS output request:

- SEND MAP or SEND TEXT sends to the originating terminal

- SEND MAP PAGING or SEND TEXT PAGING directs to temporary storage
- SEND MAP SET or SEND TEXT SET directs to a list of completed pages that are returned to the application program.

Figure 14 shows the relationships between the terminal page processor and other components in response to BMS output requests.

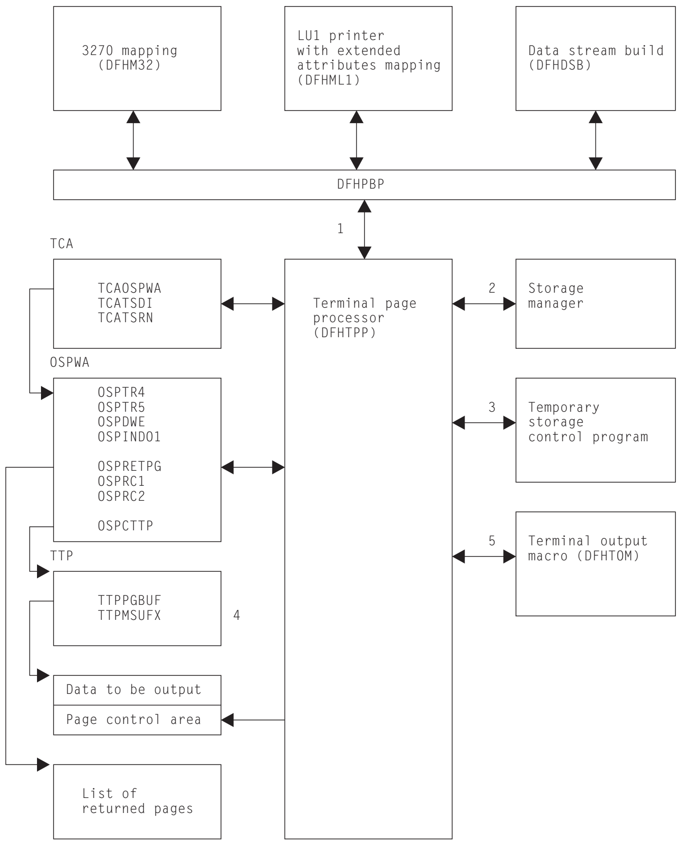


Figure 14. Terminal page processor interfaces

Note:

1. DFHTPP is entered from DFHPBP after processing by 3270 mapping (DFHM32) for 3270s, by LU1 printer with extended attributes mapping (DFHML1) for those LU1 printers, and by data stream build (DFHDSB) for other devices.
2. DFHTPP communicates with storage control to obtain:
   - The return list (to store the address of completed pages to be returned to the program)
   - Deferred work elements (DWEs), which ensure that message control information is written to disk, even if the program neglects to issue a SEND PAGE request
   - Storage for a list that correlates pages on temporary storage with the logical device codes for which they are destined.
3. Temporary-storage control is used to store pages and the message control record (MCR) for messages stored on temporary storage.
4. The terminal type parameter (TTP) controls the formatting of a message for a particular terminal type (for example, an IBM 2741 Communication Terminal). TTPPGBUF contains the address of a completed page.

5. The terminal output macro (DFHTOM) is issued to provide an open subroutine assembled within DFHTPP that puts a completed page out to the terminal. If the data stream contains extended attributes, and the terminal does not support extended attributes, the extended attributes are deleted.

DFHTPQ (undelivered messages cleanup program)

The undelivered messages cleanup program (DFHTPQ) checks the chain of automatic initiate descriptors (AIDs) to detect and delete AIDs that have been on the chain for an interval exceeding the purge delay time interval specified by the PRGDLAY system initialization parameter, if this has a nonzero value.

Figure 15 shows the undelivered messages cleanup program interfaces.

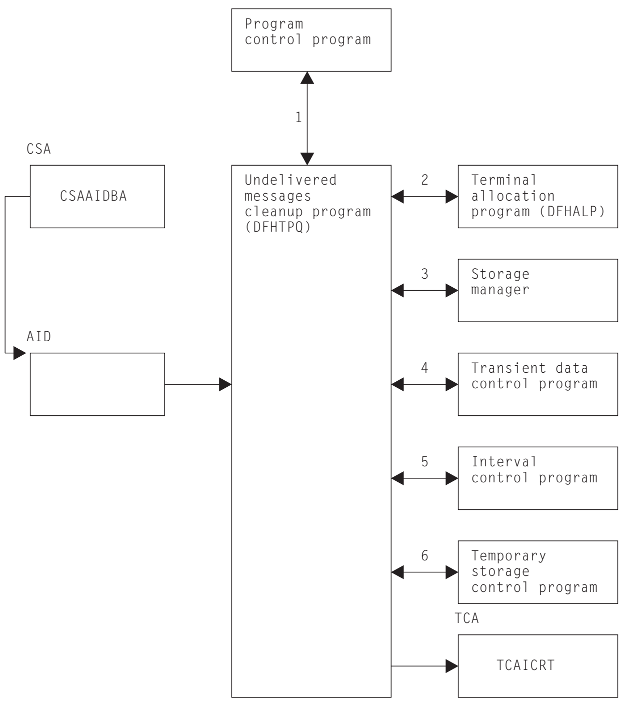

Program control program
1
CSA
CSAAIDBA
Undelivered messages cleanup program (DFHTPQ)
2
Terminal allocation program (DFHALP)
3
Storage manager
AID
4
Transient data control program
5
Interval control program
6
Temporary storage control program
TCA
TCAICRT

Figure 15. Undelivered messages cleanup program interfaces

Note:

1. DFHTPQ is initiated the first time by the mapping control program (DFHMCP), by interval control, or by the transaction CSPQ. Thereafter, it reinitiates itself (see note 5).
2. DFHTPQ communicates with the allocation program (DFHALP) to locate and unchain AIDs.
3. DFHTPQ communicates with storage control to free AIDs that have been purged and to acquire storage for notification messages.
4. Transient data control is used to send notification messages.
5. Interval control is used to obtain the current time and to reinitiate this task (DFHTPQ).
6. DFHTPQ communicates with temporary-storage control to retrieve and replace message control records (MCRs) and to purge messages.

DFHTPR (terminal page retrieval program)

The terminal page retrieval program (DFHTPR) processes messages built by BMS and placed in temporary storage.

Figure 16 shows the relationships between the components of page retrieval.

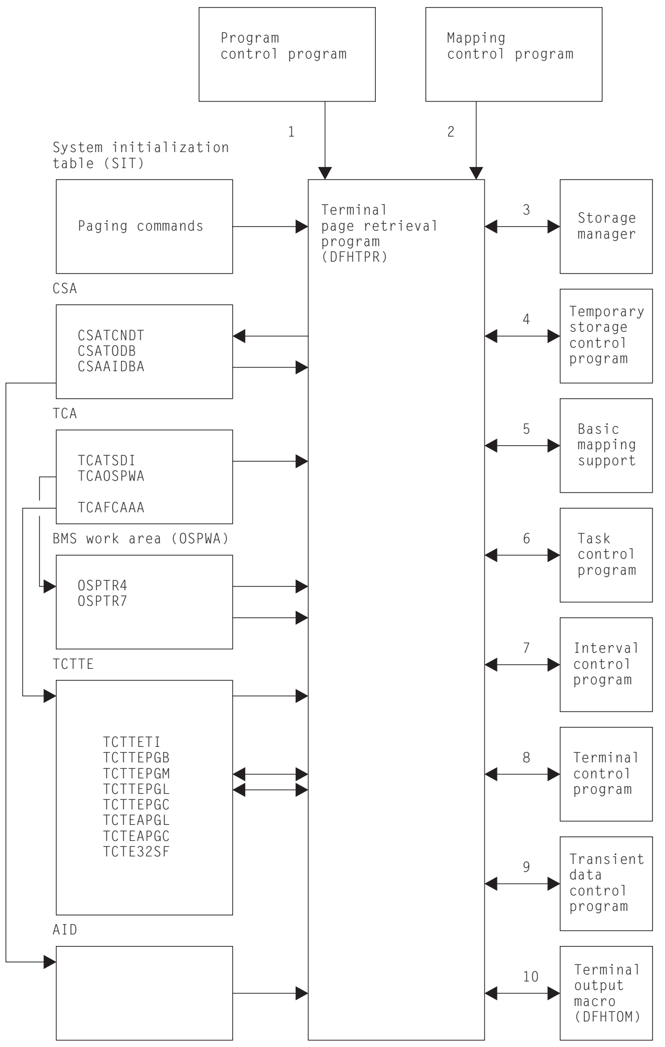


Figure 16. Page retrieval program interfaces

Note:

1. DFHTPR can be initiated as a stand-alone transaction (CSPG), or by a user-defined paging command (for example, P/, or 3270 PA/PF keys), or linked to from a BMS conversational operation (SEND PAGE request with CTRL=RETAIN or RELEASE).

   DFHTPR performs the following functions:

   - Displays the first page of a routed message
   - Displays subsequent pages of a message at a terminal for which a SEND PAGE request with CTRL=AUTOPAGE was specified
   - Processes paging commands from a terminal
   - Processes the CSPG transaction when it is entered at the terminal

- Purges a message displayed at the terminal if the terminal is in display status and other than a paging command is entered at the terminal.

2. DFHTPR is entered from the BMS mapping control program (DFHMCP) to display the first page of a message originated at the terminal if CTRL=RETAIN was specified in the BMS request. DFHTPR reads from the terminal and processes paging commands until other than a paging command is entered.
3. DFHTPR uses storage control to:
   - Acquire and free message control blocks (MCBs)
   - Free message control record (MCR) storage
   - Acquire storage for information and error messages to be sent to the destination terminal and the master terminal
   - Free an automatic initiate descriptor (AID) taken off the AID chain
   - Acquire and free storage for a route list constructed in response to a COPY command entered at a terminal
   - Acquire a TIOA into which to place a device-independent page when performing the COPY function.
4. Temporary-storage control is used to retrieve and replace MCRs and to retrieve and purge pages.
5. Basic mapping support is used to display error and information messages at a requesting terminal, and to send a page to the destination terminal in the COPY function.
6. Task control is used to retain exclusive control of an MCR while it is being updated.
7. DFHTPR communicates with interval control during error processing when a temporary-storage identification error is returned while attempting to retrieve an MCR. Up to four retries (each consisting of a one-second wait followed by another attempt to read the MCR) are performed. (The error may be due to the fact that an MCR has been temporarily released because another task is updating it. If so, the situation may correct itself, and a retry is successful.)
8. Terminal control is used to read in the next portion of terminal input after a page or information message is sent to the terminal when a SEND PAGE request with CTRL=RETAIN was specified.
9. Transient data control is used to send error or information messages to the master terminal.
10. The terminal output macro (DFHTOM) is issued to provide an open subroutine that puts a completed page out to the terminal.

DFHTPS (terminal page scheduling program)

The terminal page scheduling program (DFHTPS) is invoked for each terminal type to which a BMS logical message built with SEND MAP PAGING or SEND TEXT PAGING is to be sent. For each terminal designated by the originating application program, DFHTPR is scheduled to display the first page of the logical message if the terminal is in paging status, or the complete message if it is in autopage status.

Copy books

Copy book	Function
DFHBMSCA	Defines constants for field attribute values, flags returned by BMS, and character attribute types and values for SEND TEXT. It is usually copied into BMS application programs.
DFHMCPE	Included in the minimum-function BMS mapping control program DFHMCPE$, and also forms the BMS fast-path module DFHMCX used by both standard and full-function BMS. It is a small, fast, self-contained, limited-function BMS for 3270 displays and printers.
DFHMCPIN	Included in the standard and full-function versions of the BMS mapping control program, DFHMCPA$ and DFHMCP1$ respectively. It contains the code for input mapping.
DFHMIN	Included in the DFHM32 and DFHMCPE programs. It contains input mapping code for 3270 terminals.
DFHMSRCA	Defines constants for MSR control. This is usually copied into BMS application programs.

Exits

No global user exit points are provided for this function.

Trace

The following point IDs are provided for basic mapping support, all with a trace level of BM 1:

- AP 00CD, for temporary-storage errors
- AP 00CF, for exit trace
- AP 00FA, for entry trace.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 6. Builders

The builder modules:

- Make the autoinstall process possible (that is, build a terminal control table terminal entry (TCTTE) dynamically).
- Allows new TCT entries to be added on a running CICS system.
- Allow the TCT to be dynamically updated on a running CICS system.
- Allow TCT entries to be deleted on a running CICS system.
- Reduce emergency restart times for those systems that use the autoinstall function. These systems have to take the time to restore and recover only those terminals that were autoinstalled at the time of termination.
- Reduce warm start times for those systems that use auto-install. No auto-installed terminals (except LU6.2 parallel systems are recovered at warm start).
- Reduce shutdown times for those systems using auto-install. Auto-install catalog entries are deleted but the entry in storage is not destroyed during shutdown.

In this section, the term TCTTE is used in a general way to refer to the terminal control table entries for connections (TCT system entries, TCTSEs), mode groups (TCT modegroup entries, TCTMEs), sessions (session TCT terminal entries, TCTTEs), skeletons (TCTSKs), and models.

To build or delete a control block for a particular device, a set of builders is called. The set of builders is specified by a tree structure of patterns, each pattern specifying one builder.

The builder modules (DFHBS*) are link-edited together into the DFHZCQ load module.

Design overview

What is a builder (DFHBS*)?

A builder is responsible for all the actions that can occur on a particular subcomponent of the TCTTE. The term subcomponent means a separately obtained area of storage which is referenced from the TCTTE or a collection of fields in the TCTTE that are logically associated with one another. General terms sometimes used instead of subcomponent are **object** or **node**. For example, the NIB descriptor, LUC extension, and BMS extension are all considered to be subcomponents.

Builder parameter set (BPS)

Each time a calling module invokes DFHZCQ for INSTALL, it supplies a builder parameter set (BPS). The BPS describes the device to be defined. The device-type is determined by matching attributes in the BPS with a table of definitions, DFHTRZYT, in module DFHTRZYP.

A BPS consists of a fixed-length prefix, a bit map preceded by its own length, an area for fixed-length parameters preceded by its own length, and three variable-length parameters, BIND, USERID, and PASSWORD. Each variable-length parameter has a 1-byte length field.

TCTTE creation and deletion

This section starts by describing the structure of the main components involved in the process of creating and deleting TCTTEs. Figure 17 is in two halves: the top half shows those components that can initiate the process of collecting all the necessary data or parameters that go toward fully defining a TCTTE, and the bottom half is concerned with how to go about creating the TCTTE after it has the full set of parameters. Thus, all the processes are aiming for the same common interface. This section deals first with the top-level processes that are activated to create or delete TCTTEs; for the time being, assume that after returning from the DFHZCQ interface a TCTTE has been created. (For a more detailed description, see "DFHZCQ and TCTTE generation" on page 63.)

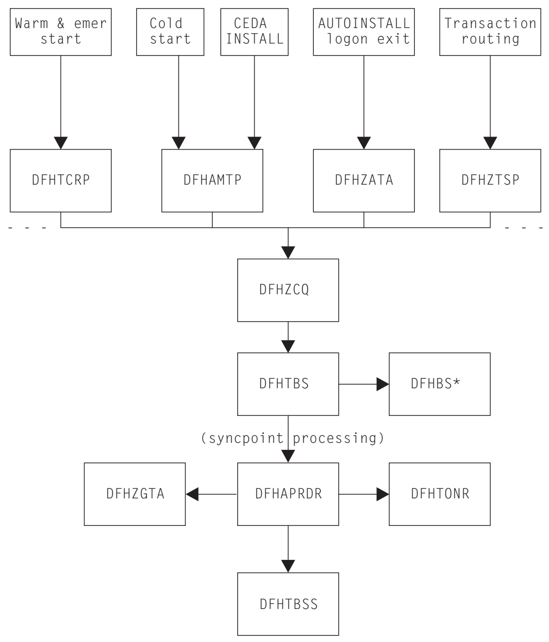


Figure 17. Top-level view of the components participating in TCTTE creation

Component overview

DFHTCRP

The DFHTCRP program is responsible for reestablishing the TCTTEs that were in existence in the previous run. There are conceptually three stages of processing in this module:

1. Initialize DFHZCQ. Initialize DFHAPRD. If START=COLD, terminate.
2. Reestablish TCTTEs that were saved on the CICS catalog. If START=WARM, terminate.
3. Call DFHAPRDR to forward-recover in-flight TCTTEs from the system log, if an emergency restart is being performed.

DFHAMTP

The DFHAMTP program is used as part of INSTALL processing. It calls DFHTOR, then DFHZCQ.

DFHZATA and the CATA transaction

CATA is a transaction that is initiated by the logon exit and causes DFHZATA to run. It is passed the CINIT which is used to deduce the parameters which must be passed to DFHZCQ in order to create a TCTTE.

DFHZTSP

The terminal sharing program, DFHZTSP, is used by transaction routing for devices of all types, exclusively so for non-APPC devices.

DFHZCQ

The DFHZCQ program supports the INSTALL and DELETE interface that results in the TCTTE being created or deleted. It relies on its callers to supply the complete set of parameters that are to be used to create the TCTTE; that is, it is not responsible for determining parameters for the TCTTE.

DFHBS* builder programs

The builders are responsible for creating the TCTTE. The parameters given to DFHZCQ are passed on to the builders. They extract the parameters and set the relevant fields in the TCTTE.

DFHTBS

The DFHTBS program is an interpreter that uses a pattern given to it by DFHZCQ to drive the whole TCTTE creation or deletion process according to certain rules.

DFHAPRDR

The DFHAPRDR program is the orchestrator of the commitment of TCTTE creation or deletion. It is responsible for driving DFHTBSS and DFHTONR for syncpoints, during cold start and also for recovering in-flight creates or deletes from the system log during emergency restart. It is called by the Recovery Manager, DFHTCRP and DFHAMTP during start-up and directly from DFHTBS (to roll-back an atom).

DFHTBSS

The DFHTBSS program is responsible for logging forward recovery records and for updating the catalog as a result of the request initiated by DFHZCQ and actioned by DFHTBS. It is driven by DFHAPRDR.

DFHTONR

The DFHTONR program is responsible for logging forward recovery records and for updating the catalog for install or delete requests for TYPETERMS. It is driven by DFHAPRDR.

DFHZGTA

DFHZGTA is the module called by DFHBS* and DFHZTSP (for remote system entry sessions) to add or delete index entries for TCTTE entries. It maintains locks on terminal namespaces, and handles calls to TMP to add, quiesce, delete, unlock and unquiesce entries. It is driven at syncpoint or rollback for an atom by DFHAPRDR.

DFHZCQ and TCTTE generation

This topic describes how a TCTTE gets built and deleted. You need to understand at least one method by which a builder parameter set (BPS) is created; for example, CEDA INSTALL or AUTOINSTALL. A BPS contains all the values necessary for the creation of a TCTTE.

Figure 18 gives a more detailed view of the main components involved in the INSTALL process.

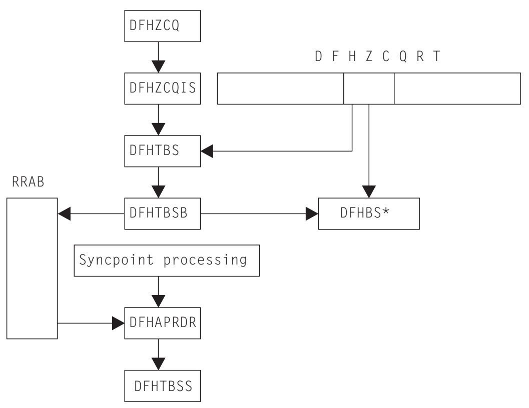


Figure 18. Major active components in the INSTALL process

The four-stage process

In summary, the process consists of four stages:

1. **Collecting the parameters** together.
2. **Creating the storage** for the TCTTE and copying the parameters. Note however, that at the end of this stage, a TCTTE has effectively been built. It is still unknown to the rest of the CICS system, that is, the TCTTE name has not been exposed. The modules involved here are DFHTBSB and DFHBS*.
3. **Producing a recovery record**. This is done at syncpoint processing time in the DFHTBSS module. This stage is usually called Phase 1 syncpoint.
4. **Writing or updating the catalog**. Again, this is done in DFHTBSS and is called Phase 2 syncpoint. It is at about this stage that the TCTTE name becomes exposed and known to the rest of CICS.

What is DFHZCQRT?

DFHZCQRT is an array of “patterns” where each pattern defines a list of builders that need to be called in order to create this particular type of TCTTE, that is, a pattern is equivalent to a type of terminal. The array entry consists of two parts: information that is private to DFHZCQ, and the pattern that is interpreted by DFHTBS.

What does DFHTBSBP do?

The pattern entry is passed to DFHTBSBP (via DFHTBSB) after it has been found by DFHZCQIS. DFHTBSBP calls each builder identified by the pattern in sequence to create the object for which the builder is responsible. Note that DFHTBSBP knows nothing about the TCTTE; DFHTBSBP merely follows a set of simple rules. It keeps an audit trail of each builder that is called.

What is the RRAB used for?

The audit trail kept by DFHTBSBP is implemented by obtaining a Resource definition Recovery Anchor Block (RRAB) that has some user storage attached to it. As DFHTBSBP calls each builder to perform an action, it adds an “action element” to the RRAB. (See “What is syncpointing?” on page 65) The address of the RRAB for a UOW is held in the ‘APRD’ recovery manager slot, which ensures that DFHAPRDR will be called at syncpoint. The RRAB stores the action blocks in two types of chains, one for actions that are not part of a named resource definition 'atom' and one for actions that are part of a named atom. This later type are chained off a Resource definition Action Name block (RABN). Also held in the RRAB is an indicator set by DFHTOR if DFHTONR should be called at syncpoint (if a typeterm has been installed), and a chain of Resource Definition Update Blocks (RDUB).

What is a resource definition 'atom'?

Certain resource definitions must be installed or deleted as a single set. These definitions are called a resource definition 'atom'. CICS installs the members of a RDO group as individual resource definitions, which can fail without causing the other resources to fail except for these atoms, which bear the name of the logical set of definitions. For example:

A connection and its associated sessions
is named for the connection

A pool of terminals
is named for the pool of terminals

What is a Resource definition Atom Name block (RABN)?

The RABN is only created for those atoms of resource recovery that are named. It holds the name of the atom, a chain of action elements for the atom, and the recovery outcome of the atom (whether it failed and was backed out, or succeeded and should be committed). DFHTBSB uses the RABN to decide if a session definition should not be installed because the install of the parent connection has already failed, for example. In our auto-install example, if the definition being installed is a parallel connection, there will be a RABN for it from which the action elements are chained.

What is a Resource Definition Update Block (RDUB)?

The RDUB is a record of locks held by a UOW against names in three namespaces:

1. Termids and Sysids
2. Netnames
3. Unique ids (Composed of the Netname of a Terminal Owning Region followed by a period '.' followed by the Termid or Sysid in that TOR)

During the installation, deletion, or replacement of a TCTTE definition the builders DFHBS* obtain locks by calling DFHZGTA. These locks guarantee exclusive or shared access to names in these namespaces. Exclusive access is used to prevent another task from installing another definition with the same name, netname or unique-id while this UOW is trying to install or delete (an action which may have to be reversed). Shared access is used to block another task from deleting an entry that a definition that this task is updating (for example, a system definition name may be locked by a remote terminal definition that refers to it).

RDUBs also exist on a global chain so that other UOWs can easily find out if a particular lock is held.

What is syncpointing?

When DFHTBSBP has exhausted the list of builders, it returns to its caller. Similarly, DFHZCQIS returns to its caller, which could have been autoinstall. However, there is still an audit trail that is attached to the RRAB. It is only when the calling task terminates or issues DFHSP USER or EXEC CICS SYNCPOINT that the next two stages occur.

Syncpoint processing consists of two phases. The first phase (prepare phase) requires the resource manager to write a forward-recovery record to the log. Thus, if the second phase (commit phase) fails to write to the catalog, this recovery record can be used to forward-recover the action on an emergency restart.

DFHTBS

The DFHTBS program is an interpreter that uses a pattern given to it by DFHZCQ to drive the whole TCTTE installation or deletion process according to certain rules.

DFHAPRDR

DFHAPRDR is invoked by recovery manager if the ‘APRD’ RM slot is non-zero. This slot contains the address of the RRAB for this UOW if any resource definition has taken place. It is also called by DFHTBS directly if an atom needs to be rolled-back or to commit an atom during Cold Start. DFHAPRDR examines the RRAB and chooses whether to call DFHTBSS, DFHTONR and DFHZGTA for each phase of syncpoint or individual atom commitment.

If either DFHTBSS or DFHTONR have records to log/catalog, DFHAPRDR calls the recovery manager to request that a record is written to the catalog noting that a forget record will be written once syncpoint completes. The purpose of this call is that if CICS should fail between the start of syncpoint phase 2 and the end, on an emergency restart recovery manager will call DFHAPRDR with the log records for this UOW so that they can be re-applied to the catalog, and the TCTTE entry or entries can be re-built.

DFHTBSS

The DFHTBSS program is responsible for performing the correct recovery actions for each atom and UOW at syncpoint (or during the rollback of an individual atom). It writes forward recovery records to the system log and updates the catalog during phase 1 and phase 2 of syncpoint respectively. It is directly driven by DFHAPRDR.

The purpose of the builder (DFHBS*) modules is to build a TCTTE, TCTSE, and TCTME and its associated control blocks. A TCTTE is built for terminals only; a TCTSE and TCTME are built for both LU6.1 with MRO and LU6.2 single sessions; all three are built for LU6.2 parallel sessions. DFHTBSS is invoked by DFHAPRDR with a parameter list that indicates whether this call is for an individual atom or for syncpoint and which phase is in force. For phase 1, it uses the action blocks audit-trail to recall each builder. It asks each builder to supply the address and length of the subcomponent so that it can create a single record containing a copy of each component as a list; that is, the first part of the record contains a copy of the object created by the first builder in the sequence, the second part contains a copy of the object created by the second builder, and so on until the audit trail list is finished. This record is then written to the system log as a forward recovery record.

When DFHTBSS is reentered for the second phase (again a parameter on the call by DFHAPRDR), it uses the record created in the first phase as the record that is written to the catalog. During this stage, each builder is called to tidy up after the object for which it is responsible; for example, for the TCTTE itself, it puts the TCTTE in service.

Again note, DFHTBSS only implements a set of rules.

DFHTONR

DFHTONR is responsible for writing catalog records for TYPETERMs. It is called by DFHAPRDR.

DFHZGTA

DFHZGTA is the module that is called by DFHBS* modules to add index entries for TCTTE entries so that they can be located quickly either by DFHZLOC, DFHZGTI or in VTAM exit code. It calls DFHTMP services. It obtains and releases locks using the RDUB blocks, and at syncpoint is responsible for releasing all TMP locks and unquiescing any TMP entries that were quiesced by DFHBS* modules.

Summary

- In overview, the process consists of four stages: parameter collection, obtaining and initializing, phase 1 recovery record and logging, and phase 2 catalog record.
- A builder contains TCTTE specific code.
- DFHTBS* modules implement the abstract rules for creating generic “objects”.
- DFHZCQRT contains patterns that define what builders are to be used to build the TCTTE.
- Syncpoint processing consists of two stages (prepare and commit).
- DFHAPRDR is responsible for orchestrating the syncpoint process for all of resource definition recovery.
- DFHTBSS is driven by DFHAPRDR using the audit trail produced by DFHTBSB.
- DFHTONR is driven by DFHAPRDR if any TYPETERMs were installed.
- DFHZGTA is driven by DFHAPRDR if any locks need to be released.

Example of an autoinstall

Consider the following: a terminal operator has logged on to the system and is being autoinstalled. The CATA transaction is responsible for collecting together the parameters required for the DFHZCQ INSTALL.

The process continues from the point where the DFHZCQ INSTALL is issued from CATA:

1. A call has been made to cause an install to occur. DFHZCQ ensures that other related modules are already loaded.
2. DFHZCQ calls the install-specific module (given in the parameter block passed to DFHZCQ)
3. DFHZCQIS performs various checks on the parameters passed by the caller of DFHZCQ.
4. DFHZCQIS finds a pattern in DFHZCQRT that matches with information given in the parameters.
5. DFHZCQIS calls DFHTBS with the pattern and parameters.
6. DFHTBS routes the request to DFHTBSB; it is omitted from further discussions.
7. DFHTBSB checks that a valid pattern has been passed.
8. DFHTBSB creates the RRAB which gets attached to the APRD Recovery Manager slot.
9. DFHTBSB calls the next builder as defined by the pattern.
10. Each builder (DFHBS*) creates its section of the TCTTE.
11. DFHTBSB adds an action element to the RRAB giving information about this particular builder.
12. Steps 9, 10, and 11 are repeated until the pattern is finished.
13. DFHTBSB tidies up the RRAB and returns.
14. DFHTBS returns.

15. If the return code was 'OK', DFHZCQIS returns the address of the hidden TCTTE.
16. DFHZCQ returns.
17. The caller continues until DFHSP USER is issued or the task terminates.
18. DFHAPRDR invokes DFHTBSS with the RRAB indicating phase 1.
19. DFHTBSS examines the RRAB to determine phase.
20. Using the action elements created in step 11 on page 67, DFHTBSS recalls each builder asking for information to be saved on the recovery log.
21. Each builder (DFHBS*) returns the address of the object built in step 10 on page 67.
22. Using these addresses, DFHTBSS builds the recovery record.
23. DFHTBSS writes the recovery record to the system log.
24. DFHTBSS saves the stored version for the next phase.
25. DFHTBSS returns.
26. Recovery Manager calls all other resource managers that have a part to play in the process; it knows this because there are addresses in the RM slots for this UOW.
27. DFHTBSS is called for phase 2. It reuses the in-storage version of the recovery record to write to the catalog.
28. DFHTBSS returns.

Patterns, hierarchies, nodes, and builders

Patterns were introduced in the previous section. This section examines in detail what they look like. To achieve this, several terms have to be explained.

What is a hierarchy?

In this context, "hierarchy" is another word for tree. The structure of the TCTTE can be thought of as a tree: at the top **node** is the TCTTE itself, containing pointers to lower-level **nodes**.

Figure 19 shows the **master node** as the TCTTE, with **subnodes** connected to it (BMS extension, special features extension, and so on).

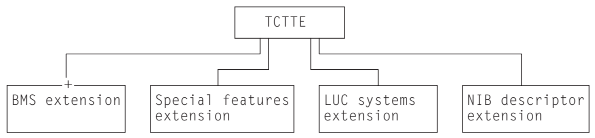


Figure 19. TCTTE structure

As a result of this structure, it can be seen that the creation process must follow several rules. For example, the storage for the **master node** has to be obtained before pointers to **subnodes** are saved in it.

What is a pattern?

The objective of a pattern is to reflect or represent the hierarchy as described above. Figure 20 on page 69 outlines the shape of a pattern. For each of the nodes in Figure 19, there is a pattern. Starting with the TCTTE (**the master node**), there is a **master pattern**. B1offset references the **subpattern** for the BIND image node; B2offset references the subpattern for the BMS extension node; B3offset and B4offset reference the subpatterns for user area and SNTTE **subnodes** respectively.

In total, there are five patterns: the master pattern and four subpatterns—so what is meant by **pattern** above was really a collection of patterns.

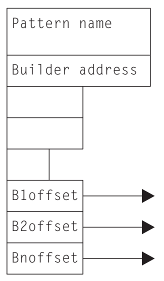


Figure 20. Pattern structure

Note that each pattern contains the address of a builder, so we could represent the TCTTE structure as:

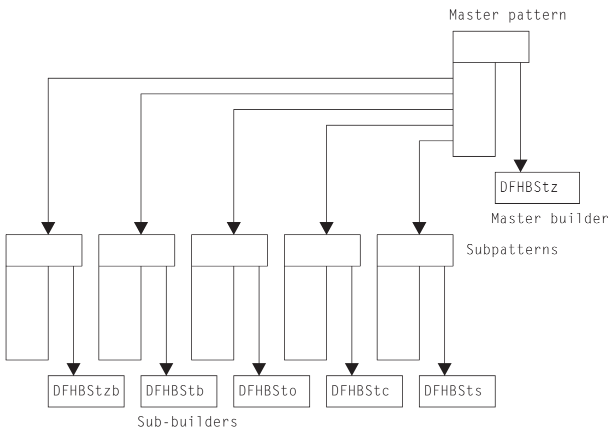


Figure 21. Patterns and subpatterns

The purpose of the builders

The purpose of the builders is to centralize the major functional code for creation and deletion of the **nodes** associated with the TCTTE. Figure 20 and Figure 21 show how the **patterns** refer to the builders; the pattern is exploited by the DFHTBS* code to activate the relevant builder function. For example, DFHTBSBP, when given a pattern, extracts the address of the builder and invokes the BUILD function belonging to the builder.

How does DFHTBSBP do its work?

First, you must examine more closely the structure of a builder in Figure 22 on page 70.

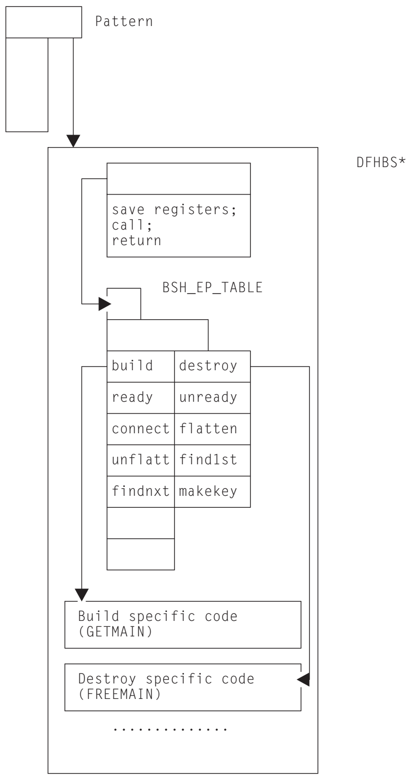


Figure 22. The builder stub

Remember that the pattern references a builder. In fact, it references a stub, the first word of which points to a table (BSH_EP_TABLE), and is followed by code that is responsible for enacting the entry as required by the caller. For example, if the caller wanted to call BUILD, a call would be made to the stub with value 1. The stub would extract the offset to the build code from the BSH_EP_TABLE, and perform the call.

Thus, making a call from DFHTBS* to DFHBS* is relatively simple: all that is needed is the function number (1 for BUILD, 2 for DESTROY, ...), a call to the stub, and the pattern.

Summary

- The TCTTE is structured as a **hierarchy** with a **master node** (the TCTTE itself) and **subnodes** (BIND image, BMS extension, and so on).
- **Patterns** mimic this hierarchy and consist of a **master pattern** which refers to **subpatterns**.
- In turn, each pattern points to a builder: the master pattern refers to the **master builder** and the subpatterns refer to the **sub-builders**.
- Builders centralize the major creation and deletion functions associated with the node for which they are responsible.
- The invocation (or activation) of the builder functions is performed under the strict control of the DFHTBS* modules.
- The **order of invocation** is totally determined by the structuring of the patterns.

The DELETE process

By examining the hierarchy (see Figure 19 on page 68), you can see that there are certain rules that have to be established. Firstly, you should check that the TCTTE and its subcomponents are quiesced, that is, there is no activity in progress. And secondly, and perhaps more obviously, the top node must not be the first object to be freed. From this, you can derive two basic rules, or "functions", that must be supplied by any DFHBS*:

UNREADY
For all nodes associated with the master node. Ensures that no activity is occurring; for example, that a CLSDST is not in progress. It must also achieve exclusive ownership of the object; for example, ZGTA QUIESCE ensures no locates on the given TCTTE succeed and that no other UOWs can install another similarly named object until syncpoint. Further, it **initiates** the ZGTA DELETE which does a TMP DELETE to remove the entry.

DESTROY
Lower objects first. (See "What about the "lower objects first" rule?":) Frees the storage belonging to the node.

What about the "lower objects first" rule?

Figure 23 tries to add meaning to the descriptions of the UNREADY and DESTROY functions. As each builder is called (as determined by the master pattern), DFHTBSD records an audit trail of called builders. However, the audit trail is managed slightly differently for the delete process, to guarantee order of processing by DFHTBSS at phase 2 time. For further information, see "Completing the process description" on page 73.

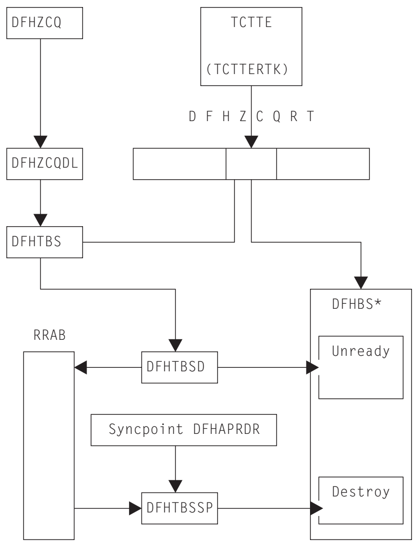


Figure 23. Major active components in the DELETE process

Example of a reinstall

1. CEDA reads the CSD and converts the definition into a builder parameter set (BPS).
2. CEDA issues a DFHZCP INSTALL passing the BPS.
3. Using the resource type code in the BPS, DFHZCQIS searches the DFHZCQRT table for the associated pattern.

4. DFHZCQIS calls DFHTBSB passing the BPS and the pattern.
5. DFHTBSB checks the pattern and creates a resource definition recovery action block (RRAB) for the audit trail.
6. Using the pattern, DFHTBSB calls the CHECKSET entry point of the associated builder.
7. The master builder does a DFHZGTI LOCATE to check whether the TCTTE already exists.
8. A TCTTE is found to exist, so the builder issues DFHZCP DELETE passing the address of the old TCTTE.
9. When a TCTTE is created, its position within the DFHZCQRT table is saved in the TCTTE. DFHZCQDL uses this value to find the pattern associated with this TCTTE.
10. DFHZCQDL calls DFHTBSD passing the object to be deleted and the pattern.
11. DFHTBSD extends the audit trail so that information about this delete can be recorded.
12. DFHTBSD calls the UNREADY entry of each builder.
13. Each builder (DFHBS*) checks whether its part of the TCTTE is being used (and vetoes the UNREADY if it is). It calls ZGTA QUIESCE and ZGTA DELETE to lock and remove the index entries.
14. DFHTBSD updates the audit trail for each called builder.
15. DFHTBSD returns.
16. DFHZCQDL returns.
17. The master builder checks the return code (that is, that no builder vetoed the UNREADY).
18. The master builder returns.
19. DFHTBSB checks the return code and recalls each builder at the BUILD entry point passing the BPS.
20. Each builder obtains some storage and copies the parameters from the BPS. It uses ZGTA ADD calls to lock and add index entries
21. DFHTBSB tidies up the RRAB and returns.
22. DFHZCQIS records the position within DFHZCQRT that enables DFHZCQDL to find the pattern.
23. DFHZCQIS Returns.
24. CEDA checks the return code and issues DFHSP USER.

    Note: At this stage there are two TCTTEs: the old one that was UNREADY and the new one.
25. CEDA calls: DFHTBSS is entered for the first time (phase 1). The audit trail consists of two parts (A and B). Part A contains the list of builders involved with the UNREADY; part B contains the list of builders that created the new TCTTE.
26. CEDA writes a recovery record to the system log for Part A indicating that a delete is about to take place in phase 2.
27. CEDA creates a recovery record from Part B which represents the new TCTTE to be built.
28. CEDA calls each builder asking for its subcomponent (FLATTEN).
29. DFHZQIX returns an address and length.
30. CEDA concatenates each subcomponent into the recovery record.
31. CEDA writes the recovery record to the system log.

32. CEDA returns (end of phase 1).
33. CEDA reenter for phase-2 processing.
34. CEDA processes Part A, calling the DESTROY entry for each builder.
35. Each builder frees its part of the old TCTTE.
36. CEDA processes Part B of the audit trail.
37. CEDA writes the recovery record to the catalog.
38. CEDA calls the READY entry point for each builder on the audit trail.
39. Each builder does any tidying up that needs to be done.
40. CEDA returns.

Completing the process description

To complete the description of the creation and deletion process, two further functions must be described: CONNECT and READY.

CONNECT

Figure 19 on page 68 shows the TCTTE hierarchy. All that has happened at build time is that the separate parts of the TCTTE have been obtained. Access to these subcomponents is achieved by referencing pointers that are held in the TCTTE. So the CONNECT builder entry point is used to join the subcomponent to the TCTTE.

READY

The READY builder entry point is provided to enable any final tidying up that may be required at the end of the build process. For example, if the TCTTE has the AUTOCONNECT option, a SIMLOGON is initiated from this entry point. In general, this entry point is rarely used.

The creation/deletion state machine

Figure 24 shows the symmetry between the various builder functions.

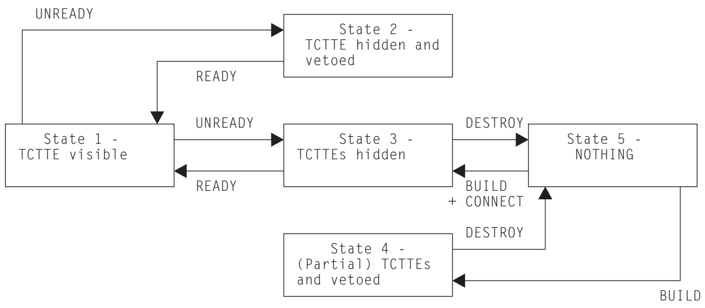


Figure 24. Create/delete state diagram

The starting point can be either state 5 (installing a TCTTE) or state 1 (deleting a TCTTE). Thus, if several TCTTEs had been successfully built, but the last one resulted in an error, we would end up in state 4. If it were not for the last one, we would have ended up in state 3. So the caller is returned an error response, and issues a DFHSP ROLLBACK. This causes DFHTBSS to call the DESTROY function of the builders for all elements on the audit trail—even for those that were “successfully” built in this atom, or UOW. Thus, an install of a atom can be perceived as one complete unit. During the DESTROY process, if the atom is being rolled-back, the builders call ZGTA QUIESCE and ZGTA DELETE to remove index entries for the new TCTTE. Likewise during the READY process, if a delete is being rolled back, the builders call ZGTA ADD to re-instate index entries for the TCTTE.

The hierarchy and its effect upon the creation process

Summary so far

- Object creation is a four-stage process.
- It is controlled by a pattern.
- Each pattern refers to a builder.
- Each builder is responsible for a subcomponent of the TCTTE.
- Builders have a number of procedural entry points:
  - BUILD
  - CONNECT
  - DESTROY
  - READY
  - UNREADY.
- These entry points are called under the control of the DFHTBS components.

This section now looks in greater detail at how the control of the builder calling process is implemented. To do that, you need to understand in greater detail the structure of the hierarchy, and the way the DFHTBS components interpret that structure.

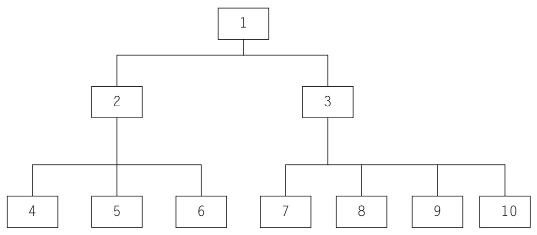


Figure 25. A general hierarchy

Figure 25 shows a more general hierarchy. Node 1 can be considered as a master node: it is at the top of the tree and has two subnodes (2 and 3). However, you could say that node 2 and its subnodes are also a tree: node 2 is the master node, and nodes 4, 5, and 6 are the subnodes. Similarly, with node 3: it has subnodes 7, 8, 9, and 10.

The DFHTBS components exploit the idea that a tree consists of a node with trees below it. In fact, DFHTBSBP uses **recursion** to access the tree of patterns.

Recursion

This section demonstrates how recursion is used to process a much simpler structure than that given in Figure 25. The example shown in Figure 26 on page 76 is for the DFHTBSP program, which has the following parameters:

Input: PATTERN, HIGHERNODE, and BUILDER
Inout: AUDITTRAIL
Output:
NODE and RESPONSE.

The following list outlines the flow in DFHTBSBP. The step references refer to steps in this list.

1. Add and initialize an action to the AUDITTRAIL (this is used later in steps 5 and 11).

2. Using parameter PATTERN, find the address of the associated builder.
3. Call the builder stub with function number 1 (for BUILD) with the following parameters:
   Input: HIGHERNODE and BUILDER
   Output:
   NODE.

   The builder uses the BUILDER parameters to create its specific object. Storage is obtained and the parameters are copied into it.
4. Check that the response from the build is 'OK'.
5. Copy the address of the output parameter NODE into the AUDITTRAIL action.
6. Process all the subpatterns that may be attached to your pattern
7. Get the next subpattern Pn.
8. Call DFHTBSBP with the following parameters:
   Input: Pn, NODE, and BUILDER
   Inout: AUDITTRAIL
   Output:
   SUBNODE and SUBRESPONSE

   Note: In this step, you call yourself again, passing NODE. At the next level of recursion, this appears as HIGHERNODE.
9. Stop when the last pattern is processed.
10. Call the builder stub with function number 5 (for CONNECT) with the following parameters:
    Input parameters:
    NODE
    Inout parameters:
    HIGHERNODE

    The builder's CONNECT entry point now places the address as given by NODE into an offset of HIGHERNODE.
11. Finally, place the address of the pattern into the AUDITTRAIL action.

Simple recursion example

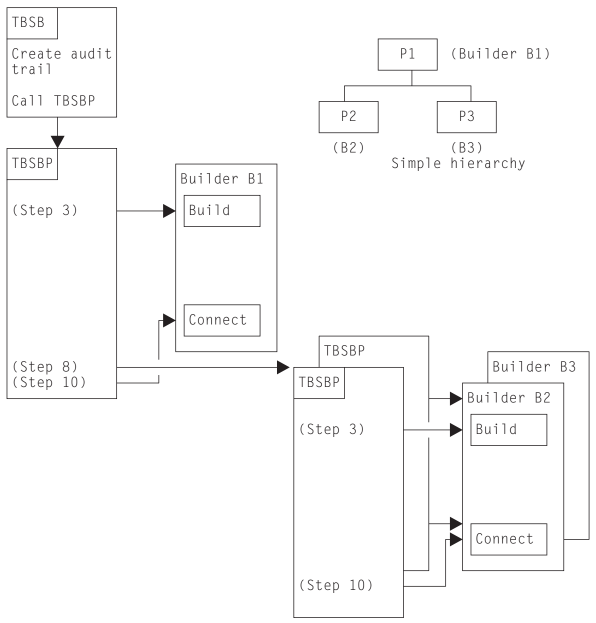


Figure 26. Simple example showing recursion

Consider the following simplified version of the hierarchy as given in Figure 26. The step references refer to steps in the list in the section "Recursion" on page 74.

1. Start with pattern P1. Call its associated builder (step 3 on page 75). This creates node N1.
2. All the patterns below P1 are processed, the first of which is P2.
3. Call DFHTBSBP passing P2, N1, BUILDER parameters, and others:
   a. Using the passed pattern (now P2), call the builder. This creates node N2.
   b. Process all patterns below P2; there are no subpatterns, so steps 6 on page 75 through 9 on page 75 6 on page 75 are not performed.
   c. Call the CONNECT entry of the builder, passing higher node N1 and the node just created, N2. This makes N1 point to N2.
   d. Return to caller.
4. Get the next pattern, P3.
5. Call DFHTBSBP passing P3, N1, BUILDER parameters, and others:
   a. Using the passed pattern (now P3), call the builder. This creates node N3.
   b. Process all patterns below P3; there are no subpatterns, so steps 6 on page 75 through 9 on page 75 6 on page 75 are not performed.
   c. Call the CONNECT entry of the builder passing in higher node N1 and the node just created N3. This makes N1 point to N3.
   d. Return to caller.
6. Last pattern processed (step 10 on page 75).
7. Call the builder associated with P1 to connect node N1 to HIGHERNODE. (This is zero because there is no higher node. Usually, a master builder's CONNECT function either does nothing or adds the TCTTE name and address into the table management tables.)

ROLLBACK

What happens when an error occurs during the install process? An example of this would be when one TCTTE within a group is still in service when a CEDA COPY command is being processed for the group with the REPLACE option specified. "Example of a reinstall" on page 71 shows such a replace operation. The builders for the existing TCTTE are called (UNREADY) in order to check that the DELETE (FREEMAIN) can proceed. Thus, the audit trail refers to all called builders.

If the "total vote" from all the UNREADY builder calls indicates OK, the build proceeds for the new TCTTE that is to replace the existing one. Thus, at the end of the process, the audit trail consists of a list of references to builders associated with the old TCTTE, and a list of references to builders for the new TCTTE (lists A and B).

Consider the case when the group contains definitions for three TCTTEs, and a VETO occurs for the last one. This means that there is an audit trail for A1, B1, A2, B2 for which there was success, and list A3 for the unsuccessful UNREADY for the third TCTTE.

The failure condition is returned to the caller (CEDA), which then issues a DFHSP ROLLBACK.

Recovery Manager invokes DFHAPRDR which in turn invokes the DFHTBSS module, with a parameter that indicates a rollback is required. Thus, the "A" lists are processed, and all the READY entry points of the builders are called. Then the "B" lists are processed, and the DESTROY builder entry is called to free the storage obtained for the supposedly new TCTTEs.

To summarize, the rollback operation for UNREADY is READY, and the one for BUILD is DESTROY.

Catalog records and the CICS global catalog data set

Overview

The fourth stage of the process is to produce a catalog record that is written to the CICS global catalog data set. This record is used on a subsequent restart to re-create the TCTTE, but in a different way from the "Build" process described above. A CEDA INSTALL means that the TCTTE lives across CICS restarts, avoiding the necessity of rerunning the install.

A RESTORE from the CICS catalog is a faster operation than a CEDA INSTALL because there is no conversion of the CSD definition to a builder parameter set, and less I/O involved.

In summary, a catalog record is produced by recalling each of the builders asking for the address of the data that they want to be recorded on the catalog. Each subcomponent of the TCTTE is then copied and concatenated into one record, which is then written to the catalog. This process is known as FLATTEN.

A CATALOG call is made when significant events change the state of a TCT entry which would be needed on a subsequent emergency restart. An example is the recording of the membername of a generic VTAM resource connection when a bind has occurred for the first time.

On the restart, the record is read from the catalog, and presented back to each of the original builders. Each builder performs a GETMAIN, and copies its section of the recovery record into the acquired storage. This process is known as UNFLATTEN.

At shutdown, auto-installed entries are removed from the catalog with an UNCATALOG call (if they were cataloged because AIRDELAY¬=0). This drives DFHTBS and the builders to produce similar records to those for a DELETE call, but only to take action to delete the catalog record. This is significantly more efficient than calling the builders to DELETE each entry, as the copy in storage is left untouched.

The key and the recovery record

When the build process in DFHTBSBP has finally finished, this module makes a call to the master builder at the MAKEKEY entry point. The builder produces a key that is used to index the associated recovery record. (See Figure 27.)

This information is placed on the audit trail so that it can be picked up by DFHTBSS. It consists of two parts:

1. Information that allows access to the catalog
2. The recovery record header.

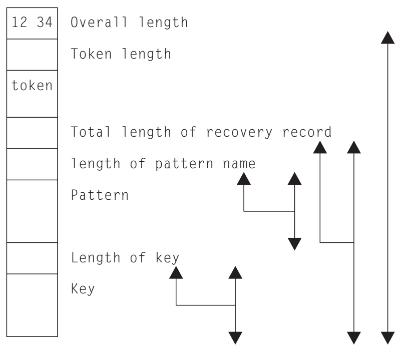


Figure 27. The recovery record

More about the audit trail

Figure 28 on page 79 shows the layout of an audit trail. Internally it is known as an **action block**, which consists of **action elements**. As each builder is invoked by DFHTBSBP or DFHTBSDP, an action element is appended to the action block. Each element has a reference to a pattern (PATT). This is to allow DFHTBSS to enter the associated builder at the READY or DESTROY entry points.

CCRECP contains the address of the recovery record header. Only one of these is produced as a direct result of the MAKEKEY call to the **master builder**. All other action elements have their CCRECP set to zero.

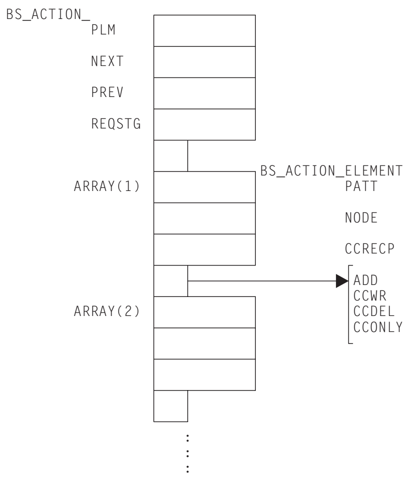


Figure 28. Action block and action elements (audit trail)

DFHTBSS and the FLATTEN process

During phase-1 syncpoint processing, DFHTBSS searches the action elements for a nonzero CCRECP. On detection, it calls DFHTBSLP, passing the reference to the pattern as given in the action element.

The storage "segments" are returned to DFHTBSSP which extracts the address and length from each segment and copies them into the recovery record.

The RESTORE process

The recovery record header contains the pattern name which is used to find the master pattern in DFHZCQRT. This is then passed to DFHTBSR to drive the recovery process by calling each builder's UNFLATTEN entry.

Each segment is extracted from the recovery record and is passed to the associated builder's UNFLATTEN entry point. These routines usually obtain some storage and copy the segment into it.

Control blocks

Builder modules all use both LIFO and a builder parameter set (BPS), which are passed between the CSECTs (DFHBS* modules). See "Builder parameter set (BPS)" on page 61 for further information about the BPS.

Terminal storage acquired by the builders

The following terminal storage is acquired by the builders:

Control block field	Description	Storage manager subpool
TCTSE	Terminal control table system entry	ZCTCSE
TCTME	Terminal control table mode entry	ZCTCME
TCTTE	Terminal control table terminal entry	ZCTCTTEL (large TCTTEs) ZCTCTTEM (medium TCTTEs) ZCTCTTES (small TCTTEs)
TCTENIBA	NIB descriptor	ZCNIBD
TCTEBIMG	BIND image	ZCBIMG
TCTTECIA	User area	ZCTCTUA

TCTTESNT	Signon extension	ZCSNEX
TCTELUCX	LUC extension	ZCLUCEXT
TCTTETEA	BMS extension	ZCBMSEXT
TCTTETPA	Partition extension	ZCTPEXT
TCTTECCE	Console control element	ZCCCE

TCTTE layout

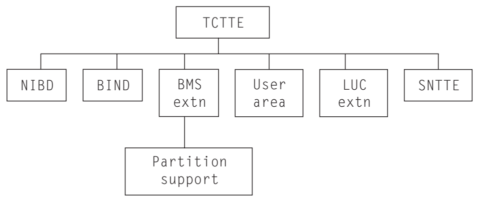


Figure 29. TCTTE layout

Formatted dumps give the TCTTE first, followed by its supporting control blocks.

Terminal definition

CEDA DEFINE puts a definition on the CSD. The definition is in the form of a CEDA command.

CEDA INSTALL reads the definition from the CSD, calls the builders and builds the definition in CICS DSA, and updates the CICS global catalog data set for future recovery.

EXEC CICS CREATE builds the same record that would be obtained from the CSD and then calls the builders just like CEDA INSTALL.

EXEC CICS DISCARD calls the builders with a pointer to the TCTTE entry that is to be deleted. The builders then freemain the TCTTE, remove index entries and the catalog record.

Modules

DFHZCQ handles all requests for the dynamic add and delete of terminal control resources. It contains the following CSECTs:

DFHBSIB3	DFHBSSZM	DFHBSTP3	DFHBSTZ1
DFHBSIZ1	DFHBSSZP	DFHBSTS	DFHBSTZ2
DFHBSIZ3	DFHBSSZR	DFHBSTT	DFHBSTZ3
DFHBSMIR	DFHBSSZS	DFHBSTZ	DFHBSXGS
DFHBSMPP	DFHBSSZ6	DFHBSTZA	DFHBSZZ
DFHBSM61	DFHBST	DFHBSTZB	DFHBSZZS
DFHBSM62	DFHBSTB	DFHBSTZC	DFHBSZZV
DFHBSS	DFHBSTBL	DFHBSTZE	DFHZCQCH
DFHBSSA	DFHBSTB3	DFHBSTZH	DFHZCQDL
DFHBSSF	DFHBSTC	DFHBSTZL	DFHZCQIN
DFHBSSS	DFHBSTD	DFHBSTZO	DFHZCQIQ
DFHBSSZ	DFHBSTE	DFHBSTZP	DFHZCQIS
DFHBSSZB	DFHBSTH	DFHBSTZR	DFHZCQIT
DFHBSSZG	DFHBSTI	DFHBSTZS	DFHZCQRS
DFHBSSZI	DFHBSTM	DFHBSTZV	DFHZCQRT
DFHBSSZL	DFHBSTO	DFHBSTZZ	DFHZCQ00

Note: The term “node” refers either to a TCTTE or to one of its subsidiary parts, such as the NIB descriptor.

Subroutines that are found in the builders:

BSEBUILD
: BUILD: Create the node. For example, obtain the shared storage for the node.

BSECON
: CONNECT: Connect the higher node to the lower. For example, make the TCTTE point to the NIB descriptor.

BSEDESTR
: DESTROY: Abolish a deleted node. For example, free the storage removed from TMP's chains.

BSEFINDF
: FINDFIRST: Find the first subsidiary node of a higher node. For example, BSFINDF(TCTTE) returns the NIBD being built.

BSEFINDN
: FINDNEXT: Find the next subsidiary node of the one just found. For example, return the address of the next model TCTTE.

BSEFLAT
: FLATTEN: Build the catalog or log record segment for each part of the TCTTE. This is passed back to the caller to create a complete "flattened" TCTTE.

BSEMAKEY
: MAKEKEY: Create a key that is used to write out the new node to the global catalog.

BSENQIRE
: ENQUIRE: The converse of BUILD, it creates a BPS from a TCTTE. The BPS can then be shipped to another system.

BSEREADY
: READY: Make a node ready to use. For example, add to TMP's chains.

BSERESET
: RESET: Build the TCTTE from the CICS global catalog. (RESET is a cut-down version of UNFLATTEN.)

BSEUNFLA
: UNFLATTEN: Build the TCTTE from the CICS global catalog.

BSEUNRDY
: UNREADY: Check that a node can be deleted. For example, ensure that no AIDs are queued on a TCTTE before deleting.

Not all subroutines are found in all builders. Certain subroutines are required, but do nothing other than return to the caller. The subroutine names are the same in each builder.

Module entry

Consider a module entry to be a router that does some housekeeping and then branches to the appropriate subroutine:

- Enter the builder at offset X'18'.
- The first X'17' bytes are taken up by the standard DFHVM macro expansion.
- Save DFHTBS's registers (DFHTBS calls each builder).
- Save the first two entries in the parameter list:
  1. The address of LIFO storage
  2. The index number of the subroutine to call.
- Increase the value of register 1 by 8 to get past the first two entries.
- Branch to the appropriate subroutine of the builder using the index number passed.

- Return from the builder subroutine.
- Restore registers.
- Return to DFHTBS.

Subroutine entry

- Register 1 points to the parameter list.
- Store Register 14 (return address) at Register 2 + X'nn' (varies by entry point).
- Store the parameter list into Register 2 + X'nn' (varies by entry point).
- The length of the parameter list varies.

Subroutine exit (return to module entry)

- Exit from the subroutine only through an “official” exit point.
- The exit point is usually the end of the subroutine.
- The end of the subroutine is indicated with “*end; /*BUILD */”.
- In some cases, the end of the subroutine branches back to the exit point somewhere within the subroutine.
- Return (BR R14) from within the subroutine.
- Reload Register 14 from Register 2 + X'nn' and return to caller.

Patterns

In DFHZCQRT, a series of patterns define the flow through the builder modules. (See Figure 30.) For each kind of terminal, there is a different pattern.

If installing, DFHZCQIS selects the pattern and calls DFHTBS (table builder service). If deleting, DFHZCQDL does the selection.

DFHTBS interprets the pattern and calls each builder that the pattern calls out. DFHTBS knows nothing about the terminal or whether you are installing or deleting. It does what the pattern tells it to do.

DFHTBS passes a BPS as it calls each builder. The BPS allows one builder to be used for many different kinds of terminals. For example, DFHBSTC obtains the user area for all terminal types. The BPS contains the length to be obtained.

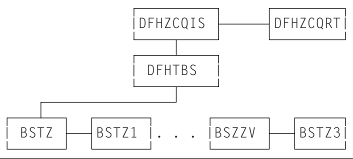


Figure 30. Calling sequence of builders (determined by patterns)

Calling sequence of builders for a 3277 remote terminal

1. DFHZCQRT contains a series of comments followed by the patterns. The comment appears as:
   ```
   /* * * * * * * * * * * * * */
   /*      3277 REMOTE       */
   /* * * * * * * * * * * * * */
   ```
2. Shortly afterwards is a Declare (DCL) followed by a level-1 name:
   ```
   DCL  1 P145002  STATIC
   ```

This is the name of the pattern that drives the build process for a 3277 remote terminal.

- DFHBSTZ is indicated to be the first builder called.
- One pattern is used to drive the building process.
- 18 subpatterns are to be used.
- Three of these 18 subpatterns each call one additional pattern.
- The terms “pattern” and “builder” mean the same thing. Therefore:

  ```
  DFHBSTZ  +  DFHBSxx  +  DFHBSxx  =  22
    (1)    +    (18)   +    (3)    =  22
   pattern +    sub-   +  sub-sub- =  22
              patterns   patterns
  ```

  Thus we have to go through 22 builder modules to build a 3277 remote terminal.

3. Go to the cross-reference at the back of the dump and find where P145002 is defined in assembler language. Go to that address.
4. This states that the first builder to be called is DFHBSTZ. This is the main one.
5. Drop down to the 2-byte fields that follow: these state the names of the builders that are to be called, in sequence (18 should be listed).
6. The first one is IAATZ1 which does not sound familiar:
   - Go to the cross-reference at the back of the dump, look up IAATZ1, and go to where it is defined.
   - You see that this is DFHBSTZ1.
   - You can also see a close resemblance between IAATZ1 and DFHBSTZ1, but do not count on this to be always true.
7. Now you know that the second builder to be called is DFHBSTZ1.
8. The next two builders to be called are IAATCV (DFHBSTV) and IAATCB (DFHBSTB).
9. The fifth builder to be called according to the pattern needs to be looked at:
   - The pattern says that IACTZ3 should be called.
   - When you go to where IACTZ3 is defined, you find that this is DFHBSIZ3.
   - You also see that DFHBSIZ3 calls IAATM.
   - Look up IAATM and you see that it is DFHBSTM.
   - This is a sub to a subpattern, and this is how nesting of builder calls occurs.
   - Thus, DFHBSIZ3 calls DFHBSTM when building a local 3277.
   - DFHBSTM accounts for one of the “other” three mentioned in step 2.
10. If you continue through this pattern, you can identify the names of the 22 builders that would be called to build a 3270 local TCTTE.

    Here is the complete list, in order, of the builders that are called:

    ```
    1  DFHBSTZ         12 DFHBSTH
    2  DFHBSTZ1        13 DFHBSTI
    3  DFHBSTZV        14 DFHBSTS
    4  DFHBSTZB        15 DFHBSTT
    5  DFHBSIZ3        16 DFHBSTZA
    6  DFHBSTM         17 DFHBSTP3
    7  DFHBSTB         18 DFHBSZZ
    8  DFHBSIB3        19 DFHBSTB3
    9  DFHBSTO         20 DFHBSTZE
    10 DFHBSTC         21 DFHBSZZV
    11 DFHBSTE         22 DFHBSTZ3
    ```

A look at “Pattern Trace” supports this flow. Note that the first ZCP TBSB(P) BUILD and its matching return (the return has no builder suffix) should be ignored.

Builder parameter list

As each builder is called by DFHTBS, a parameter list is passed. Unique data is passed to enable one builder module to be called for a variety of terminal types. The length of the builder parameter list is fixed for each kind of subroutine; for example, the parameter list passed to BSEBUILD is always X'23' bytes long, regardless of the builder involved.

Subroutine	Length of parameter list (hexadecimal)
BSEBUILD	23
BSECON	13
BSEDESTR	7
BSEMAKEY	B
BSEREADY	3
BSEUNRDY	17
BSEFINDF	F
BSEFINDN	B
BSEFLAT	B
BSEUNFLA	27
BSENQIRE	7

When the builders are called

Builders are called during:

- Cold start
- Warm start
- Emergency restart
- After emergency restart
- Autoinstall logon and logoff
- APPC autoinstall
- CEDA INSTALL
- EXEC CICS CREATE
- EXEC CICS DISCARD
- Transaction routing
- Non-immediate shutdown.

Cold start

- Read information from the CSD and call builders to build RDO-defined terminals.
- Load in DFHTCT for non-VTAM terminals. Builders are not called.

Warm start

Note: A warm start is identical to an emergency restart from the builders perspective. The only difference is that Recovery Manager has no forward-recovery records to pass to DFHAPRDR.

- Read information from the global catalog and call builders to restore RDO-defined terminals.
- Load in DFHTCT for non-VTAM terminals. Builders are not called.

Emergency restart

- Read information from the global catalog and call builders to restore RDO-defined terminals.

  Note: Auto-installed terminals will not have a catalog entry if AIRDELAY=0
- Recovery Manager calls DFHAPRDR which calls the builders to restore in-flight terminals installs from the system log.
- Load in DFHTCT for non-VTAM resources. Builders are not called.

After emergency restart

Delete autoinstalled terminals after the time period has expired as specified in the AIRDELAY parameter (if the user has not logged back on before then).

APPC autoinstall

- Inquire on the model supplied by the autoinstall user program
- Install an APPC connection created from the above inquire.

Autoinstall logon and logoff

- Logon: Install terminal entry using model entry in the AMT.
- Logoff: Delete terminal entry.

CEDA INSTALL

Install VTAM terminal resources. (There is no builder process for CEDA DEFINE or ALTER.)

EXEC CICS CREATE

Install VTAM terminal resources.

EXEC CICS DISCARD

Delete VTAM terminal resources.

Transaction routing

If a TCTTE is defined as shippable, its definition is shipped to the remote system and installed there. The definition is obtained by an INQUIRE call to the builders in the Terminal Owning Region and built with an INSTALL call in the Application Owning Region.

Shutdown

Delete autoinstalled terminals from the catalog (if they had entries, and are not LU6.2 parallel connections). On a warm start, therefore, autoinstalled terminals are not recovered.

Diagnosing problems with the builders

When working on a problem associated with a builder (for example, abend or loop), it may be helpful to ask yourself the following questions:

- Why am I in a DFHBS* module? Am I doing CEDA GRPLIST install, CEDA GROUP install, autoinstall, logon, logoff, catalog, uncatalog, create or discard?
- What is the termid/sysid of the terminal I am working with (the one I am installing, deleting, cataloging or uncataloging)?
- Is this resource part of an resource definition atom?
- How is this terminal defined?
- Are there any messages associated with this terminal?

Exits

No global user exit points are provided for this function.

Trace

The following point IDs are provided for the DFHZCQxx modules:
- AP FCB0 - FCBF, for which the trace level is 1.

The following point IDs are provided for the DFHTBSx modules:
- AP FCC0 - FCC9, for which the trace level is 1.

The following point IDs are provided for the DFHTBSxP modules:
- AP 0630 - 0644, exception trace.
- AP FCD0 - FCD9, for which the trace level is 1.
- AP FCDA - FCDB, for which the trace level is 2.

The following point IDs are provided for the DFHTBSS module:
- AP 0620 - 0621, for which the trace level is 1.
- AP 0622 - 062E, and 0645 exception trace.

The following point IDs are provided for the DFHTONR module:
- AP 0648 - 0649, for which the trace level is 1.
- AP 064A - 064C, exception trace.

The following point IDs are provided for the DFHAPRDR module:
- AP 0601 - 0602, for which the trace level is 1.
- AP 0603 - 061E, exception trace.

The following point IDs are provided for the DFHZGTA module:
- AP FA80 - FA81, for which the trace level is 1.
- AP FA82 - FA9A, exception trace.

The following point ID is provided for message set production:
- AP FCDD, exception trace.

The following point ID is provided for DFHBSTZA:
- AP FCDE, exception trace.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Messages

Builder modules issue messages in the DFHZC59xx, DFHZC62xx, and DFHZC63xx series.

Message sets

If a builder finds an error, it adds a message to a message set. This set is then printed by the caller; for example:

```
DFHTCRP   Cold start (local system entry
                      and error console only)
DFHAMTP   CEDA, EXEC CICS CREATE
DFHEIQSC  EXEC CICS DISCARD CONNECTION
DFHEIQST  EXEC CICS DISCARD TERMINAL
DFHZATA   Autoinstall
DFHZATD   Autoinstall delete
DFHZATS   Install and delete transaction routed terminals
```

How messages show up in a trace

If a message is issued from a builder module (that is, those with a prefix of DFHZC59xx, DFHZC62xx, or DFHZC63xx), it appears in the trace as a table builder services message trace entry with the following point ID:

- AP FCDD, exception trace.

This trace entry is produced when a message is added to the message set and indicates there was a problem in building or deleting a terminal or connection.

For more information about the trace points, see the *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 7. Built-in functions

CICS provides the application programmer with two commonly used functions: field edit and phonetic conversion.

These are functions that generally used to be coded as separate subroutines by the programmer. They are referred to as built-in functions.

The field edit function is provided by the BIF DEEDIT command of the CICS application programming interface.

The phonetic conversion function is provided as a subroutine that can be called by CICS application programs, and also by any offline programs.

Design overview

The built-in functions component includes field edit and phonetic conversion, both of which are available to a CICS application program. Also, the phonetic conversion subroutine can be used offline.

Field edit (DEEDIT)

The field edit function allows the application program to pass a field containing EBCDIC digits (0 through 9) intermixed with other values, and receive a result with all non-numeric characters removed.

For further details of this function, see the *CICS Application Programming Reference*.

Phonetic conversion

This facility allows the user to organize a file according to name (or similar alphabetic key), and access the file using search arguments that may be misspelled.

The phonetic conversion subroutine (DFHPHN) converts a name into a partial key, which can then be used to access a database file. The generated key is based upon the sound of the name. This means that names sounding similar, but spelled differently, generally produce identical keys. For example, the names SMITH, SMYTH, and SMYTHE all produce a phonetic key of S530. Likewise, the names ANDERSON, ANDRESEN, and ANDRESENN produce a phonetic key of A536. The encoding routine ignores embedded blanks in a name, so you can write names prefixed by 'Mc' with or without a blank between the prefix and the rest of the name, for example, 'McEWEN' or 'Mc EWEN'.

For details of how to code a CALL statement for the DFHPHN subroutine according to the language of the application program, see the *CICS Application Programming Guide*.

Modules

Module	Description
DFHEBF	EXEC interface processor for BIF DEEDIT command
DFHPHN	Phonetic conversion subroutine

Exits

No global user exit points are provided for these functions.

Trace

No tracing is performed for the phonetic conversion subroutine.

The following point ID is provided for DFHEBF:
- AP 00FB, for which the trace level is BF 1.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 8. CICS-DB2 Attachment Facility

The CICS-DB2® Attachment facility allows applications programs to access and update data held in DB2 tables managed by the DB2 for OS/390 product. It also allows applications to send operator commands to a DB2 subsystem.

Design overview

The CICS-DB2 Attachment facility allows connection to a DB2 subsystem using the CICS resource manager interface (RMI), which is also known as the task related user exit interface. The attachment facility interfaces to DB2 through a series of requests to three components of DB2, each of which processes specific types of requests:

- Subsystem Support Subcomponent (SSSC) for thread and system control requests
- Advanced Database Management Facility (ADMF) for SQL requests
- Instrumentation Facility Component (IFC) for IFI requests

There no are DB2 release dependencies within the attachment facility; it can connect to a DB2 subsystem running any supported level of DB2.

The architecture of the CICS-DB2 interface is described in the *CICS DB2 Guide*. The attachment facility exploits the open transaction environment (OTE) and uses CICS-managed open TCBs.

CICS Initialization

During CICS Initialization the following modules are invoked:

CICS-DB2 initialization gate DFHD2IN1

DFHD2IN1 first receives control from DFHSII1 duiring CICS initialization by means of a DFHROINM INITIALISE call. When invoked with this function DFHD2IN1 attaches a system task CSSY to run program DFHD2IN2.

DFHD2IN1 is invoked a second time later by DFHSII1 by means of a DFHROINM WAIT_FOR_INITIALIZATION call for which DFHD2IN1 issues a CICS wait to wait for DFHD2IN2 processing to complete.

CICS-DB2 recovery task DFHD2IN2

DFHD2IN2 runs under CICS system task CSSY attached by DFHD2IN1. DFHD2IN2 links to program DFHD2RP, the CICS-DB2 restart program. On return from DFHD2RP, DFHD2IN2 posts the ecb waited on by DFHD2IN1 so that CICS Initialization can continue.

CICS-DB2 restart program DFHD2RP

DFHD2RP runs under system task CSSY during CICS initialization. DFHD2RP performs the following functions:

- Adds storage manager subpools for the DFHD2ENT, DFHD2TRN and DFHD2CSB control blocks.
- Issues lock manager domain ADD_LOCK requests to add the necessary locks required by the CICS-DB2 Attachment facility to manage the dynamic chains of DFHD2LOT and DFHD2CSB control blocks, plus locks to manipulate the DFHD2GLB, DFHD2ENT and DFHD2TRN control blocks.

- Loads CICS-DB2 modules DFHD2CC, DFHD2CO, DFHD2D2, DFHD2STR, DFHD2STP and DFHD2TM
- Activates the DFHD2TM gate with the kernel.
- For cold and Initial CICS starts:
  - Purges the Global catalog of DFHD2GLB, DFHD2ENT and DFHD2TRN control blocks
- For warm and emergency CICS starts:
  - Installs DFHD2GLB, DFHD2ENT and DFHD2TRN blocks found on the global catalog

CICS-DB2 Attachment startup

The CICS-DB2 Attachment facility can be started using one of the following methods:
- specifying program DFHD2CM0 in PLTPI
- specifying SIT parameter DB2CONN=YES
- Issuing the DSNC STRT command
- Issuing the CEMT or EXEC CICS SET DB2CONN CONNECTED command

All of the above ways result in an EXEC CICS SET DB2CONN CONNECTED command being issued and the CICS-DB2 startup program DFHD2STR getting control.

CICS-DB2 startup program DFHD2STR

The startup program starts by reading a temporary storage queue to obtain any parameters passed if a DSNC STRT command has been issued. It also retrieves any parameters specified via the INITPARM SIT parameter by linking to program DFHD2INI.

Next DFHD2STR must ensure the necessary DFHD2GLB block is installed. If a DFHD2GLB is already installed, representing an installed DB2CONN, then it is checked to make sure interface is currently shut before startup can proceed.

The remainder of DFHD2STR processing is as follows:
- Initialise the DFHD2GLB and set the state to 'connecting'
- MVS load the DB2 program request handler
- Attach a CICS system task to run the CICS DB2 service task CEX2
- Call DFHD2CO to connect to DB2 and obtain indoubts
- Enable the CICS-DB2 TRUE DFHD2EX1
- If connected to DB2 for OS/930 Version 5 or earlier, then issue an MVS Attach for the CICS-DB2 master subtask program DFHD2MSB and wait for DFHD2MSB initialization processing to complete
- Set the status of the connection to 'connected'
- Post CEX2 to process any indoubts passed from DB2
- Update state in the temporary storage queue to pass back to a DSNC STRT command

CICS-DB2 attachment shutdown

The CICS-DB2 Attachment facility can be stopped using one of the following methods:
- Issuing the DSNC STOP command

- Issuing the CEMT or EXEC CICS SET DB2CONN NOT CONNECTED command
- Running the CDBQ or CDBF transactions
- Shutting down CICS

All of the above ways result in an EXEC CICS SET DB2CONN NOTCONNECTED command being issued and the CICS-DB2 shutdown program DFHD2STP getting control.

CICS-DB2 shutdown program DFHD2STP

Processing in DFHD2STP is as follows:

- If CDB2SHUT is set in the dump table, take a system dump (serviceability aid)
- If a CDB2SHUT dump has not been taken, and the CICS-DB2 master subtask program DFHD2MSB has unexpectedly abended, then a system dump is taken with a dump code of MSBABEND.
- Post CICS-DB2 service task CEX2 to end all subtasks, then terminate itself. Wait for service task to complete.
- If present, post master subtask DFHD2MSB to terminate. Wait for it to terminate, then detach master subtask TCB.
- Call DFHD2CO to disconnect from DB2.
- Call DFHD2CC to write out shutdown statistics.
- If the CICS-DB2 attachment is to go into 'standbymode':
  - Re-initialize DFHD2GLB and set the state to 'connecting'.
  - Post any tasks who are waiting for shutdown to complete.
  - Issues 'Waiting for DB2 attach' message
- If the CICS-DB2 attachment is not to go into 'standbymode':
  - Disable the CICS-DB2 TRUE DFHD2EX1.
  - MVS delete the program request handler.
  - Re-initialize the DFHD2GLB, set the state to 'shut'.
  - Issue the shutdown complete message and post any tasks who are waiting for shutdown to complete.

CICS-DB2 mainline processing

CICS-DB2 task related user exit (TRUE) DFHD2EX1

Control is passed to the TRUE via the CICS RMI. The TRUE manages the relationship between a CICS task (represented by a LOT control block), and a CICS-DB2 thread (represented by a CSB control block). DFHD2EX1 uses parameters set in the DB2CONN and DB2ENTRY definitions to manage use of the CICS DB2 threads, each thread running under a thread TCB.

- When connected to DB2 for OS/930 Version 5 or earlier, the thread TCB is a subtask managed by the CICS DB2 attachment facility. It is the subtask running program DFHD2EX3 which issues requests to DB2 on behalf of a CICS task. A wait/post protocol is executed between the CICS task running in the CICS-DB2 TRUE, and the subtask in program DFHD2EX3.
- When connected to DB2 for OS/930 Version 6 or later, the thread TCB is a CICS open TCB (L8 mode). Program DFHD2D2 is called under the open TCB, and issues the requests to DB2. In this case, both DFHD2EX1 and DFHD2D2 run under the L8 TCB.

The CICS-DB2 TRUE DFHD2EX1 gets invoked by the RMI for the following events:

- EXEC SQL commands and DB2 IFI commands from application programs
- syncpoint
- end of task
- INQUIRE EXITPROGRAM commands for the DB2 TRUE with the CONNECTST or QUALIFIER keywords (RMI SPI calls)
- EDF - when EDFing EXEC SQL commands
- CICS shutdown

CICS-DB2 coordinator program DFHD2CO

The coordinator program runs under the CICS Resource owning (RO) TCB, and handles the overall connection between CICS and a DB2 subsystem. It is called :

- by DFHD2STR during startup of the attachment facility to issue the coordinator identify to DB2, that is to establish connection to DB2. Once established, it passes DB2 an ECB to be posted should DB2 terminate, and it also obtains from DB2 a list of units of work (UOWs) that DB2 is indoubt about. This list is anchored off the CICS-DB2 global block (DFHD2GLB) for processing later in startup.
- by DFHD2STP during shutdown of the attachment facility to terminate the identify to DB2 and so disconnect.
- by the CICS-DB2 TRUE DFHD2EX1 during resync processing to pass the resolution of a indoubt unit of work to DB2. Indoubt resolution has to be done under the same TCB that issued the coordinator identify to DB2.

CICS-DB2 master subtask program DFHD2MSB

When operating with DB2 for OS/930 Version 5 or earlier, the DFHD2MSB TCB is attached by DFHD2STR during startup of the Attachment facility. It runs as a 'daughter' of the main CICS TCB. It is 'mother' to all the subtask TCBs which process the DB2 work. The DFHD2MSB TCB is detached by DFHD2STP during CICS-DB2 Attachment shutdown.

The main functions of DFHD2MSB are:

- To attach thread subtasks as required
- To detach thread subtasks as required
- To provide a recovery routine to cleanup if a thread subtask fails

CICS-DB2 subtask program DFHD2EX3

When operating with DB2 for OS/930 Version 5 or earlier, a CICS-DB2 subtask TCB is attached by DFHD2MSB when required by DFHD2EX1. It runs as a daughter of the DFHD2MSB TCB and a granddaughter of the main CICS TCB. A CICS-DB2 subtask TCB normally remains active for the lifetime of the CICS Attachment facility and terminates as part of CICS-DB2 Attachment facility shutdown. Exception conditions that cause a subtask TCB to be detached are:

- if the DB2CONN TCBLIMIT parameter is lowered
- if a CICS task is forcepurged whilst its associated subtask is active in DB2
- If a failure occurs during syncpoint processing during the indoubt window requiring the thread to be released.

The DFHD2EX3 program issues requests to DB2 using the DB2 SSSC, ADMF and IFC interfaces communicating via the DB2 program request handler DSNAPRH. In order to process DB2 requests a TCB first has to IDENTIFY to DB2, secondly it has to SIGNON to DB2 to establish authorization ids to DB2. Thirdly a thread has to be created. Once a thread has been created API and syncpoint requests can flow to DB2. Subsequent SIGNON requests can occur for a thread to change authorization ids to DB2 or for the purposes of DB2 cutting accounting records (partial SIGNON) When a thread is nolonger required it is terminated. The TCB remains identified and signed on to DB2 and awaits another request requiring it to create a thread again.

Each DB2 subtask runs an instance of program DFHD2EX3 and each is represented by a DFHD2CSB control block. A CSB control block is anchored to one of three CSB chains depending on its state (an active thread within a UOW, a thread waiting for work, or an identified, signed on TCB with no thread). The CICS-DB2 TRUE DFHD2EX1 manages the CSB chains.

CICS-DB2 thread processor DFHD2D2

The thread processor program DFHD2D2 is used only when operating with DB2 for OS/930 Version 6 and above, when the CICS-DB2 Attachment Facility uses CICS open TCBs (L8 TCBs) rather than privately managed subtask TCBs. In the Open Transaction environment (OTE), the CICS-DB2 TRUE DFHD2EX1 is invoked under an L8 TCB. Instead of posting a subtask, DFHD2EX1 calls DFHD2D2 under the L8 TCB. DFHD2D2 performs the same functions as performed by subtask program DFHD2EX3 in a non OTE environment, that is issuing the identify, signon, create thread, terminate thread calls to DB2, plus the api and syncpoint calls to DB2.

DFHD2D2 is called via a subroutine domain call on which the address of the relevant connection control block (DFHD2CSB) is passed. On the first call of a unit of work, DB2 is called to "associate" the connection with the calling L8 TCB. Once this is done, calls to DB2 can proceed as normal. When a DB2 thread is released from a CICS transaction (typically at syncpoint), the connection is "dissociated" from the L8 TCB. Hence a connection control block (DFHD2CSB) has an affinity to an L8 TCB whilst is associated. With DB2 for OS/930 Version 5 and below a connection has a permanent affinity to its subtask TCB.

CICS-DB2 service task program DFHD2EX2

The CICS-DB2 service task program DFHD2EX2 runs as a CICS system task under transaction CEX2. Its mains functions are:

- To wait for DB2 to startup if DB2 is down when connection is attempted if STANDBYMODE=RECONNECT or CONNECT is specified in the DB2CONN.
- To initiate shutdown of the CICS-DB2 Attachment facility if posted to do so.
- To perform the protected thread purge cycle.
- To issue EXEC CICS RESYNC to process DB2 indoubts.
- For DB2 for OS/930 Version 5 or earlier, to terminate all subtasks during CICS-DB2 Attachment facility shutdown.

CICS-DB2 PLTPI program DFHD2CM0

Used in PLTPI or as a result of DB2CONN=YES being set in the SIT. It issues an EXEC CICS SET DB2CONN CONNECTED command to start up the CICS DB2 Attachment facility.

CICS-DB2 comand processor DFHD2CM1

DFHD2CM1 processes commands issues via the DSNC command. The following commands are processed:

- DSNC STRT - EXEC CICS SET DB2CONN CONNECTED command issued
- DSNC STOP - EXEC CICS SET DB2CONN NOTCONNECTED command issued
- DSNC MODIFY DEST - EXEC CICS SET DB2CONN MSGQUEUEn command issued

- DSNC MODIFY TRAN - EXEC CICS SET DB2CONN THREADLIMIT or EXEC CICS SET DB2ENTRY THREADLIMIT command issued.
- DSNC DISC - call passed to DFHD2CC to disconnect threads
- DSNC DISP PLAN - call passed to DFHD2CC to display information on threads for a particular DB2 plan
- DSNC DISP TRAN - call passed to DFHD2CC to display information on threads for a transaction.
- DSNC DISP STAT - call passed to DFHD2CC to write out statistics
- DSNC -db2command - DB2 IFI ccommand issued to send operator command to the connected DB2 subsystem.

CICS-DB2 shutdown quiesce program DFHD2CM2

Runs under transaction CDBQ. Issues an EXEC CICS SET DB2CONN NOTCONNECTED WAIT command to shutdown the CICS-DB2 Attachment facility.

CICS-DB2 shutdown force program DFHD2CM3

Runs under transaction CDBF. Issues an EXEC CICS SET DB2CONN NOTCONNECTED FORCE command to shutdown the CICS-DB2 Attachment facility.

CICS-DB2 table manager DFHD2TM

Handles installs, discards, inquire and set requests for the DFHD2GLB, DFHD2ENT and DFHD2TRN control blocks representing the DB2CONN, DB2ENTRY and DB2TRAN resources. Callers of DFHD2TM are:

- DFHAMD2 - for CEDA install and EXEC CICS CREATE
- DFHD2EX1 - to complete disablement of a DB2ENTRY or to complete Attachment facility shutdown
- DFHD2RP - to install objects from the Global Catalog during CICS restart
- DFHEIQD2 - for EXEC CICS INQUIRE,SET and DISCARD of DB2 objects
- DFHESE - for inquiry during EXEC CICS QUERY SECURITY processing.

CICS DB2 statistics program DFHD2ST

Called by AP domain statistics program DFHAPST to process CICS-DB2 statistics for EXEC CICS COLLECT STATISTICS and EXEC CICS PERFORM STATISTICS commands.

CICS DB2 connection control program DFHD2CC

DFHD2CC proceses the following requests:

- Start_db2_attachment - request routed on to DFHD2STR
- Stop_db2_attachment - request routed on to DFHD2STP
- Write_db2_statistics - statistics collected from control blocks and are written out to the terminal, to transient data or to SMF.
- disconnect_threads - CSB control blocks searched and marked so that threads are terminated when they are next released.
- display_plan and display_tran - thread information collected from control blocks and output to the terminal.

CICS DB2 EDF processor DFHD2EDF

Receives control from CICS-DB2 TRUE DFHD2EX1 when the TRUE is invoked for an EDF request. DFHD2EDF uses the RMI provided parameters to format the screen to be output by EDF before and after an EXEC SQL request is issued.

Control blocks

DFHD2SS (CICS-DB2 static storage)

CICS-DB2 static storage (D2SS) is acquired by DFHSIB1 and anchored off field SSZDB2 in the static storage address list DFHSSADS. The static storage is initialized by the CICS-DB2 restart program DFHD2RP. Its lifetime is that of the CICS region. CICS-DB2 static storage holds information such as storage manager, lock manager and directory manager tokens acquired during restart processing before any other CICS-DB2 control blocks are installed.

DFHD2GLB (CICS-DB2 global block)

The DFHD2GLB block represents an installed DB2CONN definition. It is getmained by DFHD2TM when a DB2CONN is installed and freemained by DFHD2TM when a DB2CONN is discarded. It holds CICS-DB2 state data global to the connection and also the state data for pool threads and commands threads. The pool and command sections of the DFHD2GLB are mapped by a common type definition DFHD2RCT which is also used to map the DFHD2ENT control block.

The DFHD2GLB block is anchored off CICS-DB2 static storage in field D2S_DFHD2GLB.

DFHD2ENT (CICS-DB2 DB2ENTRY block)

The DFHD2ENT block represents an installed DB2ENTRY definition. It is getmained by DFHD2TM when a DB2ENTRY is installed and freemained by DFHD2TM when a DB2ENTRY is discarded. It uses a type definition DFHD2RCT in common with the pool and command sections of the DFHD2GLB block to achieve a common layout for all three areas. A DFHD2ENT block is located using a directory manager index that is keyed off the RDO name of the DB2ENTRY.

DFHD2TRN (CICS-DB2 DB2TRAN block)

The DFHD2TRN block represents an installed DB2TRAN definition. It is getmained by DFHD2TM when a DB2TRAN is installed and freemained by DFHD2TM when a DB2TRAN is discarded. A DB2TRAN can be located in two ways. Firstly by a directory manager index keyed off the RDO name of the DB2TRAN. Secondly by a directory manager index keyed off the transaction id associated with the DB2TRAN.

DFHD2CSB (CICS-DB2 connection block)

The DFHD2CSB block represents a CICS-DB2 connection, with or without a thread. A DFHD2CSB is created by DFHD2EX1 prior being passed to DFHD2EX3 or DFHD2D2. A DFHD2CSB is freed by DFHD2EX1 after the DFHD2EX3 program has returned to MVS, or when DFHD2D2 indicates it should be freed. A DFHD2EX3 block is anchored off one of several CSB chains from a DB2ENTRY or the DFHD2GLB depending on the state of the connection and the DB2 thread.

DFHD2GWA (CICS-DB2 global work area)

The DFHD2GWA block is the global work area of the CICS-DB2 task related user exit (TRUE) DFHD2EX1. It is getmained when the TRUE is enabled, and freemained when the TRUE is disabled. The D2GWA holds a chain of LOT control blocks representing the tasks currently using the CICS-DB2 interface.

DFHD2LOT (CICS-DB2 life of task block)

The DFHD2LOT block is the task local work area of the CICS-DB2 task related user exit (TRUE) DFHD2EX1. It is getmained by DFHERM when a task first calls the CICS-DB2 TRUE. It is freemained by DFHERM at end of task. Its address is passed to DFHD2EX1 by DFHERM in parameter UEPTAA in the DFHUEPAR RMI parameter list.

The DFHD2LOT holds CICS-DB2 state information for a CICS task using the CICS-DB2 interface.

Modules

Module	Description
DFHD2CC	CICS-DB2 connection control program
DFHD2CO	CICS-DB2 coordinator program
DFHD2CM0	CICS-DB2 PLTPI startup program
DFHD2CM1	CICS-DB2 command processor
DFHD2CM2	CICS-DB2 quiesce shutdown program
DFHD2CM3	CICS-DB2 force shutdown program
DFHD2D2	CICS-DB2 thread processor
DFHD2EDF	CICS-DB2 EDF processor
DFHD2EX1	CICS-DB2 task related user exit (TRUE)
DFHD2EX2	CICS-DB2 service task program
DFHD2EX3	CICS-DB2 subtask program
DFHD2INI	CICS-DB2 Initparm processor
DFHD2IN1	CICS-DB2 initialization gate
DFHD2IN2	CICS-DB2 recovery task
DFHD2MSB	CICS-DB2 master subtask program
DFHD2RP	CICS-DB2 restart program
DFHD2STP	CICS-DB2 shutdown program
DFHD2STR	CICS-DB2 startup program
DFHD2ST	CICS-DB2 statistics program
DFHD2TM	CICS-DB2 table manager
DSNCUEXT	CICS-DB2 sample dynamic plan exit

Exits

There are no Global user exits provided by the CICS DB2 Interface.

The CICS DB2 interface does however provide a dynamic plan 'exit' in the form of a user-replaceable program. A sample default exit is provided called DSNCUEXT. A dynamic plan exit allows the name of the plan to chosen dynamically at execution time. For further information about dynamic plan exits see the CICS DB2 Guide.

Trace

The CICS-DB2 Attachment facility outputs trace entries in the range AP 3100 to AP 33FF. Trace output from the CICS-DB2 TRUE (DFHD2EX1) and the thread processor (DFHD2D2), and GTF trace from the CICS-DB2 subtask is controlled by the RI (RMI) trace flag. Trace from the rest of the attachment and other CICS-DB2 modules is controlled by the RA (Resource Manager Adapter) trace flag.

Statistics

A limited set of CICS-DB2 statistics can be obtained by issuing the DSNC DISP STAT command, which will output the statistics to a CICS terminal. The same format of statistics is output to a nominated transient data queue when the CICS-DB2 Attachment facility is shut down For more information see the *CICS DB2 Guide*.

A more comprehensive set of CICS-DB2 statistics can be obtained by issuing an EXEC CICS PERFORM STATISTICS RECORD command with the DB2 keyword, or by issuing the EXEC CICS COLLECT STATISTICS command with the DB2CONN or DB2ENTRY keywords. CICS-DB2 Global statistics are mapped by DSECT DFHD2GDS. CICS-DB2 resource statistics are mapped by DSECT DFHD2RDS. For more information see the *CICS Performance Guide*.

Chapter 9. Command interpreter

The command interpreter demonstrates to the application programmer the syntax of CICS commands and the effects of their execution. It can also be used to perform simple one-off tasks whose nature does not justify the writing of a permanent application.

Design overview

The command interpreter is invoked by the CECI transaction and is an interactive, display-oriented tool that checks the syntax of CICS commands and executes them. Another transaction, CECS, performs only syntax checking.

The user enters a command that is analyzed in the same way as it would be by the command translator, which processes it as if it were part of an application program. The results of this analysis, including any messages, an indication of defaults assumed, and the entire syntax of the command, are then displayed.

When the command is syntactically valid, the user can request its execution. The interpreter calls DFHEIP, passing a parameter list precisely as would be passed during the execution of a program that contained the command.

The interpreter does all this using the same command-language tables as are used by the command translator. These tables contain data that define the syntax of CICS commands and the contents of the parameter lists required by DFHEIP to execute them.

Modules

Module	Function
DFHECIP	Invoked by CECI. Checks that the terminal is suitable. Obtains and initializes working storage. Loads the language tables. Links to DFHECID
DFHECSP	Same as DFHECIP, but invoked by CECS
DFHECID	Receives data from the terminal and sends back a display. Analyzes commands. Constructs parameter lists for DFHEIP, which it calls. Deals with PF keys
DFHEITAB	Command-language table (application programmer commands)
DFHEITBS	Command-language table (system programmer commands).

Exits

No global user exit points are provided for this function.

Trace

No trace points are provided for this function.

Chapter 10. CSD utility program (DFHCSDUP)

The CSD utility program, DFHCSDUP, provides offline services for you to list and modify the resource definitions in the CICS system definition (CSD) file. DFHCSDUP can be invoked as a batch program, or from a user-written program running either in batch mode or under TSO. The second method provides a more flexible interface to the utility, allowing for the specification of up to five user exit routines to be called at various points during DFHCSDUP processing.

Further information about using DFHCSDUP is given in the *CICS Operations and Utilities Guide* and the *CICS Customization Guide*.

The following commands can be used with DFHCSDUP:

```
ADD
ALTER
APPEND
COPY
DEFINE
DELETE
EXTRACT
INITIALIZE
LIST
PROCESS
REMOVE
SCAN
SERVICE
UPGRADE
USERDEFINE
VERIFY
```

These commands are described in the *CICS Operations and Utilities Guide*.

Design overview

When DFHCSDUP is invoked, control passes to the utility command processor (DFHCUCP), which validates commands and invokes the appropriate routine to execute the requested function. Unless DFHCSDUP has been invoked from a user program specifying a get-command exit, DFHCUCP takes a command from the input data set, using DFHCUCB to obtain the command and DFHCUCAB to analyze and parameterize it. When supplied, the get-command exit is invoked from the point during DFHCUCB's processing where commands would otherwise be read from SYSIN (or an alternatively named input data set when DFHCSDUP is invoked from a user program).

Some syntax errors are diagnosed and reported by DFHCUCAB, and further contextual validation takes place in DFHCUCV. Valid commands are then passed to the relevant service routine for execution. If command execution is successful, the next command is processed.

All commands are validated, but the execution of commands from the input data set stops when an incorrect command is encountered, and execution of subsequent commands is also suppressed if an error of severity 8 or higher occurs when the command is executed. When commands are supplied by a get-command exit, however, DFHCSDUP attempts to execute all commands, even if an error is detected in the command syntax or during processing (unless the error is serious enough to warrant an ABEND).

If errors occur while processing commands, error messages in the DFH51xx, DFH52xx, DFH55xx, and DFH56xx series are written to SYSPRINT (or an alternatively named output data set when DFHCSDUP is invoked from a user program).

An ESTAE environment is established by DFHCUCP shortly after the start of DFHCSDUP processing. If an operating system abend subsequently occurs, control passes to the ESTAE exit routine, which then returns to MVS requesting a dump and scheduling a retry routine to get control. This retry routine attempts cleanup processing before returning to the caller of DFHCSDUP with a return code of ‘16’.

To protect the integrity of the CSD, DFHCUCP issues a STAX macro to defer the handling of any attention interrupts that may occur in a TSO environment until all processing associated with the current command has been completed.

DFHCSDUP uses batch versions of RDO routines from the parameter utility program (DFHPUP) and the CSD management program (DFHDMP) to read, write, and update resource definitions on the CSD file. All CSD control functions use the batch environment adapter (DFHDMPBA), which performs environment-dependent VSAM operations on the CSD file. DFHDMPBA also processes all interactions with operating system services.

Modules

DFHCSDUP is link-edited from a number of object modules, including batch versions of routines from DFHPUP and DFHDMP.

Exits

When invoked as a conventional batch program, DFHCSDUP supports only one user exit: the EXTRACT exit, which is invoked at various stages during the processing of an EXTRACT command. The name of the user-written program to get control must be specified by the USERPROGRAM keyword of the EXTRACT command. Details of selected CSD objects are passed to the user exit program so that users can analyze the contents of their CSD in any way they may choose.

When invoked from a user program, DFHCSDUP supports the following five user exits, the addresses of which can be specified in the EXITS parameter of DFHCSDUP’s entry linkage:
1. Initialization exit—invoked by DFHCUCP
2. Termination exit—invoked by DFHCUCP
3. EXTRACT exit—invoked by DFHCULIS
4. Get-command exit—invoked by DFHCUCB
5. Put-message exit—invoked by DFHBEP.

Note: A user exit routine specified by the USERPROGRAM keyword of an EXTRACT command is used in preference to any EXTRACT exit routine specified on the entry linkage.

For further information about these user exits, see the *CICS Customization Guide*.

Trace

Trace points are not applicable to offline utilities.

Statistics

The following statistics are maintained by DFHCSDUP, and are written, when appropriate, to SYSPRINT (or alternatively named output data set):

```
CMDSEXOK   Commands executed OK
CMDSINER   Commands in error
CMDSNOTX   Commands not executed
CMDSWARN   Commands with warning messages.
```

All the above statistics are kept in DFHCUCP’s static storage and are always output at the end of processing.

Chapter 11. Database control (DBCTL)

An overall description of DL/I database support is given in Chapter 15, “DL/I database support,” on page 135. This section gives information that is specific to database control (DBCTL).

Design overview

The CICS support that enables connection to DBCTL, via the database resource adapter (DRA), is based on the CICS resource manager interface (RMI), also known as the task-related user exit interface. However, because it is necessary to provide compatibility with the existing CICS-DL/I implementation (in terms of link-edit stubs, API return codes, and so on), a limited amount of support within CICS itself is provided, but there are no DBCTL release dependencies within the CICS modules.

The main components of the CICS-DBCTL interface are shown in Figure 31:

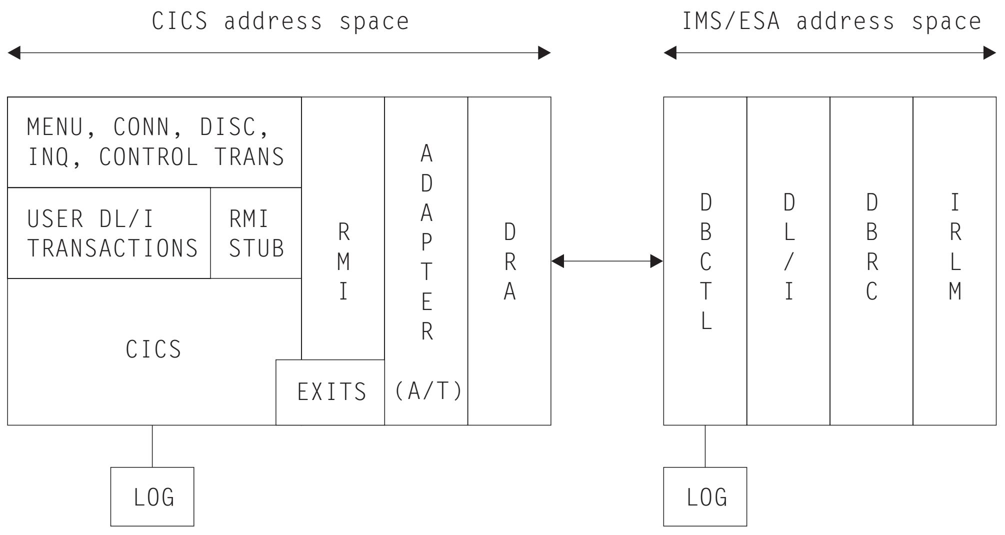


Figure 31. The major components of the CICS-DBCTL interface

- The connection process (CICS-DBCTL)

  CICS-DBCTL connection and disconnection programs
  : These programs are used for establishing and terminating the connection with the DRA.

  CICS-DBCTL control program
  : This program is responsible for resolving indoubt units of work after a CICS or DBCTL failure. It also outputs messages when DBCTL notifies CICS of a change in the status of the CICS-DBCTL interface.

    When the CICS disconnects from DBCTL, the control program is responsible for invoking the disable program which performs cleanup.

  DRA control exit
  : This exit is invoked by the DRA, when connection has been established with the DBCTL address space, to initiate the resynchronization process,

that is, to initiate the resolution of indoubt units of work. It is also invoked to handle cases where connection to DBCTL cannot be achieved or when the connection has failed.

DBCTL user-replaceable program
This program is invoked whenever CICS successfully connects to DBCTL and whenever CICS disconnects from DBCTL.

Disable program
This program is invoked when CICS disconnects from DBCTL.

- The DBCTL call processor program

  The function of this program is to issue an RMI call to DBCTL and to maintain compatibility with the existing CICS-DL/I interface in areas such as application program return codes, and so on.

- The interface layer

  The adapter
  The adapter's primary responsibility is interfacing the RMI and DRA parameter lists. Other responsibilities include the issuing of DRA initialization and termination calls, when invoked by the CICS connection and disconnection programs, and the management of CICS tasks, in order to effect an orderly shutdown of the CICS-DBCTL interface.

  DRA suspend and resume exits
  These exits are invoked by the DRA in order to suspend and resume a CICS task while a DL/I call is processed by DBCTL.

  Adapter exits
  There are four exits for use by the adapter:
  - The statistics exit
  - The token exit
  - The monitoring exit
  - The status exit.

Details of these components are described in the following sections.

Note: CICS documentation uses the term "connecting and disconnecting from DBCTL". The DRA documentation refers to "initializing and terminating the CICS-DBCTL interface". In general, these two terms are synonymous.

The connection process

Connection and disconnection programs

In order to initialize, terminate, and inquire on the status of the interface, a set of four programs is available:

1. Menu program
2. Connection program
3. Disconnection program
4. Inquiry program.

Menu program (DFHDBME): This permits a terminal user to display a menu, which offers the option of connecting and disconnecting from DBCTL.

The menu program passes control to either the connection or the disconnection program, as appropriate, using the COMMAREA to pass any overrides and parameters.

In the case of connection, it offers the ability to supply the suffix of the DRA startup parameter table and the name of the DBCTL region. The DRA startup parameter table contains various parameters, mostly relating to the initialization of the CICS-DBCTL interface, including the name of the DBCTL region and the minimum and maximum number of CICS-DBCTL threads. It also contains the length of time in seconds that the DRA waits after an unsuccessful attempt to connect to DBCTL, before attempting to connect again.

For disconnection, it offers the ability to specify whether an orderly or immediate disconnection from DBCTL is required.

The menu program is intended for use by CICS operators or network controllers, that is, users with special privileges.

BMS maps are used for both the menu and the inquiry programs. It should be noted that the bottom half of the menu screen includes all the items which appear on the inquiry screen, and the values are displayed on entry to the menu program, if they are known. The DRA startup table suffix is not included on the inquiry screen because the DRA startup table contains the application group name which is used for security checking.

After a connection request has been issued, it is possible to issue a disconnection request (orderly or immediate) from the menu program while the connection process is still in progress. After an orderly disconnection request has been issued, it is also possible to issue an immediate disconnection request while the orderly disconnection process is in progress. This has the effect of upgrading the orderly disconnection to an immediate disconnection.

Connection program (DFHDBCON): This program invokes the adapter requesting connection to DBCTL.

This program can be invoked either from the menu program or from the CICS PLT. It issues an ATTACH request of the CICS control program that later carries out resynchronization of indoubt units of work with DBCTL. The control program then issues a WAIT request.

The connection program continues by loading, activating (using the EXEC CICS ENABLE command), and then calling the adapter (using a DFHRMCAL request). A set of parameters is passed to the adapter which includes:
- The CICS applid
- The DRA startup parameter table suffix (optional)
- The DBCTL ID (optional)
- A set of exit addresses.

As a result of the DFHRMCAL request issued from the connection program, the adapter loads the DRA startup/router module from the CICS STEPLIB library and passes control to it, supplying it with various parameters including the CICS applid, DRA startup parameter table suffix, and DBCTL ID. The DRA startup/router module loads the DRA startup table. It then initiates the processes required to establish the DRA and then returns control to the adapter which, in turn, returns control to the connection program which then terminates. Until this point is reached, any DBCTL requests issued from CICS tasks are rejected by the CICS RMI stub (the DBCTL call processor).

The DRA startup/router module is responsible for establishing the DRA environment, using the parameters specified in the DRA startup table in the CICS STEPLIB library, overridden by any parameters passed to it.

The DRA establishes contact with the DBCTL address space and then invokes the control exit to initiate the resynchronization process.

Disconnection program (DFHDBDSC): This program invokes the adapter requesting disconnection from DBCTL.

The disconnection program is used to terminate the DRA environment. Two types of disconnection are available:

Orderly disconnection
: All existing CICS tasks using DBCTL are allowed to run to completion.

Immediate disconnection
: Existing DL/I requests are allowed to complete but no further DL/I requests are accepted.

In both cases a DBCTL U113 abend is avoided. (DBCTL can issue a U113 abend if CICS terminates while there is an active DL/I thread running on its behalf in DBCTL. The thread remains active for the duration of the PSB schedule, but DBCTL would issue a U113 abend if the thread is doing something for the CICS task.)

The disconnection program calls the adapter, using DFHRMCAL, supplying a parameter to indicate the type of termination required.

In the case of immediate disconnection, the adapter issues a DRA TERM call and returns to the disconnection program only when all existing DL/I threads have completed. In the case of orderly disconnection, the adapter assumes responsibility for managing CICS tasks, that is, it continues to accept requests for current tasks using DBCTL until they terminate, but does not allow new CICS tasks to use DBCTL. When the adapter detects that the count of permitted tasks has reached zero, it issues a DRA TERM call.

The disconnection program finally posts the control program to notify it of the fact that the CICS-DBCTL interface has been terminated. The control program then terminates after starting the disable program. The disable program issues a DISABLE command for the adapter, and performs cleanup.

It should be noted that the terminal used to invoke the disconnection program is released after the input to the menu screen has been validated, enabling the terminal operator to use other programs. Any further messages from the disconnection process are generated centrally.

Inquiry program (DFHDBIQ): This program enables the user to inquire on the status of the interface. It is intended for a wider audience than the menu program; for example, application programmers.

Control program (DFHDBCT)

The control program is invoked in the following circumstances:

- When the control exit is invoked by the adapter on behalf of the DRA
- When a CEMT FORCEPURGE command is issued for a CICS task executing in DBCTL

- When the disconnection program has received a response from the adapter as a result of a CICS-DBCTL interface termination request.

Its function in all cases is to issue messages. It then issues a WAIT after every invocation. Also, it has some special functions in three cases:

1. When contact has been made with DBCTL and resynchronization of in-doubts is required.

   In this case, the control program issues the command:

   ```
   EXEC CICS RESYNC ENTRYNAME(adapter)
   IDLIST(DBCTL's in-doubts) ...
   ```

   This causes CICS to create tasks for each indoubt unit of work. Each task performs resynchronization and then informs the adapter via the CICS syncpoint manager as to whether the task has committed or backed out. The adapter then notifies the DRA on a task basis.

   The following is a list of the possible calls to the adapter from the CICS syncpoint manager:

   - Prepare to commit
   - Commit unconditionally[1]
   - Backout[1]
   - Unit of recovery is lost to CICS cold start[2]
   - DBCTL should not be indoubt about this unit of recovery[2].

   Notes:

   [1] These items can be issued as a result of a RESYNC request.

   [2] These items can be issued as a result of a RESYNC request only.
2. When /CHECKPOINT FREEZE has been requested.

   In this case, the control program invokes the disconnection program requesting an orderly disconnection from DBCTL. Generally, an orderly disconnection from DBCTL allows CICS tasks already using DBCTL to continue until task termination. However, when a /CHECKPOINT FREEZE has been requested, DBCTL prevents any PSB schedules from taking place. Thus, in this case, some tasks might be terminated before end of task is reached with a 'DBCTL not available' return code, if they issue a subsequent PSB schedule request.
3. When the disconnection program invokes the control program.

   In this case, the control program starts the disable program.

DRA control exit (DFHDBCTX)

The control exit is invoked in the DRA environment in the following circumstances:

- When contact has been established with the DBCTL address space, in order to initiate resynchronization.

  The control exit is invoked in the DRA environment whenever contact has been established with DBCTL, whether invoked by the user or due to the DRA automatically reestablishing contact after a DBCTL failure. The control exit receives an input parameter list that includes the DBCTL ID, DBCTL's list of indoubt units of work, and the DBCTL RSE name. The control exit posts the control program, which performs the resynchronization.
- When the MVS subsystem interface (SSI) rejects the IDENTIFY request to DBCTL, thereby causing the IDENTIFY to fail.

  This could occur if the DRA was trying to issue an IDENTIFY request to a DBCTL subsystem that was not running. In this case the control exit sets a response code of ‘0’. The first time in a connection attempt that the DRA receives a ‘0’ response after an MVS SSI failure, the DRA outputs message DFS690A inviting the operator to reply WAIT or CANCEL. On subsequent failures when a response code of ‘0’ is returned, the DRA waits for the length of time specified in the DRA startup table before attempting the IDENTIFY request again.

- When DBCTL rejects the IDENTIFY request to DBCTL; for example, incorrect application group name (AGN) supplied.

  In this case, the control exit asks the DRA to terminate.
- When the operator replies CANCEL to the DFS690A message during DRA initialization, because contact cannot be established with DBCTL.

  In this case, the control exit notifies the DRA to terminate immediately.
- When DBCTL abnormally terminates.

  In this case, the control exit invokes the control program and then it asks the DRA to issue an IDENTIFY request to DBCTL.
- When the DRA abnormally terminates.

  In this case, it is not possible to access DBCTL from the same CICS session without initializing the CICS-DBCTL interface using the menu program.
- When a /CHECKPOINT FREEZE request has been issued to DBCTL.

  Note that /CHECKPOINT FREEZE is the command used to close down a DBCTL subsystem. In this case the control exit invokes the control program which, in turn, invokes the disconnection program requesting an orderly disconnection from DBCTL. The control exit notifies the DRA to wait for a termination request.

DBCTL user-replaceable program (DFHDBUEX)

The DBCTL user-replaceable program, DFHDBUEX, is invoked whenever CICS successfully connects or disconnects from DBCTL. It provides the opportunity for the customer to supply code to enable and disable CICS-DBCTL transactions at these times.

The program runs as a CICS application and can thus issue EXEC CICS requests. The program is invoked with a CICS COMMAREA containing the following parameters:

- Request type: CONNECT | DISCONNECT
- Reason for disconnection: MENU DISCONNECTION | /CHECKPOINT FREEZE | DRA FAILURE | DBCTL FAILURE
- DRA startup table suffix
- DBCTL ID.

See the *CICS Customization Guide* for information about the DFHDBUEX program.

Disable program (DFHDBDI)

The disable program, DFHDBDI, is invoked when CICS disconnects from DBCTL. It performs cleanup, which includes disabling the adapter.

The DBCTL call processor program (DFHDLIDP)

Among the functions of the DBCTL call processor program, DFHDLIDP, are:

Issuing DFHRMCAL requests to the adapter: DL/I requests issued from application programs that have been routed to this module are passed on to the adapter. The DBCTL call processor constructs a register 1 parameter list that includes the DL/I parameter list and a thread token. It then issues a DFHRMCAL request.

It is the responsibility of this module to generate the thread token required by the DRA.

Maintaining return code compatibility: If any calls are made to the RMI before the first part of the connection process has completed, that is, before the DFHDBCON program has received a "successful" response code from the DRA via the adapter, error return codes are set in the task control area (TCA) to indicate that DBCTL is unavailable. These codes are put in the user interface block (UIB) by the DL/I call router program, DFHDLI.

Similarly, the DBCTL call processor informs application programs when DBCTL is no longer available; for example, after a DBCTL abend.

Another function of the call processor is to set up the TCA fields, TCADLRC and TCADLTR, with response and reason codes respectively for the call. This ensures that the application program continues to receive responses indicating normal response, NOTOPEN, and INVREQ conditions, with the appropriate response and reason codes in the corresponding UIB fields, UIBFCTR and UIBDLTR, after NOTOPEN and INVREQ conditions have been raised.

Initiating PC abends: If an 'unsuccessful' return code is passed back to CICS as a result of a DBCTL request, indicating that the CICS thread must be abended, the DBCTL call processor issues a PC ABEND, which invokes syncpoint processing to back out changes made to recoverable resources. Various abend codes can be issued. Note that, in the case of a deadlock abend (abend code ADCD) it may be possible to restart the program.

Exception trace entries are output in the case of transaction abends.

Writing CICS messages: For any thread abend in DBCTL, a CICS message is written indicating the abend code passed back to CICS in the field PAPLRETC. Similarly, for any scheduling failures, where the application program receives the UIBRCODE field (UIBFCTR and UIBDLTR fields combined) set to X'0805', the scheduling failure subcode is contained in a CICS message.

The interface layer

Adapter (DFHDBAT)

Control is passed to the adapter via the CICS RMI. It is the responsibility of the adapter to construct the DRA INIT, DRA TERM, and DRA THREAD parameter lists from the RMI parameter list passed to it. It must also transform the DRA parameter list passed back after a DL/I call to the format expected by CICS.

Part of the DRA parameter list requires two tokens to be generated by CICS:

1. A thread token
2. A recovery token.

The thread token is generated by the DBCTL call processor, and enables a CICS unit of work to be related to a DBCTL unit of work. It is used by the asynchronous RESUME exit to identify the CICS thread to be resumed after a DL/I call.

The 16-byte recovery token is constructed by concatenating an 8-byte unique CICS subsystem name (the CICS applid) with the 8-byte CICS RMI recovery token (also known as the unit of work ID).

A further responsibility of the adapter is to manage CICS tasks when an orderly termination of the CICS-DRA interface has been requested by means of the CICS termination program. In this case, it continues to accept DL/I requests from CICS tasks currently using DBCTL, but does not allow new CICS tasks to use DBCTL. When the adapter detects that the count of current tasks has reached zero, it issues a DRA TERM call to shut down the interface.

Table 3 summarizes the types of invocations of the adapter code from CICS, and how the adapter reacts to the individual invocation.

Table 4 summarizes the types of invocations of the adapter code from the DRA, and how the adapter reacts to each individual invocation.

Table 5 on page 115 summarizes the cases when the adapter invokes the adapter exits.

Table 3. CICS-adapter request summary

Invocation	Invoker	Adapter action
Initialize	Connection program	Issues DRA INIT
Terminate-Orderly	Disconnection program	Issues DRA TERM after waiting for CICS-DBCTL tasks to quiesce
Terminate-Fast	Disconnection program	Issues DRA TERM
PSB Schedule	DBCTL call processor	Issues THREAD SCHED
DL/I request	DBCTL call processor	Issues THREAD DLI
Prepare	CICS syncpoint manager	Issues THREAD PREP
Commit	CICS syncpoint manager	Issues THREAD COMTERM
Abort	CICS syncpoint manager	Issues THREAD ABTTERM
Lost To CICS cold start	CICS syncpoint manager	Issues COLD request
DBCTL should not be in doubt	CICS syncpoint manager	Issues UNKNOWN request
Task is terminating	CICS task manager	Issues TERMTHRD
Force Purge Task	Control program	Issues PURGE THREAD
Orderly CICS Term	CICS termination	Issues DRA TERM after waiting for CICS-DBCTL tasks to quiesce
Immediate CICS Term	CICS termination	Issues DRA TERM
CICS is abending	CICS termination	Issues DRA TERM
CICS has been canceled	CICS termination	Returns to CICS

Table 4. DRA-adapter request summary

Invocation from the DRA	Adapter action
CICS-DBCTL connection is complete	Invoke the control exit
MVS SSI has rejected the IDENTIFY request to DBCTL	Invoke the control exit
DBCTL has rejected the IDENTIFY request	Invoke the control exit
Operator has replied CANCEL to message DFS690A	Invoke the control exit
DBCTL has terminated abnormally	Invoke the control exit

Table 4. DRA-adapter request summary (continued)

Invocation from the DRA	Adapter action
DRA has terminated abnormally	Invoke the control exit
/CHECKPOINT FREEZE has been issued	Invoke the control exit
PSB schedule, DL/I, syncpoint, thread termination, thread purge, or interface termination request is to be suspended	Invoke the suspend exit
PSB schedule, DL/I, syncpoint, thread termination, thread purge, or interface termination request is to be resumed	Invoke the resume exit

Table 5. Adapter exit summary

Circumstances	Adapter action
Successful completion of THREAD SCHED request	Invoke the monitoring exit
Completion of THREAD COMTERM or THREAD ABTTERM request	Invoke the monitoring exit
DRA thread failure	Invoke the status exit
Resynchronization request issued from CICS recovery manager	Invoke the token exit
CICS orderly or immediate term	Invoke the token exit
CICS ABEND	Invoke the token exit
Completion of DRA TERM issued as a result of a termination request from disconnection program	Invoke the statistics exit
Completion of DRA TERM issued as a result of a CICS orderly termination request	Invoke the statistics exit

Suspend exit (DFHDBSPX)

The suspend exit is invoked by the adapter on behalf of the DRA so that a CICS thread can be suspended during the processing of a DL/I call. The suspend exit outputs a trace entry immediately before issuing a WAIT, and a trace entry immediately after it is posted by the resume exit.

The suspend exit is also invoked by the adapter when a disconnection request from the menu is being processed.

Resume exit (DFHDBREX)

The resume exit is invoked asynchronously by the adapter on behalf of the DRA, and it is executed in the DRA environment. It handles both normal resume and abnormal resume after an abend of the thread. The resume exit issues an MVS POST.

When a thread fails, the resume exit is invoked and an ‘unsuccessful’ return code is passed back to the DBCTL call processor, indicating that CICS must issue an abend for that thread (task).

Adapter exits

The following sections describe the adapter exits.

The adapter statistics exit (DFHDBSTX): The statistics exit is invoked by the adapter when the CICS-DBCTL interface has been terminated by the CICS operator using the menu program to request disconnection from DBCTL. The exit is also invoked by the adapter when CICS is terminated in an orderly way.

The function of the exit is to invoke the CICS statistics domain supplying the data that has been returned from the DRA relating to the individual CICS-DBCTL session.

For a /CHECKPOINT FREEZE command, the exit is not invoked, but the statistics domain is called by DFHCDBCT.

The adapter token exit (DFHDBTOX): The token exit is invoked by the adapter when a task is encountered which has not been allocated a thread token, that is, it has not been through the DBCTL call processor module. This occurs for resynchronization tasks and for the CICS termination invocation.

The adapter monitoring exit (DFHDBMOX): The monitoring exit is invoked by the adapter when monitoring data has been returned by DBCTL as a result of a PSB schedule request, and a CICS SYNCPOINT or DLI TERM request. The exit passes the data on to the CICS monitoring domain to update the tasks monitoring information.

The adapter status exit (DFHDBSSX): The status exit is invoked by the adapter in the event of a DRA thread failure, so that resources owned by the failing thread can be transferred to CICS, which then releases the transferred resources during syncpoint processing.

DBCTL system definition

DBCTL system definition is described in the IMS *System Definition Reference*.

DBCTL PSB scheduling

When a CICS task requests the scheduling of a DL/I PSB by means of an EXEC DLI SCHEDULE request or DL/I PCB call, and the request is for a DBCTL PSB, control is passed to DFHDLIDP.

Database calls

For DBCTL, DFHDLIDP invokes the CICS RMI to pass control to DBCTL.

DBCTL PSB termination

DBCTL PSB termination is performed during the syncpoint when the resource manager interface (RMI) communicates with DBCTL.

System termination

Support is provided to close down the CICS-DBCTL interface during CICS termination. This should avoid the possibility of causing DBCTL to terminate with a U113 abend because of CICS terminating while DL/I threads are running on its behalf in DBCTL.

To provide the support, there is an extension to the RMI to invoke active adapters at CICS termination.

If CICS termination hangs because the CICS-DBCTL interface does not close down, the operator should type in a /DISPLAY ACTIVE command on the DBCTL console and identify the threads corresponding to the CICS system being terminated. This is possible because the threads' recovery tokens, which are displayed, start with the CICS applid. The operator should then issue /STOP THREAD requests for each thread.

Control blocks

The following diagram shows the major control blocks used to support the CICS-DBCTL interface:

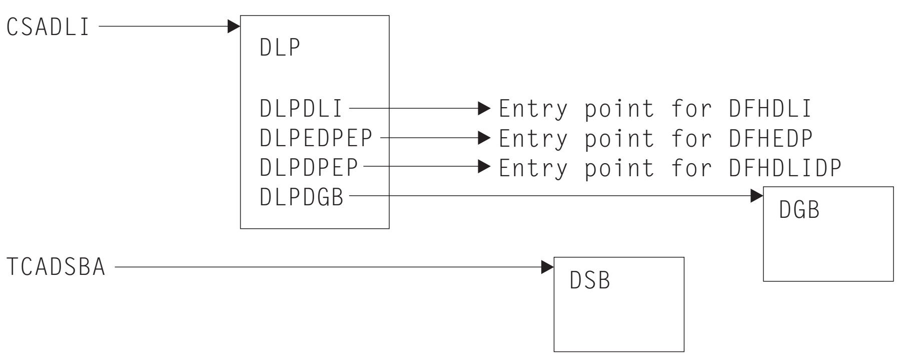


Figure 32. Some control blocks used for DBCTL support

The DL/I interface parameter list (DLP) is described in "DL/I interface parameter list (DLP)" on page 137.

The DBCTL global block (DGB) is acquired, from storage above the 16MB line, when the CICS-DBCTL interface is first initialized. It lasts for the remainder of the CICS execution.

The DBCTL scheduling block (DSB) is acquired, from storage above the 16MB line, when a task issues a PSB schedule request to DBCTL; that is, the PSB used does not appear in the remote PDIR. The DSB is freed at task termination.

See *CICS Data Areas* for a detailed description of these control blocks.

Modules

Module	**Description**
DFHDBAT	Adapter
DFHDBCON	Initialization program
DFHDBCT	Control program
DFHDBCTX	Control exit
DFHDBDI	Disable program
DFHDBDSC	Termination program
DFHDBIE	Inquiry screens
DFHDBIQ	Inquiry program
DFHDBME	Menu program
DFHDBMOX	Monitoring exit
DFHDBNE	Menu screens
DFHDBREX	Resume exit
DFHDBSPX	Suspend exit
DFHDBSSX	Status exit

Module	Description
DFHDBSTX	Statistics exit
DFHDBTOX	Token exit
DFHDBUEX	DBCTL user exit
DFHDLI	DL/I router program
DFHDLIDP	DBCTL call processor

Exits

The following global user exit points are provided for DBCTL:

- In DFHDBCR: XXDFB and XXDTO
- In DFHDBCT: XXDFA.

For further information about these exit points, see the *CICS Customization Guide* and the *CICS IMS Database Control Guide*

Chapter 12. Data interchange program

The data interchange program (DFHDIP) supports the batch controller functions of the IBM 3790 Communication System and the IBM 3770 Data Communication System. Support is provided for the transmit, print, message, user, and dump data sets of the 3790 system.

Design overview

The data interchange program is designed as a function manager for Systems Network Architecture (SNA) devices. It is invoked via DFHEDI for command-level requests, or internally by the basic mapping support (BMS) routines using the DFHDI macro. DFHDIP performs the following actions:

1. Determines whether a new output destination has been specified (it retains information about the previous destinations in the data interchange control block) and, if so, builds appropriate FMHs to select the new destination, and outputs these FMHs to the SNA device via terminal control.
2. Invokes the appropriate subroutine to perform the desired function:

ADD	Builds ADD FMH, transmits it and the user data
REPLACE	Builds REPLACE FMH, transmits it and the user data
ERASE	Builds ERASE FMH and RECID FMH and transmits them
NOTE	Builds NOTE FMH, transmits it, and returns the reply to the user
QUERY	Builds QUERY FMH, transmits it, and outputs END FMH
SEND	Outputs user data
WAIT	Waits for completion of the I/O
END	Builds END FMH and transmits it
ABORT	Builds ABORT FMH and transmits it
ATTACH	Removes FMH from initial input
DETACH	Frees the storage used by DFHDIP
RECEIVE	Reads a complete record from the logical device.

3. Sets the appropriate return code.

Figure 33 on page 120 shows the data interchange program interfaces.

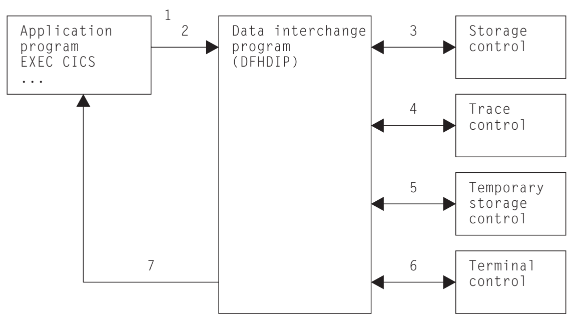

Application program EXEC CICS ...
1
2
Data interchange program (DFHDIP)
3
Storage control
4
Trace control
5
Temporary storage control
6
Terminal control
7

Figure 33. Data interchange program interfaces

Note:

1. The application program invokes DFHEDI (via DFHEIP) which then communicates with DFHDIP by setting fields in the TCA.
2. DFHDIP receives control.
3. If no storage has been obtained for the data interchange block (DIB), storage control is invoked. The storage is chained to the TCTTE. Significant status information, such as the currently selected destination, is remembered in the data interchange block, which is freed at the end of task processing.
4. A trace entry is made.
5. If logging is present (protected task and message integrity) and if a destination change or function change occurs on output, temporary-storage control is invoked to write the DIB to recoverable temporary storage.
6. Terminal control is invoked to output any built FMH and also to output the user data. (DFHTC TYPE=WRITE is issued.) For input requests, DFHTC TYPE=READ requests are issued to obtain a non-null input record.
7. Any errors obtained from the device are decoded and placed in the TCA return code slot. If no errors were detected, a return code of ‘0’ (zero) is returned.

Modules

DFHEDI, DFHDIP

Exits

No global user exit points are provided for this function.

Trace

The following point ID is provided for the data interchange program:

- AP 00D7, for which the trace level is DI 1.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 13. Distributed program link

Distributed program link enables a program (the **client program**) in one CICS region to issue an EXEC CICS LINK command to link to a program (the **server program**) running in another CICS region (the **resource region**). The link can be through intermediate CICS regions.

The communication in distributed program link processing is, from the CICS side, synchronous, which means that it occurs during a single invocation of the client program, and that requests and replies between two programs can be directly correlated.

CICS distributed program linkThe *CICS Intercommunication Guide* includes information about distributed program link processing.

Figure 34 gives an overview of distributed program link operation.

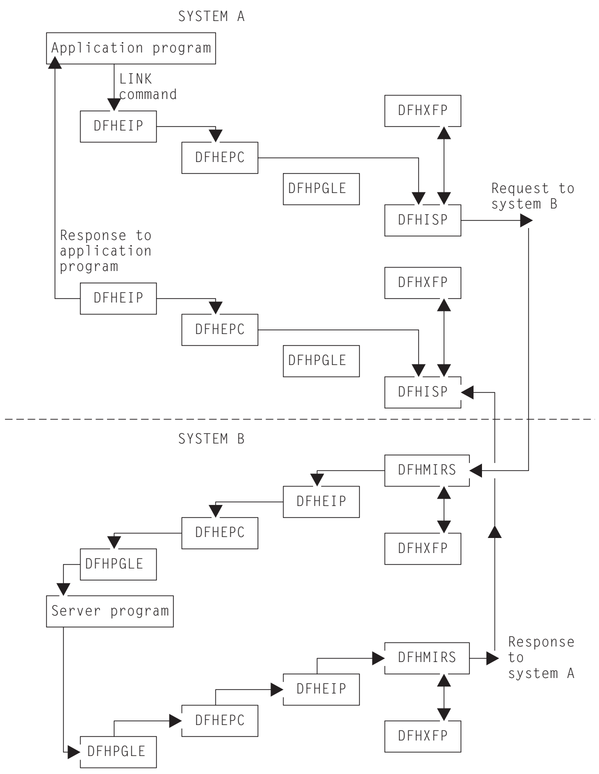


Figure 34. Overview of program link

The DFHEIP module is described in Chapter 19, “EXEC interface,” on page 153. This routes all program control requests to DFHEPC. DFHEPC passes all remote LINK requests to the program manager domain (PGLE_LINK_EXEC request). For local programs, program manager links to the program and, on return, it returns to DFHEPC. For remote programs, program manager returns to DFHEPC with and exception response, with a reason code indicating “remote program”, and DFHEPC passes the request to the intersystems program, DFHISP. The operation of DFHISP for distributed program link is the same as for function shipping, but only the

DFHXFP transformations are used. (See Chapter 26, “Function shipping,” on page 301.) The operation of DFHPEP is described in Chapter 38, “Program control,” on page 363; the interface to DFHPGLE LINK_EXEC is described in “PGLE gate, LINK_EXEC function” on page 1462.

CICS handles session failures and systems failures for distributed program link processing by returning a TERMERR condition to the program that issued the LINK request.

If the server program terminates abnormally and does not handle the abend itself, DFHMIRS returns the abend code to the program that issued the LINK request. This code is the last abend code to occur in the server program, which may have handled other abends before terminating.

A client program using distributed program link can specify that a SYNCPOINT is to be taken in the resource region on successful completion of the server program. That is, any resources updated by the server program (or any associated program) are treated as if they are a separate unit of work.

Modules

The following modules are involved in the distributed program link:

DFHEIP
EXEC interface (see Chapter 19, “EXEC interface,” on page 153)

DFHEPC
DFHEIP program control interface (see Chapter 38, “Program control,” on page 363)

DFHISP
ISC converse (see Chapter 26, “Function shipping,” on page 301)

DFHMIRS
Mirror transaction (see Chapter 26, “Function shipping,” on page 301)

DFHPGLE
PG domain - link exec function (see “PGLE gate, LINK_EXEC function” on page 1462)

DFHXFP
Online data transformation program (see “DFHXFP” on page 2282)

Exits

There are three global user exit points in DFHEPC: XPCERES, XPCREQ and XPCREQC.

Trace

No trace points are provided for this function.

Chapter 14. Distributed transaction processing

Distributed transaction processing enables a CICS transaction to communicate with a transaction running in another system. The transactions are designed and coded explicitly to communicate with each other, and thereby to use the intersystem link with maximum efficiency.

The communication in distributed transaction processing is, from the CICS side, synchronous, which means that it occurs during a single invocation of the CICS transaction and that requests and replies between two transactions can be directly correlated.

The *CICS Intercommunication Guide* tells you about multiregion operation and intersystem communication, and also includes some information about distributed transaction processing. Guidance information about designing and developing distributed applications is given in the *CICS Distributed Transaction Programming Guide*.

Design overview

CICS handles session failures and systems failures for distributed transaction processing in the same way as for CICS function shipping. See the relevant sections in Chapter 26, “Function shipping,” on page 301 for further information.

Distributed transaction processing with MRO and LU6.1

Figure 35 gives an overview of the modules involved with distributed transaction processing for MRO and LU6.1 ISC.

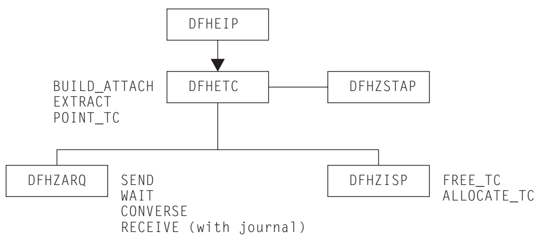


Figure 35. Distributed transaction processing for MRO and LU6.1

The DFHEIP module is described in Chapter 19, “EXEC interface,” on page 153. This routes all terminal control requests to DFHETC. DFHETC handles BUILD_ATTACH, EXTRACT, and POINT_TC requests itself. It routes all other requests (SEND, WAIT, CONVERSE, RECEIVE (with journal)), to DFHZARQ, except for FREE_TC and ALLOCATE_TC requests, which are routed to DFHZISP. If the request requires that the user conversation state be returned, DFHETC calls DFHZSTAP. All these modules are described in detail under “Modules” on page 125.

Mapped and unmapped conversations (LU6.2)

In **mapped** conversations, the data passed to and received from the LU6.2 application programming interface (API) is user data. Mapped conversations use the normal CICS API. Application programs and function shipping requests written for LU6.1 operate using mapped conversations when transferred to LU6.2.

Figure 36 gives an overview of the modules involved with the processing of mapped conversations in LU6.2. ISC.

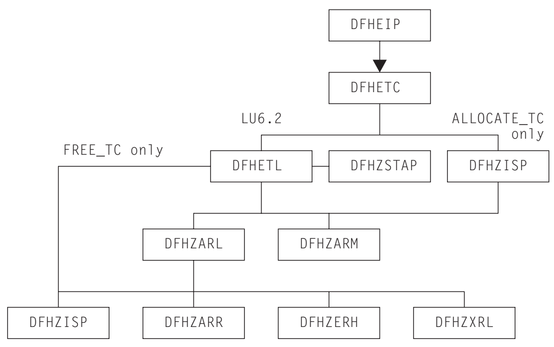


Figure 36. Distributed transaction processing for mapped conversations in LU6.2

The DFHEIP module is described in Chapter 19, “EXEC interface,” on page 153. This routes all terminal control requests to DFHETC. DFHETC routes all requests relating to an LU6.2 session to DFHETL except for ALLOCATE_TC requests, which are routed to DFHZISP.

In turn, DFHETL calls DFHZARL to process most requests; it calls DFHZISP to handle FREE_TC requests, and DFHZARM to handle the receipt of unrecognized or unsupported IDs. If the request requires that the user conversation state be returned, DFHETL calls DFHZSTAP.

DFHZARL’s processing depends on the type of request; for example, it calls DFHZISP to allocate a TCTTE, DFHZARR to receive data, and DFHZERH for outbound or inbound FMH7 processing. If the request needs to be transaction routed, DFHZARL calls DFHZXRL to route the request to the terminal-owning region (see Chapter 62, “Transaction routing,” on page 481).

With the exception of DFHZXRL, all these modules are described in detail under “Modules” on page 125.

Unmapped conversations (also known as **basic** conversations), are used principally for communication with device-level products that do not support mapped conversations, and which possibly do not have an API open to the user. In unmapped conversations, the data passed to and received from the LU6.2 API contains GDS headers.

Figure 37 on page 125 gives an overview of the modules involved with the processing of unmapped conversations in LU6.2 ISC.

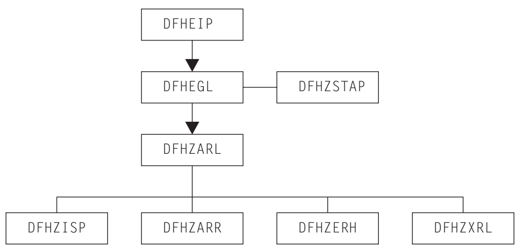


Figure 37. Distributed transaction processing for unmapped conversations in LU6.2

The DFHEIP module is described in Chapter 19, "EXEC interface," on page 153. This passes control to DFHEGL to process GDS commands. DFHEGL routes all GDS conversation-related commands directly to DFHZARL. Some validation of application-provided parameters is performed, and errors are reflected back to the application. If the request requires that the user conversation state be returned, DFHEGL calls DFHZSTAP.

DFHZARL's processing depends on the type of request; for example, it calls DFHZISP to allocate a TCTTE, DFHZARR to receive data, and DFHZERH for outbound or inbound FMH7 processing. If the request needs to be transaction routed, DFHZARL calls DFHZXRL to route the request to the terminal-owning region (see Chapter 62, "Transaction routing," on page 481).

Modules

DFHEGL

DFHEGL processes GDS commands. It is an EXEC interface processor module, and receives control directly from DFHEIP. The TCTTE for the session is located and checked for validity. All GDS conversation-related commands are mapped into a DFHLUC macro call and routed directly to DFHZARL. There is no mapping or unmapping of data, state indicators are not maintained, and there are no FMHs to process.

DFHETC and DFHETL

DFHEIP routes all terminal control requests to DFHETC (the EXEC interface processor for terminal control). DFHETC handles BUILD_ATTACH, EXTRACT, and POINT_TC requests itself. It routes all other requests relating to an MRO or LU6.1 session to DFHZARQ except for FREE_TC and ALLOCATE_TC requests, which are routed to DFHZISP. It routes all other requests relating to an LU6.2 session to DFHETL except for ALLOCATE_TC, which is routed to DFHZISP.

DFHETL performs the following actions:

1. Maps an application request into a form suitable for the DFHZCP and DFHZCC application request modules. This includes mapping application data into GDS records.
2. Detects errors and returns error codes to the application.
3. Unmaps data from GDS records.
4. Maintains state indicators.

For ISSUE CONFIRMATION, CONNECT PROCESS, EXTRACT PROCESS, ISSUE ERROR, ISSUE ABEND, and ISSUE SIGNAL commands, DFHETL:

1. Maps application requests into DFHLUC macro calls.

2. Updates state indicators in the TCTTE (for example, the TCTTE indicator that shows that a CONNECT PROCESS command has been issued).

For SEND and CONVERSE commands, DFHETL:
1. Obtains storage for the processing of outbound application data.
2. Creates attach FMHs, if appropriate.
3. Calls DFHZARL to transmit data.

For RECEIVE commands, DFHETL:
1. Obtains storage for the processing of inbound data.
2. Calls DFHZARL to receive inbound data.
3. Extracts inbound FMHs, as appropriate.
4. Unmaps inbound data.
5. Validates LLs and rejects them if not valid.
6. Manages the passing of data back to the application.
7. If the application issues a RECEIVE NOTRUNCATE request in order to receive only part of the chain, retains the residual data for subsequent RECEIVE requests. DFHETL receives one complete chain of data at a time from DFHZARL.

For WAIT commands, DFHETL calls DFHZARL.

For FREE commands, DFHETL:
1. Checks that the terminal is in the correct state to be freed.
2. Frees the storage used to hold RECEIVE data and the ETCB.
3. Calls DFHZISP to free the session.

DFHZARL

DFHZARL is always invoked via the DFHLUC macro. The DFHLUCDS DSECT maps a parameter list that is set up to pass information to and return information from DFHZARL. DFHZARL manages data in buffers, not in TIOAs. SEND commands cause data to be assembled by DFHZARL into a buffer until a WAIT, or other event, causes the data in the buffer to be transmitted.

DFHZARL invokes DFHZSDL to send data to VTAM, by placing requests on the activate chain. However, for optimization, DFHZARL can invoke DFHZSDL directly. Receive requests are handled by DFHZARR.

DFHZARL invokes DFHZUSR to manage the conversation state. The LU6.2 states for each session are stored in the TCTTE for that session.

If the request needs to be transaction routed, DFHZARL calls DFHZXRL to route the request to the terminal-owning region (see Chapter 62, “Transaction routing,” on page 481).

Details of DFHZARL’s processing for the principal functions of the DFHLUC macro that is used to invoke DFHZARL are given below.

INITIAL_CALL function

This function is requested by DFHZSUP. DFHZARL acquires LU6.2 send and receive buffers. If the transaction is being started as a result of an ATTACH request received from a remote system, DFHZARL transfers any data received with the attach header from the TIOA into the receive buffer.

ALLOCATE function

DFHZARL performs the following actions:

1. If the request passed the address of a profile entry, puts this address in the TCA. If the request passed the name of a profile, calls transaction manager to locate the entry and then puts the address of the entry in the TCA.
2. If the request passed a netname rather than a specific sysid, calls DFHZLOC to locate the TCTTE for the netname and then puts the sysid into the DFHLUC parameter list (as if the caller had the specified sysid).
3. Copies the DFHLUC parameter list to LIFO storage.
4. Calls DFHZISP to allocate a TCTTE.
5. Addresses the TCTTE allocated.
6. Acquires LU6.2 send and receive buffers.
7. Sets the user state machine (DFHZUSRM), request = ALLOCATE_RESOURCE.
8. Returns results to the caller.

SEND function

DFHZARL performs the following actions:

1. Checks the user state machine (DFHZUSRM).
2. Checks the LL count and maintains a record of the outstanding LL count.
3. If the command is SEND LAST, INVITE, or CONFIRM, and the outstanding LL count is nonzero, issues an error message.
4. Sets the user state machine (DFHZUSRM).
5. Issues RECEIVE IMMEDIATE requests, as required, to pick up any negative responses sent by the partner program.

The caller must specify WAIT in the request to force the data to be sent immediately. SEND CONFIRM has an implicit WAIT, and control is not returned until a response has been received, when the state machine is set.

For a SEND request with WAIT, DFHZARL then:

1. Sets the user state machine (DFHZUSRM), request=WAIT.
2. Invokes DFHZSDL for transmission of the data in application area or send buffer.

For a SEND request without WAIT, DFHZARL then:

1. If there is sufficient space in the send buffer for all the data, transfers the data from the application area to the send buffer, and returns control to the caller.
2. Saves the INVITE and LAST indicators.
3. If the send buffer cannot hold all the data, invokes DFHZSDL for an implicit SEND.

If data or a CONFIRM command was sent (or both), DFHZARL then:

1. Checks for a signal received.
2. Checks for exception (negative) response received. If found, calls DFHZERH to handle the error. On return, sets the state machine.
3. Returns results to the caller.

When an implicit send is required, DFHZARL passes the data to DFHZSDL for transmission, passing the address of the data in the send buffer and in the application buffer. The total length of data passed to DFHZSDL is a multiple of the request unit size. On return to DFHZARL, the remaining data is transferred to the send buffer. The parameters passed to DFHZARL, such as INVITE and LAST, are not transmitted by DFHZSDL.

RECEIVE function

DFHZARL passes the DFHLUC parameter list, specifying the type of receive required, to DFHZARR for processing (see "DFHZARR" on page 130).

ISSUE ERROR or ABEND function

DFHZARL is called as a result of an ISSUE ERROR or ISSUE ABEND command, and performs the following actions:

1. Sets the user state machine
2. Calls DFHZERH.

DFHZARM

DFHETL may invoke DFHZARM to provide service functions. DFHZARQ passes control to DFHZARM instead of initiating DFHZSDS, DFHZRVS, and so on, if DFHZARQ finds that it is an LU6.2 session. This applies to the SEND, WAIT, RECEIVE, and SIGNAL commands. The same applies to DFHZISP for the FREE command.

DFHZARM translates the data stream to and from a format suitable for invoking DFHZARL. In particular:

- An LU6.2 attach FMH may have to be requested.
- Data must be passed in GDS record format (structured fields preceded by an LLID).

DFHZARM is invoked via the DFHLUCM macro, which has seven executable options:

- DFHLUCM TYPE =
  - SEND
  - RECEIVE
  - WAIT
  - SIGNAL
  - FREE
  - INVALID_ID

DFHLUCM TYPE=STORAGE defines the storage in LIFO for passing primary input and output. The DSECT name is DFHLUMDS. TCTTE contains the secondary input and output. The principal functions are described in the following sections.

SEND function

DFHZARM performs the following actions:

1. Maps the data into GDS record format. The IDs used are:
   - X'12F1'
   - X'12F2'
   - X'12FF'.

2. Examines bits set in the TCTTE by DFHZARL to determine which DFC to apply.
3. Invokes DFHZARL (using a DFHLUC TYPE=SEND,LIST=... macro call) to pass the GDS records and DFC indicators.
4. Updates the state bits in TCTTE as necessary.
5. Interrogates the LU6.2 ATTACH_FMH_BUILT bit in the TCTTE, which was set by DFHZSUP or DFHETL. This bit indicates whether this is first SEND. If an LU6.2 attach header has not already been built as a result of a CONNECT PROCESS command, DFHZARM issues CONNECT_PROCESS to DFHZARL, assuming synclevel 2, before sending the data.

RECEIVE function

DFHZARM performs the following actions:

1. Calls DFHZARL using TYPE=BUFFER. Two calls are made. On the first call, the first 4 bytes (LLID) are retrieved into LIFO. These are examined and the LL is used to determine the TIOA size and to specify the length required in the second call.
2. On the second call, retrieves the remainder of the data directly into the TIOA. If the LL indicates concatenated data, a series of calls is made to retrieve all the data.

FREE function

The FREE function is used, for example, by DFHZISP to ensure that I/O has completed and CEB sent, using null data if necessary.

INVALID_ID function

The INVALID_ID function is used by DFHETL and DFHZARM itself. It handles the receipt of unrecognized or unsupported IDs. DFHZARM calls DFHZARL with ISSUE_ERROR (X'0889010x'), and sends a record with ID X'12F4' followed by the unrecognized ID. If the remote system responds, DFHZARM turns the flows around so that the local system can try again.

LU6.1 chains

An LU6.1 chain corresponds to one SEND command. LU6.2 chains are bigger, so:

- For outbound data, DFHZARM maps one SEND into one structured field (concatenated if necessary).
- For inbound data, DFHZARM retrieves one (possibly concatenated) field and calls it a chain, thus preserving compatibility.

DFHZARQ

DFHETC routes SEND, WAIT, CONVERSE, and some RECEIVE commands to DFHZARQ. RECEIVE commands are passed to DFHZARQ if input journaling is in effect. Otherwise, the call is routed to DFHZARL directly.

DFHZARQ passes control to DFHZARM instead of initiating DFHZSDS, DFHZRVS, and so on, if DFHZARQ finds that it is an LU6.2 session. This applies to the SEND, WAIT, RECEIVE, and SIGNAL commands.

Reasons for calling DFHZARQ are:

- To avoid duplication of existing code
- So that DFHZCP performs journaling of outbound data
- To perform an implicit CONNECT PROCESS if SEND or CONVERSE is the next session-related command after ALLOCATE

- To enable the SNA change direction (CD) and end bracket (EB) indicators to flow with the data.

DFHZARR

DFHZARR is called by DFHZARL to handle receive requests. Details of the processing follow.

RECEIVE function

This function must be able to handle receipt of the following:

- Application data
- FMH7s and ER1s (negative responses)
- PS_headers (Prepares, Request_commits)
- Indicators such as CD, CEB, and RQD2
- Signal.

Figure 38 gives an overview of the modules involved with the processing of receive requests. These modules are described in Chapter 117, “CICS executable modules,” on page 2161.

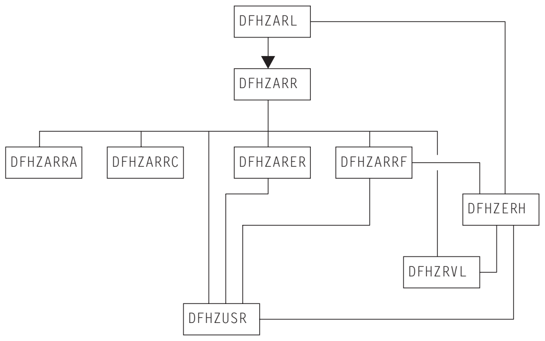


Figure 38. Distributed transaction processing of LU6.2 receive requests

DFHZARL passes the DFHLUC parameter list, specifying the type of receive required, to DFHZARR.

DFHZARR then performs the following actions:

1. Checks that request is valid; if not, returns error codes.
2. Initializes the application and LU6.2 receive buffers (by calls to DFHZARRA and the DFHZARR0 subroutine of DFHZARR respectively).
3. Calls DFHZARRC to determine what to process next.
4. Depending on DFHZARRC’s response, calls the relevant subroutine.
5. If “enough” (or all that can be) has not been received, loops back to step 3; otherwise step 6.
6. Tests for (and returns) signal when it has been received.

The results of the receive are passed back to the caller in the DFHLUC parameter list.

To control this processing, DFHZARR uses the variables **receive_type** and **what_next**, as follows.

receive_type can have the following values:

RECEIVE_WAIT
Request was a receive and wait.

RECEIVE_IMMEDIATE
Request was a receive immediate.

LOOK_AHEAD
All the allowed user data has been received, but only one receive immediate call to the DFHZARR1 subroutine of DFHZARR is permitted to attempt to pick up indicators such as CD, CEB, or a PS_header.

NO_MORE_RECEIVES
No more calls to DFHZARR1 are permitted, but processing may continue with what has already been received.

NO_RECEIVE_LOOK_AHEAD
All the allowed user data has been received. An attempt must be made to pick up indicators such as CD, CEB, or a PS_header without a call to DFHZARR1. This value is only required for a receive immediate request.

RECEIVE_COMPLETE
Receive processing is finished.

The first two values are possible initial values of receive_type, and the other four are used as the receive progresses.

what_next is an output of DFHZARRC, and represents what is next to be processed. It can have the following values:

DATA_RECORD
Application data

FMH_RECORD
FMH7 in the buffer

PS_HEADER_RECORD
Prepare or Request_commit

PARTIAL_LL
First byte of a logical record only, therefore cannot tell whether it is a DATA_RECORD or PS_HEADER_RECORD

CD Change Direction

CEB Conditional End Bracket

RQD2 RQD2 without CD or CEB

RQD2_CD
RQD2 with CD

RQD2_CEB
RQD2 with CEB

ER1 Negative response

EMPTY_BUFFER
Nothing available to receive.

DFHZERH

DFHZERH is called by DFHZARL or DFHZARRF, when it is required to transmit error information or when error information has been received.

Outbound errors

For outbound errors, DFHZERH is invoked by DFHZARL following an ISSUE_ERROR, ISSUE_ABEND, or SYNC_ROLLBACK request.

An FMH7 must be transmitted, but can only be transmitted if the session is in the send state.

If the session is in the receive state, DFHZERH:

1. Sends a negative response
2. Purges the remaining data to end of chain.

In all cases, DFHZERH then:
1. Checks that the session is still in bracket
2. Clears the send buffers
3. Calls DFHZARL to send the FMH7.

Inbound errors

For inbound errors, DFHZERH is invoked by DFHZARL or DFHZARRF when a process-level exception response or an FMH7 has been received.

If an exception response is received while in the send state, DFHZERH purges the present output buffer and sends 'LIC,CD,RQE1' to put the conversation into receive state—so that the following FMH7 can be received.

If an FMH7 is received, DFHZERH examines the associated sense code and any GDS error log data, then returns to its caller.

DFHZISP

DFHZISP is called by DFHETC to perform ALLOCATE_TC requests. (ALLOCATE commands are passed to DFHZISP because DFHETC cannot check the session type until the session is allocated.)

DFHZISP is also called to perform FREE_TC requests.

DFHZSTAP

DFHZSTAP provides a means of determining the conversation state of an MRO or LU6.2 session from the application side. This function is required if the application issues an EXEC CICS EXTRACT ATTRIBUTES command with the STATE option, or a conversation-based command with the STATE option.

For MRO, modules that invoke MVS services via the DFHTC macro also update the conversation state information with a DFHZCNVM TYPE=PUT macro call. When an application requires the conversation state of a session, DFHETC calls DFHZSTAP using a DFHZSTAM TYPE=GETCURRSTATE macro, which returns a value representing the conversation state of the session.

For LU6.2, DFHZUSR is called to maintain the user conversation state machine. (See Chapter 66, "VTAM LU6.2," on page 523 for further details.) When an application requires the conversation state of a session, DFHETL (mapped) or DFHEGL (unmapped) calls DFHZSTAP using a DFHZSTAM TYPE=GETCURRSTATE macro. DFHZSTAP examines the DFHZUSR state machine and maps the information into a value representing the conversation state of the session.

Exits

No global user exit points are provided for this function.

Trace

The following point IDs are provided for distributed transaction processing:
- AP FDxx, for which the trace level is TC 1

- AP FExx (LU6.2 application receive requests), for which the trace levels are TC 2 and Exc.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 15. DL/I database support

Facilities for accessing DL/I databases and database control (DBCTL) support are available only with IMS/ESA.

Within a single CICS system, the following types of support can be available:
- DBCTL support present. For specific information about DBCTL, see Chapter 11, "Database control (DBCTL)," on page 107.
- Remote DL/I and DBCTL support present (the PDIR system initialization parameter is specified). For specific information about remote DL/I, see Chapter 41, "Remote DL/I," on page 371.

The rest of this section covers DL/I database support in general.

Design overview

The following types of DL/I requests can be made by a CICS system:
- EXEC DLI statements (converted into standard CALL DLI statements by DFHEDP)
- CALL DLI statements.

CICS support for DL/I is provided as follows:
1. A router component

   This component determines whether the call is using a remote or DBCTL PSB, and passes control to the appropriate call processor. This component is described in more detail later in this section.
2. A DL/I call processor

   This component is subdivided into:
   - A remote DL/I call processor
   - A DBCTL DL/I call processor.

   Each call processor deals with a specific interface that is described in the appropriate section of this book for the remote DL/I function and the DBCTL function.

Figure 39 on page 136 shows the relationships between the components of the CICS-DL/I interface.

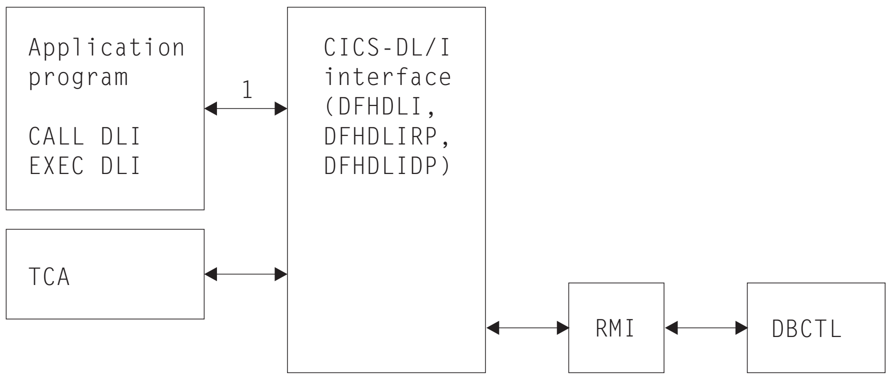


Figure 39. CICS-DL/I interfaces

Note:

1. When DL/I functions are requested by an application program or a CICS control module through execution of a CALL or CALLDLI macro, DFHDLI sets the required fields in the TCA. EXEC DLI statements are converted into standard CALL DLI statements by DFHEDP.

   If the request is for a remote database, DFHDLI passes control to DFHDLIRP. If the request is for a DBCTL database, DFHDLI passes control to DFHDLIDP.

   In addition to processing DL/I input/output requests, the DL/I interface, on request, schedules and terminates DL/I program specification blocks (PSBs).

The remainder of this section is concerned with the router component.

The router component (DFHDLI)

The router component receives a request in standard CALL DLI parameter lists. At schedule time, it determines whether the request is a remote or DBCTL request.

Among the functions of the router are the following:

Deciding where to process a request

At PSB schedule time, the router determines whether the DL/I requests issued from the application program should be routed to DBCTL or another CICS system (remote). The presence (or absence) of the PSB used in the PDIR determines where the call gets routed.

If no PDIR exists (that is, the PDIR=NO system initialization parameter is specified or is allowed to default), the request is routed to the DBCTL call processor.

If a PDIR has been specified, the router module scans the PDIR. All entries in the PDIR have a SYSIDNT option specified. If the PSB is not found in the PDIR, or if the PDIR entry specifies a SYSIDNT that is the SYSIDNT of the CICS system that is currently running, the request is routed to the DBCTL call processor. Otherwise, the request is routed to the remote call processor.

All DL/I requests are routed to the same DL/I call processor as the corresponding PSB schedule request in the same unit of work.

Initiating synchronization processing

The router provides special handling of the DL/I TERM call. When the router detects a TERM call, it forces a syncpoint, causing CICS to carry out syncpoint processing for the task.

Generating CICS trace records

The router module generates CICS trace records at DL/I call entry and DL/I call exit.

Control blocks

DL/I database support uses the control blocks DIB, DLP, and UIB, which are shown in Figure 40.

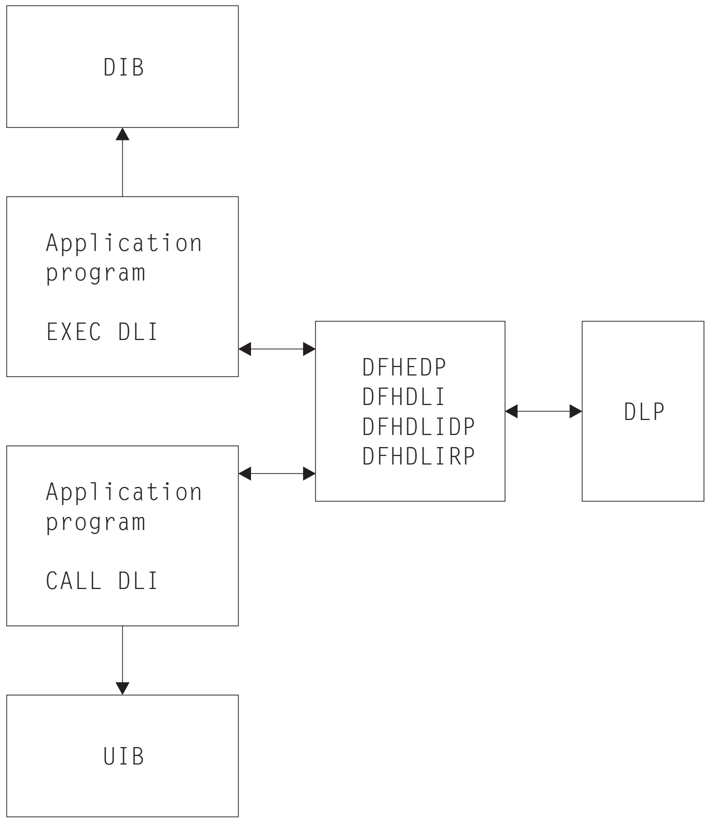


Figure 40. Control blocks for DL/I database support

DL/I interface block (DIB)

When an application program issues EXEC DLI requests, it uses the user DL/I interface block (DIB) instead of the user interface block (UIB). On return, DFHEDP extracts data from the UIB to place in the DIB. The storage for the user DIB is part of the application program. The definition of the user DIB is automatically inserted by the CICS translator for an EXEC DLI application program.

DL/I interface parameter list (DLP)

The DL/I interface parameter list (DLP) is a global DL/I interface control block that lasts for the duration of a CICS session, and contains information relating to the type of DL/I support present in the CICS system. The DLP is created during CICS startup and is addressed by CSADLI in the CSA optional features list.

See for a detailed description of this control blocks.

User interface block (UIB)

The user interface block (UIB) is the control block used by the CALL and CALL DL/I interfaces to pass response codes and the PCB address list to application programs using CALL DL/I services. The UIB is acquired when a task issues its first PSB schedule request specifying that it requires a UIB. The UIB is freed at task termination. TCADLIBA points to the UIB.

See *CICS Data Areas* for a detailed description of these control blocks.

Modules

Figure 41 on page 139 shows the module flow of DL/I requests to the DL/I call processors. DL/I requests from application programs made using CALL or CALL DL/I are handled by DFHEIP. Requests made using EXEC DLI are passed from DFHEIP, to the RMI, to DFHEDP. Next, three main CICS-DL/I interface modules process the requests. The first module, DFHDLI, determines what sort of DL/I request is being made and then passes control to one of two call processors. These are the DBCTL DL/I call processor, DFHDLIDP, and the remote call processor, DFHDLIRP. DFHDLIDP routes the requests to the RMI, then DFHDBAT, to IMS/ESA® modules. DFHDLIRP routes the request to DFHISP.

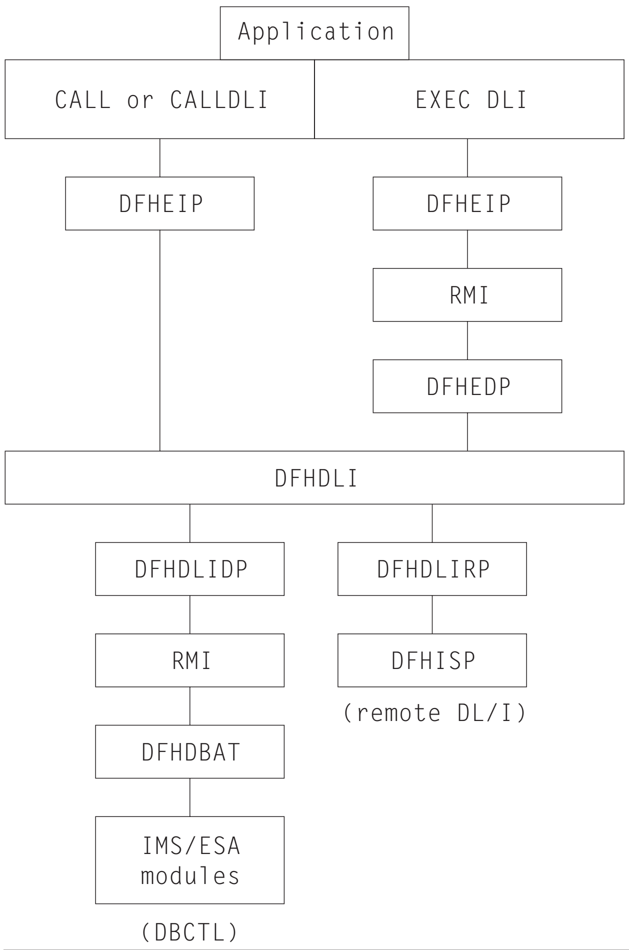


Figure 41. Module flow of DL/I requests to the DL/I call processors

The common CICS-DL/I interface modules consist of the following:

- DFHDLI—contains the code for routing requests to DFHDLIRP and DFHDLIDP
- DFHDLIDP—contains the code for DBCTL requests.
- DFHDLIRP—contains the code for remote DL/I requests

Exits

The following global user exit points are provided in DFHDLI: XDLIPRE and XDLIPOST. For further information about these, see the *CICS Customization Guide* and the *CICS IMS Database Control Guide* .

Trace

The following point ID is provided for DL/I and DBCTL:

- AP 03xx, for which the trace levels are RA 1, RA 2, and Exc.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 16. Dump utility program (DFHDU660)

The dump utility program (DFHDU660) runs offline (in batch mode) to produce a printout of the CICS transaction dumps from a CICS transaction dump data set (DFHDMPA or DFHDMPB).

Design overview

DFHDU660 operates in batch mode while one of the dump data sets is closed. Each area, program, and table entry is identified, formatted, and printed separately, with both actual and relative addresses to facilitate analysis. You can select single or double spacing of dumps when the dump utility program is executed.

The CICS dump data set (DFHDMPA or DFHDMPB) contains a number of CICS transaction dumps. These are produced as the result of a transaction abend or a user-application EXEC CICS DUMP TRANSACTION request.

DFHDU660 runs as a stand-alone program in batch mode to format and print the contents of a transaction dump data set. Parameters specified on the SYSIN data set can be used to print only selected dumps or an index of the dumps in the data set.

For further details about DFHDU660, see the *CICS Operations and Utilities Guide*.

Data sets

There are three sources of data for DFHDU660:

Parameters on JCL EXEC statement
A character string of keywords that can be specified to control the layout and format of the dumps.

SYSIN
Records specifying the criteria to be used in selecting which of the dumps on the data set are to be printed.

DFHDMPDS
The transaction dump data set.

There are two output files:

DFHPRINT
The print file for the formatted transaction dump.

DFHTINDX
The print file for the index of dumps on the data set.

Processing

Figure 42 on page 142 shows the dump utility program interfaces.

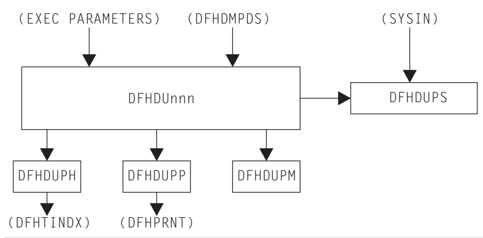


Figure 42. Dump utility program interfaces

The overall flow of the processing within DFHDU660 is as follows. Unless otherwise indicated, all processing is performed by DFHDUPR, the main component of DFHDU660.

1. Process the EXEC parameters if they are present.
2. Call DFHDUPP to open the print data set DFHPRINT.
3. Open the dump data set DFHDMPDS.
4. Read the dumps from DFHDMPDS. For each dump there are four categories of records:

   Dump header record
   Call DFHDUPS to see whether this dump is required for printing. On the first time through, DFHDUPS reads the selective print information from SYSIN. DFHDUPS also calls DFHDUPH to add the dump to the dump index data set DFHTINDX. DFHDUPH opens DFHTINDX on its first invocation.

   Module index records
   DFHDUPM is called to accumulate the module index information in a table in main storage.

   Other data records
   The data is formatted into print lines and DFHDUPP is invoked to write them to DFHPRINT.

   Dump trailer record
   DFHDUPM is invoked to sort and format the module index records. DFHDUPP is called to write them to DFHPRINT.
5. When the end of the dump data set is encountered:
   a. DFHDUPP is called to close DFHPRINT.
   b. DFHDUPH is called to close DFHTINDX.
   c. DFHDUPR closes DFHDMPDS.
6. DFHDU660 terminates.

Modules

Module	Function
DFHDUPR	Controlling routine, responsible for reading information from the dump data set DFHDMPDS.
DFHDUPS	Receives the address of a dump header record from the dump data set, and decides whether this dump fulfils the criteria for printing. On first entry, reads and stores the selective print parameters from SYSIN.
DFHDUPP	Is responsible for all access to the print file DFHPRINT, namely for OPEN, CLOSE, and PUT requests.
DFHDUPH	Writes line to dump index for each dump header record encountered. On first entry, opens the index file DFHTINDX.

Module	Function
DFHDUPM	Invoked for each module index entry found to save information. Invoked when dump trailer record found to format and print the complete module index.

Copy books

Copy book	Function
DFHDUPSC	Contains the definition of the parameter list passed to DFHDUPS.
DFHDUPMC	Contains the definition of the parameter list passed to DFHDUPM.
DFHDUPPC	Contains the definition of the parameter list passed to DFHDUPP.

Exits

Global user exit points are not applicable to offline utilities.

Trace

Trace points are not applicable to offline utilities.

Chapter 17. Dynamic allocation sample program (IBM 3270 only)

Any data set defined to file control can be allocated to CICS dynamically when the file is opened, rather than at CICS job initiation time. This allocation takes place automatically if job control statements for the data set are not included in the CICS job stream, and if both the data set name and the disposition have been specified in the file control table when the data set is opened.

The dynamic allocation sample program provides an alternative way to perform dynamic allocation. When used with a terminal of the IBM 3270 Information Display System, it gives the user access to the functions of DYNALLOC (SVC 99) in MVS. This can be used, in conjunction with master terminal functions and suitable operating procedures, to allocate and deallocate any file that CICS can dynamically open and close.

Design overview

The program runs as a CICS transaction, using CICS functions at the command level wherever possible. It does not modify any CICS control blocks. Only the DYNALLOC function is available through the program; any manipulation of the environment before or after the DYNALLOC request must be done by other means.

CICS supplies sample resource definitions for the program load module, DFH99, and the transaction, ADYN, that invokes it. These definitions are in the group DFH$UTIL. Note that DFH99 ***must*** be defined with EXECKEY(CICS).

The flow in a normal invocation is as follows. The main program, DFH99M, receives control from CICS, and carries out initialization. This includes determining the screen size and allocating input and output buffer sections, and issuing initial messages. It then invokes DFH99GI to get the input command from the terminal. Upon return, if the command was null, the main program terminates, issuing a final message.

The command obtained has its start and end addresses stored in the global communication area, COMM. The main program allocates storage for tokenized text, and calls DFH99TK to tokenize the command. If errors were detected at this stage, further analysis of the command is bypassed.

Following successful tokenizing, the main program calls DFH99FP to analyze the verb keyword. DFH99FP calls DFH99LK to look up the verb keyword in the table, DFH99T. DFH99LK calls DFH99MT if an abbreviation is possible. Upon finding the matching verb, DFH99FP puts the address of the operand section of the table into COMM, and puts the function code into the DYNALLOC request block.

The main program now calls DFH99KO to process the operand keywords. Each keyword in turn is looked up in the table by calling DFH99LK, and the value coded for the keyword is checked against the attributes in the table. DFH99KO then starts off a text unit with the appropriate code, and, depending on the attributes the value should have, calls a conversion routine

- For character and numeric strings, DFH99CC is called. It validates the string, and puts its length and value into the text unit.
- For binary variables, DFH99BC is called. It validates the value, converts it to binary of the required length, and puts its length and value into the text unit.
- For keyword values, DFH99KC is called. It looks up the value in the description part of the keyword table using DFH99LK, and puts the coded equivalent value and its length into the text unit.

When a keyword specifying a returned value is encountered, DFH99KO makes an entry on the returned value chain, which is anchored in COMM. This addresses the keyword entry in DFH99T, the text unit where the value is returned, and the next entry. In this case the conversion routine is still called, but it only reserves storage in the text unit, setting the length to the maximum and the value to zeros.

When all the operand keywords have been processed, DFH99KO returns to the main program, which calls DFH99DY to issue the DYNALLOC request.

DFH99DY sets up the remaining parts of the parameter list, and if no errors too severe have been detected, a subtask is attached to issue the DYNALLOC SVC. A WAIT EVENT is then issued against the subtask termination ECB. When the subtask ends, and CICS dispatches the program again, the DYNALLOC return code is captured from the subtask ECB, with the error and reason codes from the DYNALLOC request block, and a message is issued to give these values to the terminal.

DFH99DY then returns to the main program, which calls DFH99RP to process returned values. DFH99RP scans the returned value chain, and for each element issues a message containing the keyword and the value found in the text unit. If a returned value corresponds to a keyword value, DFH99KR is called to look up the value in the description, and issue the message.

Processing of the command is now complete, and the main program is reinitialized for the next one, and loops back to the point where it calls DFH99GI.

Messages are issued at many places, using macros. The macro expansion ends with a call to DFH99MP, which ensures that a new line is started for each new message, and calls DFH99ML, the message editor. Input to the message editor is a list of tokens, and each one is picked up in turn and converted to displayable text. For each piece of text, DFH99TX is called, which inserts the text into the output buffer, starting a new line if necessary. This ensures that a word is never split over two lines.

When the command has been processed, the main program calls DFH99MP with no parameters, which causes it to send the output buffer to the terminal, and initialize it to empty.

Control blocks

The sample program does not have any control blocks.

Modules

Module	Function
DFH99BC	Convert to binary target

Module	Function
DFH99CC	Character and number string conversion
DFH99DY	Issue SVC 99 and analyze result
DFH99FP	Process function keyword
DFH99GI	Format display and get input
DFH99KC	Keyword value conversion
DFH99KH	List keywords for help
DFH99KO	Process operator keywords
DFH99KR	Convert returned value to keyword
DFH99LK	Search key set for given token
DFH99ML	Build message text from token list
DFH99MM	Main control program (entry point DFH99M)
DFH99MP	Message filing routine
DFH99MT	Match abbreviation with keyword
DFH99RP	Process returned values
DFH99T	Table of keywords
DFH99TK	Tokenize input command
DFH99TX	Text display routine
DFH99VH	List description for help

Exits

No global user exit points are provided for this function.

Trace

This sample program makes no entries in the trace, over and above the normal entries one would see for a CICS user transaction.

External interfaces

SVC 99—MVS DYNALLOC SVC.

Chapter 18. ECI over TCP/IP

The IP ECI (IE) domain processes external call interface (ECI) requests that arrive from a CICS client that is connected to CICS by a TCP/IP network. It attaches a mirror task to issue the appropriate program link request, and returns the results to the client.

For information on tracking origin data, see the *CICS Intercommunication Guide*.

Design Overview

The CICS code that processes external call interface (ECI) requests that arrive from a TCP/IP network via the Sockets Domain (SO) is mostly contained within the IP ECI (IE) domain. Some code that is logically part of the function runs in AP domain. This is because SO domain works by attaching a listener task (CIEP for IPECI) to handle incoming data, and IE domain attaches a mirror task (CPMI) to issue the program link request and return any resulting output.

There are five logically separate pieces of code for this function:

- IE domain initialisation and termination code in DFHIEDM.
- The AP domain part of the listener task, in program DFHIEP.
- The IE domain part of the listener task, in the PROCESS_ECI_FLOW function of program DFHIEIE.
- The AP domain part of the mirror task, in programs DFHMIRS and DFHIEXM.
- The IE domain part of the mirror task, in the SEND, RECEIVE and SEND_ERROR functions of program DFHIEIE.

See Chapter 82, “IP ECI (IE) domain,” on page 1153 for more information.

Listener task, CIEP

The CIEP task is attached by SO domain when it receives data on the port specified in the IPECI TCPIPSERVICE. The CIEP transaction handles control flows directly, or attaches a mirror task to issue the ECI program link request.

The valid flows that may be received by CIEP are:

- Attach FMH for CCIN INSTALL

  The initial flow from a client is an attach for the CCIN transaction to install the client. No attach is done as IE domain handles the install processing internally.
- Attach FMH for CCIN UNINSTALL

  A client can terminate its connection with CICS by sending a CCIN UNINSTALL transaction request. No attach is done as IE domain handles the install processing internally.
- Attach FMH for some other transid, assumed to be a mirror
- FMH7 indicating the client wants to abend a conversation.
- Connection level PING request/reply
- Conversation level PING request/reply
- Connection status 01, last transmission from client (equivalent to UNINSTALL)
- User data in extended conversation (Link request or SYNCPOINT RU)

All other flows are rejected by CIEP; conversation errors with an FMH7, control errors by closing the socket.

The different flows are distinguished by testing various fields in the flow headers, including the SNA format RH.

Request header settings

Response headers are never sent. All flows have request headers. Errors are returned by sending FMH7 with CEB.

All flows are OIC,RQE1.

The link requests to a long running mirror are packaged as FMH43s but, because they are within a GDS, should not cause the RH FMH bit to be set on.

Direction	Type of flow	Request header flags					
in	CCIN INSTALL FMH5	BB		OIC	CD	RQE1	FMH
out	CCIN INSTALL reply		CEB	OIC		RQE1	
in	CCIN UNINSTALL request	BB	CEB	OIC		RQE1	FMH
in	Mirror FMH5 + link request	BB		OIC	CD	RQE1	FMH
out	Non long-running mirror link reply		CEB	OIC		RQE1	
out	Long-running mirror link reply			OIC	CD	RQE1	
in	Long-running mirror link request			OIC	CD	RQE1	
in	Long-running mirror sync flow			OIC	CD	RQE1	
out	Long-running mirror sync reply		CEB	OIC		RQE1	
out	Conversation failure (FMH7)		CEB	OIC		RQE1	FMH
in	FMH7		CEB	OIC		RQE1	FMH

Mirror task, CPMI

A mirror task is attached by the listener task to handle a particular client conversation. The transaction attach callback module for IE mirrors is DFHIEXM. It sets the IECCB (IP ECI Conversation Control Block) to be the mirror task's facility token and establishes security context for the mirror task, using userid and password sent from the client where required.

The mirror task main program, DFHMIRS, issues the IEIE RECEIVE for the available data, and then performs the same functions as it does for ECI requests received in other environments. It then issues the IEIE SEND to return the output from the linked program to the client. For a conversation marked by the client as 'extended', the mirror then issues another IEIE RECEIVE which causes it to be suspended, waiting for more data. For a non-extended conversation, the mirror terminates after the SEND.

PING

CICS TS supports full connection and conversation level PING as architected for the CICS family. This consists of defined flows to allow CICS to determine whether specified connections, or particular conversations on a connection, are still considered active. CICS TS sends a PING request if the RTIMOUT interval is exceeded when waiting for data from a client:

- Send conversation level PING if the client install indicated this was supported.
- Send connection level PING otherwise.
- If it is a conversation PING that has timed out, abend the task after sending a connection level PING to confirm whether the client is still active.
- If a connection level PING times out, uninstall the client.

Notes

1. The socket is full duplex, so SENDs and RECEIVEs can be issued in any order, and asynchronously by different CICS tasks. This is necessary for multiple conversations on the same socket, and means that the CIEP task can issue a SOCK RECEIVE as soon as it has attached the mirror. The SOCK SEND will be done under the mirror task.
2. Sending tasks ENQ on the socket to prevent the data from multiple conversations being interleaved. The ENQ is issued by SO domain.
3. The SO socket token is the second part of the user token but is never required in the CIEP task. The sends and receives issued from CIEP use the socket implicit in the task's state.
4. If the connection is lost or closed by TCP/IP and there are long running mirrors waiting on receives, SO domain is notified, attaches CIEP and returns a bad response on the SO receive issued by CIEP.

Modules

DFHIEP
The initial program for the IP ECI listener transaction, CIEP.

DFHIEXM
The IPECI mirror transaction attach callback module.

Sets the IECCB to be the mirror task's facility token.

Establishes security context for the mirror task, using userid and password sent from client where required.

Chapter 19. EXEC interface

The EXEC interface provides the support for application programs containing EXEC CICS commands.

Design overview

The relevant parts of the EXEC interface are:

- The main EXEC interface module, DFHEIP, which is called when an EXEC CICS command is executed in a user application program.

  A parameter list is passed, in which the first argument (referred to as arg-zero) contains a group code and a function code as the first 2 bytes.
  - The group code in general indicates the CICS component associated with the command being executed. In subsequent processing it is this code alone which determines which EXEC processor module (see below) is called from DFHEIP.
  - The function code identifies the actual command being executed.

  Note: DFHEIP is link-edited with other modules to form the application interface program (DFHAIP) load module. DFHEIPA (next to be described) is one of these modules.
- The DFHEIPA module, which handles the allocation and freeing of dynamic storage (mapped by DFHEISTG) for assembler-language application programs in response to DFHEIENT and DFHEIRET calls respectively.
- A set of EXEC processor modules, each of which is called from DFHEIP, and which performs the first level of analysis of the command being executed. The processor then calls the appropriate CICS domain to complete the execution of the command.
- A set of EXEC stubs, one for each of the application languages: COBOL, PL/I, C, and assembler language. The appropriate stub must be link-edited at the front of each CICS application program, and provides the mechanism for getting to the correct entry points in DFHEIP.
- The DFHAPLI module, which is called at the initialization and termination of each application program.

Control blocks

The control blocks associated with the EXEC interface are as follows:

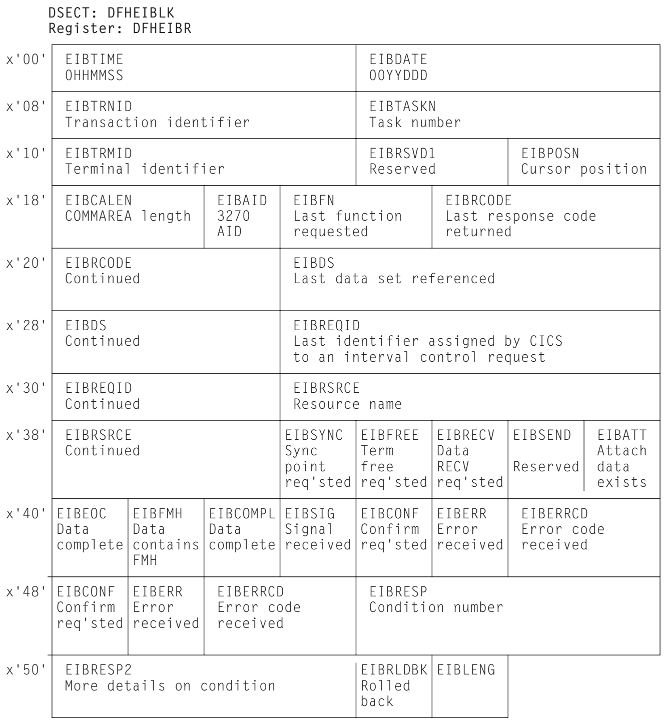
EXEC interface block (EIB) (DSECT name: DFHEIBLK).

Each task in a command-level environment has a control block called the EXEC interface block (EIB) associated with it. The EIB is used for direct communication between command-level programs and CICS.

The EIB contains information that is useful during the execution of an application program, such as the transaction identifier, the time and date (initially when the task is started, and subsequently, if updated by the application program), and the cursor position on a display device. The EIB also contains information that is helpful when a dump is being used to debug a program. DFHEIBLK defines the layout of an EIB, and is included automatically in the application program, giving access to all of the fields in the EIB by name.

A further EIB, known as the "system" EIB, exists for each task. The system EIB has the same format as the "user" (or "application") EIB. It is intended for use mainly by CICS system code. In general, application programs have addressability to the user EIB only, which is a copy taken of the system EIB at appropriate times. However, any service programs translated with the SYSEIB option have addressability to the system EIB also, so that they can issue EXEC CICS commands without causing the user EIB to be updated. (See the *CICS Application Programming Guide* for further information about the SYSEIB translator option.)

Figure 43 shows the format of an EIB.



DSECT: DFHEIBLK
Register: DFHEIBR

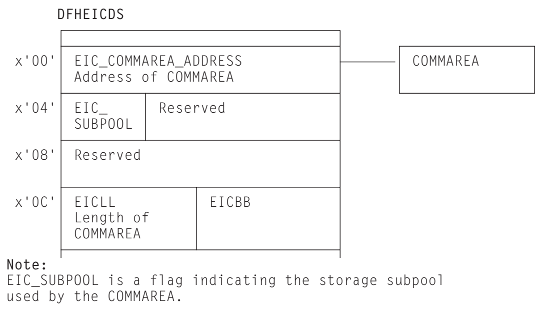
Offset	Field	Description
x'00'	EIBTIME	0HHMMSS
	EIBDATE	00YYDDD
x'08'	EIBTRNID	Transaction identifier
	EIBTASKN	Task number
x'10'	EIBTRMID	Terminal identifier
	EIBRSVD1	Reserved
	EIBPOSN	Cursor position
x'18'	EIBCALEN	COMMAREA length
	EIBAID	3270 AID
	EIBFN	Last function requested
	EIBRCODE	Last response code returned
x'20'	EIBRCODE	Continued
	EIBDS	Last data set referenced
x'28'	EIBDS	Continued
	EIBREQID	Last identifier assigned by CICS to an interval control request
x'30'	EIBREQID	Continued
	EIBRSRCE	Resource name
x'38'	EIBRSRCE	Continued
	EIBSYNC	Sync point req'sted
	EIBFREE	Term free req'sted
	EIBRECV	Data RECV req'sted
	EIBSEND	Reserved
	EIBATT	Attach data exists
x'40'	EIBEOC	Data complete
	EIBFMH	Data contains FMH
	EIBCOMPL	Data complete
	EIBSIG	Signal received
	EIBCONF	Confirm req'sted
	EIBERR	Error received
	EIBERRCD	Error code received
x'48'	EIBCONF	Confirm req'sted
	EIBERR	Error received
	EIBERRCD	Error code received
	EIBRESP	Condition number
x'50'	EIBRESP2	More details on condition
	EIBRLDBK	Rolled back
	EIBLENG	

Figure 43. EXEC interface block (EIB)

EXEC interface communication area (DSECT name: DFHEICDS).

The EXEC interface communication area describes the storage that is used to pass the COMMAREA from one command-level transaction to another using an EXEC CICS RETURN command with the TRANSID, COMMAREA, and LENGTH options.

Figure 44 on page 155 shows the format of the EXEC interface communication area.



Note: EIC_SUBPOOL is a flag indicating the storage subpool used by the COMMAREA.

Figure 44. EXEC interface communication area (EIC)

EXEC interface storage (EIS) (DSECT name: DFHEISDS).
The EXEC interface storage is used by DFHEIP as the interface between the application program and CICS control blocks. It contains a system area used by DFHEIP only. EIS is storage acquired by the DFHAPXM module (part of the transaction manager), along with other task-lifetime storage such as the TCA and both system and user EIBs. There is one EIS per transaction (not per program), and it is addressed by TCAEISA in the TCA. (See Figure 45.)

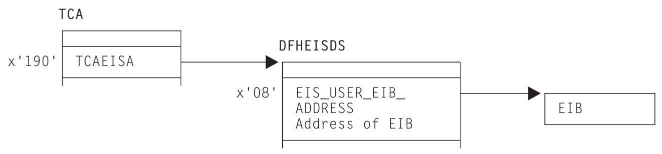


Figure 45. EXEC interface storage (EIS)

See *CICS Data Areas* for a detailed description of these control blocks.

Modules

The EXEC interface comprises the following modules:

- The main interface module (DFHEIP)
- Prologue and epilogue code for assembler-language programs (DFHEIPA)
- 55 EXEC interface processors
- 4 EXEC stubs.

Of the EXEC interface processors, 16 are coded in Assembler language; the other modules are coded in other languages. All are CICS nucleus modules.

These processor modules (together with DFHEIP) support the EXEC CICS commands listed in Table 6 on page 156.

DFHEIP also supports EXEC DLI commands, by passing them through the external resource manager interface program, DFHERM, on their way to DFHEDP for conversion to standard CALL parameter lists acceptable to DL/I.

The following tables list all the EXEC CICS commands, showing the class of each command (basic or special), its group and function codes, also the name and language of the associated EXEC interface processor. Table 6 is ordered by command name. Table 7 on page 160 is ordered by group/function code.

The group and function codes used by the Front End Programming Interface (FEPI) feature are not listed in these tables. However, the EXEC CICS FEPI commands use group codes of 82 (API-type commands) and 84 (SPI-type commands). For details about the EXEC CICS FEPI commands, see the the *CICS Front End Programming Interface User's Guide*.

Note: An asterisk (*) after a command name in the tables shows that the command is intended for CICS internal use only.

Table 6. EXEC CICS commands ordered by command name

Command	Class	Gp/fn code	Module DFH...	Lang
ABEND	B	0E 0C	EPC	A
ACQUIRE TERMINAL	S	86 02	EIACQ	O
ADDRESS	B	02 02	EEI	A
ADDRESS SET	B	02 10	EEI	A
ALLOCATE	B	04 20	ETC	A
ASKTIME	B	10 02	EIIC	O
ASKTIME ABSTIME	B	4A 02	EIDTI	O
ASSIGN	B	02 08	EEI	A
BIF DEEDIT	B	20 02	EBF	A
BUILD ATTACH	B	04 26	ETC	A
CANCEL	B	10 0C	EIIC	O
CHANGE TASK	B	5E 06	EIQSK	O
COLLECT STATISTICS	S	70 08	EIQMS	O
CONNECT PROCESS	B	04 32	ETC	A
CONVERSE	B	04 06	ETC	A
CREATE CONNECTION	S	30 0E	EICRE	O
CREATE FILE	S	30 14	EICRE	O
CREATE JOURNALMODEL	S	30 1E	EICRE	O
CREATE LSRPOOL	S	30 16	EICRE	O
CREATE MAPSET	S	30 04	EICRE	O
CREATE PARTITIONSET	S	30 06	EICRE	O
CREATE PARTNER	S	30 18	EICRE	O
CREATE PROFILE	S	30 0A	EICRE	O
CREATE PROGRAM	S	30 02	EICRE	O
CREATE SESSIONS	S	30 12	EICRE	O
CREATE TDQUEUE	S	30 1C	EICRE	O
CREATE TERMINAL	S	30 10	EICRE	O
CREATE TRANCLASS	S	30 1A	EICRE	O
CREATE TRANSACTION	S	30 08	EICRE	O
CREATE TYPETERM	S	30 0C	EICRE	O
DELAY	B	10 04	EIIC	O
DELETE	B	06 08	EIFC	O
DELETEQ TD	B	08 06	ETD	A
DELETEQ TS	B	0A 06	ETS	A
DEQ	B	12 06	EKC	A
DISCARD AUTINSTMODEL	S	42 10	EIQTM	O
DISCARD FILE	S	4C 10	EIQDS	O
DISCARD JOURNALMODEL	S	92 10	EIQSL	O
DISCARD JOURNALNAME	S	60 10	EIQSJ	O
DISCARD PARTNER	S	44 10	EIQPN	O

Table 6. EXEC CICS commands ordered by command name (continued)

Command	Class	Gp/fn code	Module DFH...	Lang
DISCARD PROFILE	S	46 10	EIQPF	O
DISCARD PROGRAM	S	4E 10	EIQSP	O
DISCARD TRANSACTION	S	50 10	EIQSX	O
DISABLE	B	22 04	UEM	A
DUMP	B	1C 02	EDC	A
DUMP SYSTEM	B	7E 04	EDCP	O
DUMP TRANSACTION	B	7E 02	EDCP	O
ENABLE	B	22 02	UEM	A
ENDBR	B	06 12	EIFC	O
ENQ	B	12 04	EKC	A
ENTER TRACEID	B	1A 04	ETR	A
ENTER TRACENUM	B	48 02	ETRX	O
EXTRACT ATTACH	B	04 28	ETC	A
EXTRACT ATTRIBUTES	B	04 3E	ETC	A
EXTRACT EXIT	B	22 06	UEM	A
EXTRACT LOGONMSG	B	04 3C	ETC	A
EXTRACT PROCESS	B	04 2E	ETC	A
EXTRACT TCT	B	04 2A	ETC	A
FORMATTIME	B	4A 04	EIDTI	O
FREE	B	04 22	ETC	A
FREEMAIN	B	0C 04	ESC	A
GDS ALLOCATE	B	24 02	EGL	A
GDS ASSIGN	B	24 04	EGL	A
GDS CONNECT PROCESS	B	24 0C	EGL	A
GDS EXTRACT ATTRIBUTES	B	24 1C	EGL	A
GDS EXTRACT PROCESS	B	24 06	EGL	A
GDS FREE	B	24 08	EGL	A
GDS ISSUE ABEND	B	24 0A	EGL	A
GDS ISSUE CONFIRMATION	B	24 0E	EGL	A
GDS ISSUE ERROR	B	24 10	EGL	A
GDS ISSUE PREPARE	B	24 1A	EGL	A
GDS ISSUE SIGNAL	B	24 12	EGL	A
GDS RECEIVE	B	24 14	EGL	A
GDS SEND	B	24 16	EGL	A
GDS WAIT	B	24 18	EGL	A
GETMAIN	B	0C 02	ESC	A
HANDLE ABEND	B	0E 0E	EPC	A
HANDLE AID	B	02 06	EEI	A
HANDLE CONDITION	B	02 04	EEI	A
IGNORE CONDITION	B	02 0A	EEI	A
INQUIRE AUTINSTMODEL	S	42 02	EIQTM	O
INQUIRE AUTOINSTALL	S	68 12	EIQVT	O
INQUIRE CONNECTION	S	58 02	EIQSC	O
INQUIRE DCE	S	8E 02	EIQDE	O
INQUIRE DSNAME	S	7A 02	EIQDN	O
INQUIRE DUMPDS	S	66 02	EIQDU	O
INQUIRE EXITPROGRAM	S	88 02	EIQUE	O
INQUIRE FILE	S	4C 02	EIQDS	O
INQUIRE IRC	S	6E 02	EIQIR	O
INQUIRE JOURNALMODEL	S	92 02	EIQSL	O
INQUIRE JOURNALNAME	S	60 12	EIQSJ	O

Table 6. EXEC CICS commands ordered by command name (continued)

Command	Class	Gp/fn code	Module DFH...	Lang
INQUIRE JOURNALNUM	S	60 02	EIQSJ	O
INQUIRE MODENAME	S	5A 02	EIQSM	O
INQUIRE MONITOR	S	70 12	EIQMS	O
INQUIRE NETNAME	S	52 06	EIQST	O
INQUIRE PARTNER	S	44 02	EIQPN	O
INQUIRE PROFILE	S	46 02	EIQPF	O
INQUIRE PROGRAM	S	4E 02	EIQSP	O
INQUIRE REQID	S	8A 02	EIQRQ	O
INQUIRE STATISTICS	S	70 02	EIQMS	O
INQUIRE STREAMNAME	S	92 12	EIQSL	O
INQUIRE SYSDUMPCODE	S	66 22	EIQDU	O
INQUIRE SYSTEM	S	54 02	EIQSA	O
INQUIRE TASK	S	5E 02	EIQSK	O
INQUIRE TCLASS	S	5E 12	EIQSK	O
INQUIRE TDQUEUE	S	5C 02	EIQSQ	O
INQUIRE TERMINAL	S	52 02	EIQST	O
INQUIRE TRACEDEST	S	78 02	EIQTR	O
INQUIRE TRACEFLAG	S	78 12	EIQTR	O
INQUIRE TRACETYPE	S	78 22	EIQTR	O
INQUIRE TRANDUMPCODE	S	66 12	EIQDU	O
INQUIRE TRANSACTION	S	50 02	EIQSX	O
INQUIRE TSQUEUE	S	0A 08	EIQTS	O
INQUIRE VTAM	S	68 02	EIQVT	O
ISSUE ABEND	B	04 30	ETC	A
ISSUE ABORT	B	1E 08	EDI	A
ISSUE ADD	B	1E 02	EDI	A
ISSUE CONFIRMATION	B	04 34	ETC	A
ISSUE COPY	B	04 0A	ETC	A
ISSUE DISCONNECT	B	04 14	ETC	A
ISSUE END	B	1E 0C	EDI	A
ISSUE ENDFILE	B	04 1A	ETC	A
ISSUE ENDOUTPUT	B	04 16	ETC	A
ISSUE EODS	B	04 08	ETC	A
ISSUE ERASE	B	1E 04	EDI	A
ISSUE ERASEAUP	B	04 18	ETC	A
ISSUE ERROR	B	04 36	ETC	A
ISSUE LOAD	B	04 0E	ETC	A
ISSUE NOTE	B	1E 10	EDI	A
ISSUE PASS	B	04 3A	ETC	A
ISSUE PREPARE	B	04 38	ETC	A
ISSUE PRINT	B	04 1C	ETC	A
ISSUE QUERY	B	1E 0A	EDI	A
ISSUE RECEIVE	B	1E 0E	EDI	A
ISSUE REPLACE	B	1E 06	EDI	A
ISSUE RESET	B	04 12	ETC	A
ISSUE SEND	B	1E 14	EDI	A
ISSUE SIGNAL	B	04 1E	ETC	A
ISSUE WAIT	B	1E 12	EDI	A
LINK	B	0E 02	EPC	A
LOAD	B	0E 06	EPC	A
MONITOR	B	48 04	ETRX	O

Table 6. EXEC CICS commands ordered by command name (continued)

Command	Class	Gp/fn code	Module DFH...	Lang
PERFORM RESETTIME	S	72 02	EIPRT	O
PERFORM SECURITY	S	64 02	EIPSE	O
PERFORM SHUTDOWN	S	76 02	EIPSH	O
PERFORM STATISTICS	S	70 06	EIQMS	O
POINT	B	04 24	ETC	A
POP	B	02 0E	EEI	A
POST	B	10 06	EIIC	O
PURGE MESSAGE	B	18 0A	EMS	A
PUSH	B	02 0C	EEI	A
QUERY SECURITY	B	6A 02	ESE	O
READ	B	06 02	EIFC	O
READNEXT	B	06 0E	EIFC	O
READPREV	B	06 10	EIFC	O
READQ TD	B	08 04	ETD	A
READQ TS	B	0A 04	ETS	A
RECEIVE	B	04 02	ETC	A
RECEIVE MAP	B	18 02	EMS	A
RECEIVE PARTN	B	18 0E	EMS	A
RELEASE	B	0E 0A	EPC	A
RESETBR	B	06 14	EIFC	O
RESYNC	B	16 04	ESP	A
RETRIEVE	B	10 0A	EIIC	O
RETURN	B	0E 08	EPC	A
REWRITE	B	06 06	EIFC	O
ROUTE	B	18 0C	EMS	A
SEND	B	04 04	ETC	A
SEND CONTROL	B	18 12	EMS	A
SEND MAP	B	18 04	EMS	A
SEND PAGE	B	18 08	EMS	A
SEND PARTNSET	B	18 10	EMS	A
SEND TEXT	B	18 06	EMS	A
SET AUTOINSTALL	S	68 14	EIQVT	O
SET CONNECTION	S	58 04	EIQSC	O
SET DCE	S	8E 04	EIQDE	O
SET DSNAME	S	7A 04	EIQDN	O
SET DUMPDS	S	66 04	EIQDU	O
SET FILE	S	4C 04	EIQDS	O
SET IRC	S	6E 04	EIQIR	O
SET JOURNALNAME	S	60 14	EIQSJ	O
SET JOURNALNUM	S	60 04	EIQSJ	O
SET MODENAME	S	5A 04	EIQSM	O
SET MONITOR	S	70 14	EIQMS	O
SET NETNAME	S	52 08	EIQST	O
SET PROGRAM	S	4E 04	EIQSP	O
SET STATISTICS	S	70 04	EIQMS	O
SET SYSDUMPCODE	S	66 24	EIQDU	O
SET SYSTEM	S	54 04	EIQSA	O
SET TASK	S	5E 04	EIQSK	O
SET TCLASS	S	5E 14	EIQSK	O
SET TDQUEUE	S	5C 04	EIQSQ	O
SET TERMINAL	S	52 04	EIQST	O

Table 6. EXEC CICS commands ordered by command name (continued)

Command	Class	Gp/fn code	Module DFH...	Lang
SET TRACEDEST	S	78 04	EIQTR	O
SET TRACEFLAG	S	78 14	EIQTR	O
SET TRACETYPE	S	78 24	EIQTR	O
SET TRANDUMPCODE	S	66 14	EIQDU	O
SET TRANSACTION	S	50 04	EIQSX	O
SET VTAM	S	68 04	EIQVT	O
SIGNOFF	B	74 04	ESN	O
SIGNON	B	74 02	ESN	O
SPOOLCLOSE	B	56 10	EPS	O
SPOOLOPEN	B	56 02	EPS	O
SPOOLREAD	B	56 04	EPS	O
SPOOLWRITE	B	56 06	EPS	O
START	B	10 08	EIIC	O
STARTBR	B	06 0C	EIFC	O
SUSPEND	B	12 08	EKC	A
SYNCPOINT	B	16 02	ESP	A
TRACE	B	1A 02	ETR	A
UNLOCK	B	06 0A	EIFC	O
WAIT CONVID	B	04 2C	ETC	A
WAIT EVENT	B	12 02	EKC	A
WAIT EXTERNAL	B	5E 22	EIQSK	O
WAIT JOURNALNAME	B	14 08	EJC	A
WAIT JOURNALNUM	B	14 04	EJC	A
WAIT SIGNAL	B	04 10	ETC	A
WAIT TERMINAL	B	04 0C	ETC	A
WAITCICS	B	5E 32	EIQSK	O
WRITE FILE	B	06 04	EIFC	O
WRITE JOURNALNAME	B	14 06	EJC	A
WRITE JOURNALNUM	B	14 02	EJC	A
WRITE OPERATOR	B	6C 02	EOP	O
WRITEQ TD	B	08 02	ETD	A
WRITEQ TS	B	0A 02	ETS	A
XCTL	B	0E 04	EPC	A

Abbreviations:

```
Class of command:    B = basic       S = special
Language of module:  A = assembler   O = other
```

Table 7. EXEC CICS commands ordered by group/function code

Command	Class	Gp/fn code	Module DFH...	Lang
ADDRESS	B	02 02	EEI	A
HANDLE CONDITION	B	02 04	EEI	A
HANDLE AID	B	02 06	EEI	A
ASSIGN	B	02 08	EEI	A
IGNORE CONDITION	B	02 0A	EEI	A
PUSH	B	02 0C	EEI	A
POP	B	02 0E	EEI	A
ADDRESS SET	B	02 10	EEI	A
RECEIVE	B	04 02	ETC	A
SEND	B	04 04	ETC	A

Table 7. EXEC CICS commands ordered by group/function code (continued)

Command	Class	Gp/fn code	Module DFH...	Lang
CONVERSE	B	04 06	ETC	A
ISSUE EODS	B	04 08	ETC	A
ISSUE COPY	B	04 0A	ETC	A
WAIT TERMINAL	B	04 0C	ETC	A
ISSUE LOAD	B	04 0E	ETC	A
WAIT SIGNAL	B	04 10	ETC	A
ISSUE RESET	B	04 12	ETC	A
ISSUE DISCONNECT	B	04 14	ETC	A
ISSUE ENDOUTPUT	B	04 16	ETC	A
ISSUE ERASEAUP	B	04 18	ETC	A
ISSUE ENDFILE	B	04 1A	ETC	A
ISSUE PRINT	B	04 1C	ETC	A
ISSUE SIGNAL	B	04 1E	ETC	A
ALLOCATE	B	04 20	ETC	A
FREE	B	04 22	ETC	A
POINT	B	04 24	ETC	A
BUILD ATTACH	B	04 26	ETC	A
EXTRACT ATTACH	B	04 28	ETC	A
EXTRACT TCT	B	04 2A	ETC	A
WAIT CONVID	B	04 2C	ETC	A
EXTRACT PROCESS	B	04 2E	ETC	A
ISSUE ABEND	B	04 30	ETC	A
CONNECT PROCESS	B	04 32	ETC	A
ISSUE CONFIRMATION	B	04 34	ETC	A
ISSUE ERROR	B	04 36	ETC	A
ISSUE PREPARE	B	04 38	ETC	A
ISSUE PASS	B	04 3A	ETC	A
EXTRACT LOGONMSG	B	04 3C	ETC	A
EXTRACT ATTRIBUTES	B	04 3E	ETC	A
READ	B	06 02	EIFC	O
WRITE FILE	B	06 04	EIFC	O
REWRITE	B	06 06	EIFC	O
DELETE	B	06 08	EIFC	O
UNLOCK	B	06 0A	EIFC	O
STARTBR	B	06 0C	EIFC	O
READNEXT	B	06 0E	EIFC	O
READPREV	B	06 10	EIFC	O
ENDBR	B	06 12	EIFC	O
RESETBR	B	06 14	EIFC	O
WRITEQ TD	B	08 02	ETD	A
READQ TD	B	08 04	ETD	A
DELETEQ TD	B	08 06	ETD	A
WRITEQ TS	B	0A 02	ETS	A
READQ TS	B	0A 04	ETS	A
DELETEQ TS	B	0A 06	ETS	A
INQUIRE TSQUEUE	S	0A 08	EIQTS	O
GETMAIN	B	0C 02	ESC	A
FREEMAIN	B	0C 04	ESC	A
LINK	B	0E 02	EPC	A
XCTL	B	0E 04	EPC	A
LOAD	B	0E 06	EPC	A

Table 7. EXEC CICS commands ordered by group/function code (continued)

Command	Class	Gp/fn code	Module DFH...	Lang
RETURN	B	0E 08	EPC	A
RELEASE	B	0E 0A	EPC	A
ABEND	B	0E 0C	EPC	A
HANDLE ABEND	B	0E 0E	EPC	A
ASKTIME	B	10 02	EIIC	O
DELAY	B	10 04	EIIC	O
POST	B	10 06	EIIC	O
START	B	10 08	EIIC	O
RETRIEVE	B	10 0A	EIIC	O
CANCEL	B	10 0C	EIIC	O
WAIT EVENT	B	12 02	EKC	A
ENQ	B	12 04	EKC	A
DEQ	B	12 06	EKC	A
SUSPEND	B	12 08	EKC	A
WRITE JOURNALNUM	B	14 02	EJC	A
WAIT JOURNALNUM	B	14 04	EJC	A
SYNCPOINT	B	16 02	ESP	A
RESYNC	B	16 04	ESP	A
RECEIVE MAP	B	18 02	EMS	A
SEND MAP	B	18 04	EMS	A
SEND TEXT	B	18 06	EMS	A
SEND PAGE	B	18 08	EMS	A
PURGE MESSAGE	B	18 0A	EMS	A
ROUTE	B	18 0C	EMS	A
RECEIVE PARTN	B	18 0E	EMS	A
SEND PARTNSET	B	18 10	EMS	A
SEND CONTROL	B	18 12	EMS	A
TRACE	B	1A 02	ETR	A
ENTER TRACEID	B	1A 04	ETR	A
DUMP	B	1C 02	EDC	A
ISSUE ADD	B	1E 02	EDI	A
ISSUE ERASE	B	1E 04	EDI	A
ISSUE REPLACE	B	1E 06	EDI	A
ISSUE ABORT	B	1E 08	EDI	A
ISSUE QUERY	B	1E 0A	EDI	A
ISSUE END	B	1E 0C	EDI	A
ISSUE RECEIVE	B	1E 0E	EDI	A
ISSUE NOTE	B	1E 10	EDI	A
ISSUE WAIT	B	1E 12	EDI	A
ISSUE SEND	B	1E 14	EDI	A
BIF DEEDIT	B	20 02	EBF	A
ENABLE	B	22 02	UEM	A
DISABLE	B	22 04	UEM	A
EXTRACT EXIT	B	22 06	UEM	A
GDS ALLOCATE	B	24 02	EGL	A
GDS ASSIGN	B	24 04	EGL	A
GDS EXTRACT PROCESS	B	24 06	EGL	A
GDS FREE	B	24 08	EGL	A
GDS ISSUE ABEND	B	24 0A	EGL	A
GDS CONNECT PROCESS	B	24 0C	EGL	A
GDS ISSUE CONFIRMATION	B	24 0E	EGL	A

Table 7. EXEC CICS commands ordered by group/function code (continued)

Command	Class	Gp/fn code	Module DFH...	Lang
GDS ISSUE ERROR	B	24 10	EGL	A
GDS ISSUE SIGNAL	B	24 12	EGL	A
GDS RECEIVE	B	24 14	EGL	A
GDS SEND	B	24 16	EGL	A
GDS WAIT	B	24 18	EGL	A
GDS ISSUE PREPARE	B	24 1A	EGL	A
GDS EXTRACT ATTRIBUTES	B	24 1C	EGL	A
CREATE PROGRAM	S	30 02	EICRE	O
CREATE MAPSET	S	30 04	EICRE	O
CREATE PARTITIONSET	S	30 06	EICRE	O
CREATE TRANSACTION	S	30 08	EICRE	O
CREATE PROFILE	S	30 0A	EICRE	O
CREATE TYPETERM	S	30 0C	EICRE	O
CREATE CONNECTION	S	30 0E	EICRE	O
CREATE TERMINAL	S	30 10	EICRE	O
CREATE SESSIONS	S	30 12	EICRE	O
CREATE FILE	S	30 14	EICRE	O
CREATE LSRPOOL	S	30 16	EICRE	O
CREATE PARTNER	S	30 18	EICRE	O
CREATE TRANCLASS	S	30 1A	EICRE	O
CREATE TDQUEUE	S	30 1C	EICRE	O
CREATE JOURNALMODEL	S	30 1E	EICRE	O
INQUIRE AUTINSTMODEL	S	42 02	EIQTM	O
DISCARD AUTINSTMODEL	S	42 10	EIQTM	O
INQUIRE PARTNER	S	44 02	EIQPN	O
DISCARD PARTNER	S	44 10	EIQPN	O
INQUIRE PROFILE	S	46 02	EIQPF	O
DISCARD PROFILE	S	46 10	EIQPF	O
ENTER TRACENUM	B	48 02	ETRX	O
MONITOR	B	48 04	ETRX	O
ASKTIME ABSTIME	B	4A 02	EIDTI	O
FORMATTIME	B	4A 04	EIDTI	O
INQUIRE FILE	S	4C 02	EIQDS	O
SET FILE	S	4C 04	EIQDS	O
DISCARD FILE	S	4C 10	EIQDS	O
INQUIRE PROGRAM	S	4E 02	EIQSP	O
SET PROGRAM	S	4E 04	EIQSP	O
DISCARD PROGRAM	S	4E 10	EIQSP	O
INQUIRE TRANSACTION	S	50 02	EIQSX	O
SET TRANSACTION	S	50 04	EIQSX	O
DISCARD TRANSACTION	S	50 10	EIQSX	O
INQUIRE TERMINAL	S	52 02	EIQST	O
SET TERMINAL	S	52 04	EIQST	O
INQUIRE NETNAME	S	52 06	EIQST	O
SET NETNAME	S	52 08	EIQST	O
INQUIRE SYSTEM	S	54 02	EIQSA	O
SET SYSTEM	S	54 04	EIQSA	O
SPOOLOPEN	B	56 02	EPS	O
SPOOLREAD	B	56 04	EPS	O
SPOOLWRITE	B	56 06	EPS	O
SPOOLCLOSE	B	56 10	EPS	O

Table 7. EXEC CICS commands ordered by group/function code (continued)

Command	Class	Gp/fn code	Module DFH...	Lang
INQUIRE CONNECTION	S	58 02	EIQSC	O
SET CONNECTION	S	58 04	EIQSC	O
INQUIRE MODENAME	S	5A 02	EIQSM	O
SET MODENAME	S	5A 04	EIQSM	O
INQUIRE TDQUEUE	S	5C 02	EIQSQ	O
SET TDQUEUE	S	5C 04	EIQSQ	O
INQUIRE TASK	S	5E 02	EIQSK	O
SET TASK	S	5E 04	EIQSK	O
CHANGE TASK	B	5E 06	EIQSK	O
INQUIRE TCLASS	S	5E 12	EIQSK	O
SET TCLASS	S	5E 14	EIQSK	O
WAIT EXTERNAL	B	5E 22	EIQSK	O
WAITCICS	B	5E 32	EIQSK	O
INQUIRE JOURNALNUM	S	60 02	EIQSJ	O
SET JOURNALNUM	S	60 04	EIQSJ	O
INQUIRE JOURNALNAME	S	60 12	EIQSJ	O
SET JOURNALNAME	S	60 14	EIQSJ	O
PERFORM SECURITY	S	64 02	EIPSE	O
INQUIRE DUMPDS	S	66 02	EIQDU	O
SET DUMPDS	S	66 04	EIQDU	O
INQUIRE TRANDUMPCODE	S	66 12	EIQDU	O
SET TRANDUMPCODE	S	66 14	EIQDU	O
INQUIRE SYSDUMPCODE	S	66 22	EIQDU	O
SET SYSDUMPCODE	S	66 24	EIQDU	O
INQUIRE VTAM	S	68 02	EIQVT	O
SET VTAM	S	68 04	EIQVT	O
INQUIRE AUTOINSTALL	S	68 12	EIQVT	O
SET AUTOINSTALL	S	68 14	EIQVT	O
QUERY SECURITY	B	6A 02	ESE	O
WRITE OPERATOR	B	6C 02	EOP	O
CICSMESSAGE *	S	6C 12	EOP	O
INQUIRE IRC	S	6E 02	EIQIR	O
SET IRC	S	6E 04	EIQIR	O
INQUIRE STATISTICS	S	70 02	EIQMS	O
SET STATISTICS	S	70 04	EIQMS	O
PERFORM STATISTICS	S	70 06	EIQMS	O
COLLECT STATISTICS	S	70 08	EIQMS	O
INQUIRE MONITOR	S	70 12	EIQMS	O
SET MONITOR	S	70 14	EIQMS	O
PERFORM RESETTIME	S	72 02	EIPRT	O
SIGNON	B	74 02	ESN	O
SIGNOFF	B	74 04	ESN	O
PERFORM SHUTDOWN	S	76 02	EIPSH	O
INQUIRE TRACEDEST	S	78 02	EIQTR	O
SET TRACEDEST	S	78 04	EIQTR	O
INQUIRE TRACEFLAG	S	78 12	EIQTR	O
SET TRACEFLAG	S	78 14	EIQTR	O
INQUIRE TRACETYPE	S	78 22	EIQTR	O
SET TRACETYPE	S	78 24	EIQTR	O
INQUIRE DSNAME	S	7A 02	EIQDN	O
SET DSNAME	S	7A 04	EIQDN	O

Table 7. EXEC CICS commands ordered by group/function code (continued)

Command	Class	Gp/fn code	Module DFH...	Lang
DUMP TRANSACTION	B	7E 02	EDCP	O
DUMP SYSTEM	B	7E 04	EDCP	O
INQUIRE JOURNALMODEL	S	92 02	EIQSL	O
INQUIRE STREAMNAME	S	92 12	EIQSL	O

Abbreviations:

```
Class of command:    B = basic       S = special
Language of module:  A = assembler   O = other
```

DFHEIP

The EXEC interface program, DFHEIP, has several entry points associated with initialization and termination. Note, however, that DFHEIPAN is in the DFHEIPA module.

Entry point	Function
DFHEIPNA	Formal main entry point
DFHEIPAN	Get or free dynamic storage for assembler-language prologue or epilogue
DFHEIPGM	Get dynamic storage for COBOL initialization
DFHEIPFM	Free dynamic storage for COBOL
DFHEIPTT	Take run-unit token routine for COBOL initialization.

DFHEIP has these entry points associated with executing a command issued from an application program:

Entry point	Function
DFHEIPRN	EXEC RMI calls
DFHEIPCN	EXEC CICS calls
DFHEIPDN	xxxTDLI calls.

It also has many return and entry points for common functions that are called from those processor modules residing in the nucleus:

Entry point	Function
EIPNORML	Normal return on completion of command

Error point	Function
EIPERROR	Condition occurred (code in EIBRCODE)
EIPCONDN	Condition occurred (code in EIBRESP)
EICCER99	Unsupported function, abend AEY9
EICCDF00	Subroutine to invoke EDF

Several length-checking routines (EICCLCnn):

Error point	Function
EICCLC30	Input check, V format only
EICCLC94	LENGERR flag check

Several program control routines (EICCPCnn):

Error point	Function
EICCPC00	Process terminating PL/I program
EICCPC40	HANDLE ABEND processing

Several storage control routines (EICCSCnn):

Error point	Function
EICCSC10	FREEMAIN
EICCSC20	GETMAIN shared storage
EICCSC30	GETMAIN terminal storage
EICCSC70	GETMAIN user storage init. X'00'
EICCFM10	FREEMAIN for COMMAREAs

Method of calling processor modules

All processor modules reside in the CICS nucleus, and the same calling method is used regardless of the language in which the processor is coded.

CICS initialization puts the address of each module in the CSA optional features list (CSAOPFL), in a table of addresses starting at CSAEXECS, and at an offset corresponding to its group code.

The calling method for the processor modules at execution time uses a table (at label EICC71T in DFHEIP), known as the **EXEC command processor module call table**. DFHEIP uses this table, and the table of addresses in CSAOPFL.

The EXEC command processor module call table is indexed by the 1-byte group code, which identifies the way that the processor is called:

Call type	Description
A	Has a vector of offsets at its entry point. This vector is indexed by the command function code to locate the actual entry point, to which DFHEIP does an unconditional branch. Return is to label EIPNORML, EIPCONDN, or EIPERROR.
B	Has a single entry point, for which DFHEIP issues a DFHAM TYPE=LINK call. The appropriate return address in DFHEIP is set in register 14, an unconditional branch is made to the DFHEIP, which tests the response in EIBRESP.
C	Has a single entry point, for which DFHEIP issues a DFHEIEIM call (through the kernel). Return is to the next instruction, where DFHEIP tests the response in EIBRESP.
D	Has a single entry point, for which DFHEIP uses a BALR R14,R15 instruction; this type is used only for GDS. The appropriate return address in DFHEIP is set in register 14, an unconditional branch is made to the DFHEIP, the response in the user's RETCODE field.

Exits

The following global user exit points are provided in DFHEIP:

For further information, see the *CICS Customization Guide*.

Trace

The following point ID is provided for DFHEIP:
- AP 00E1, for which the trace level is EI 1.

The following point IDs are provided for DFHEISR:
- AP E110 (entry), for which the trace level is EI 2.
- AP E111 (exit), for which the trace level is EI 2.

Trace entries are made before and after the execution of a command by its EXEC interface processor module.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 20. Execution diagnostic facility (EDF)

The execution diagnostic facility (EDF) allows users of the CICS command-level programming interface to step through the CICS commands of an application program. This program can be part of a local or remote transaction. At each step, the user can check the validity of each command and make temporary modifications to the program.

Design overview

EDF enables an application programmer to test a command-level application program online without making any modifications to the source program or the program preparation procedure. EDF intercepts execution of the application program at certain points and displays relevant information about the program at these points.

There are seven places in the EXEC interface program (DFHEIP) where the EDF can be called:

1. When program initialization has been done, just before control is passed to the application entry point
2. When program termination is being done, just after control has been received from the application
3. Before a normal EXEC command is passed to its processor module
4. When a normal EXEC command has returned to DFHEIP
5. Before an EXEC CICS GDS command is passed to its processor module
6. When an EXEC CICS GDS command has returned to DFHEIP
7. Before an EXEC CICS FEPI command is passed to its processor module
8. When an EXEC CICS FEPI command has returned to DFHEIP
9. At the end of a PL/I program.

Modules

CEBR transaction (DFHEDFBR)

The temporary-storage browse transaction (CEBR) allows the user to browse, copy, or delete items in a queue. CEBR invokes DFHEDFBR to execute the required action.

EDF display (DFHEDFD)

The EDF display program, DFHEDFD, provides the following functions:

- To display the user program status
- To allow the user to modify argument values and responses
- To allow the user to display and modify the EXEC interface block (EIB) and program working storage
- To allow the user to display any hexadecimal location in the partition user screen
- To allow the user to suppress EDF displays until specified conditions are met.

Method

1. Data describing user status is passed to DFHEDFD in the TWA.
2. Initialize exception and abend handling.
3. If TS queue for user terminal already exists, read control information; otherwise create control information about TS queue.
4. Check for security violation.
5. If necessary, remember user screen.
6. Build required display by calling DFHEDFS.
7. Send display to EDF screen.
8. Extract modified information by calling DFHEDFS.
9. Analyze request.
10. Set up build information for next display.
11. Go and build required display.
12. When no further displays are required:
    a. Save function display
    b. If necessary, restore user screen
    c. Update control information
    d. If transaction is defined as remote, purge TS queue and any shared storage associated with the EDF task
    e. Return to DFHEDFP.

EDF map set (DFHEDFM)

The EDF map set, DFHEDFM, consists of three maps:

DFHEDFM
To display status information at the various EDF interception points

DFHEDFN
To display the EDF stop conditions

DFHEDFP
To display a dump of storage.

All maps are (24,80). The first two lines of each map contain the transaction ID, program name, status, and so on. The format of these two lines must be identical for all maps. A menu is displayed with each map, and includes a message line and a reply field. The format of the menu must be identical for all maps. The cursor is positioned by symbolic cursor positioning.

EDF control program (DFHEDFP)

The EDF control program, DFHEDFP, provides the CEDF transaction for starting EDF, and is used in two different ways:

1. To control the debugging task
2. To set debug mode on or off.

Input

Input to the DFHEDFP program is provided as follows:

To control the debugging task
Information describing the user task status is written into the debug linkage area (DLA) of CEDF by DFHEDFX.

To set debug mode on or off

The user enters a CEDF request at the debug display terminal using the following syntax:

```
CEDF termid,ON|OFF
```

Alternatively, a PF key may be used to switch single-terminal debug mode on.

Note: To use EDF for a remote transaction, only single-terminal mode is available.

Output

Output from the DFHEDFP program is as follows:

To control the debugging task

DFHEDFD displays user program status.

To set debug mode on or off

Switches the debug mode bit either in the user terminal TCTTE or, if an EXEC task is running, in the user task EIS. For two-terminal debugging, creates temporary-storage queue element to connect user terminal with display terminal.

Method

To control the program for debugging a task

If the task is attached by DFHEDFX and if only one terminal is being used for debugging, link to DFHEDFD to display program status. If two terminals are being used for debugging, start CEDF at the display terminal, restore that terminal to the user, resume the user task, then return to CICS.

To set debug mode on or off

If invoked by using a PF key, set the debug mode on for single-terminal debugging in the user TCTTE. If invoked by a CEDF request, extract the user terminal ID (default is display terminal), and extract the debug mode (default is on). If the user terminal ID does not exist, output a diagnostic message. If the EXEC task is running and the task is in debug mode, output a diagnostic message; otherwise switch the debug bit in EIS, or switch the debug bit in TCTTE. Create a temporary-storage queue element naming the debug terminal.

EDF response table (DFHEDFR)

The EDF response table, DFHEDFR, is a table used by DFHEDFD to interpret the responses obtained by EXEC commands.

EDF task switch program (DFHEDFX)

The EDF task switch program, DFHEDFX, is used to attach the debugging task, provide it with all necessary information about the status of the user task, and suspend the user task until the debugging task allows it to resume.

Method

1. Extract information describing the user task status and copy it into the DLA for the attached task
2. Issue wait on user terminal
3. Attach CEDF
4. Suspend the user task
5. When the user task is resumed by EDF, check if EDF has not abended
6. If the user requests an abend, abend the user task; otherwise, return to caller.

Exits

No global user exit points are provided for this function.

Trace

No trace points are provided for this function.

Chapter 21. Extended recovery facility (XRF)

The extended recovery facility (XRF) enables you to achieve a high level of availability. You can run an alternate CICS system that monitors your active CICS system, and takes over automatically or by operator control if the active system fails. You can also plan and execute a takeover yourself when you want to do maintenance on an active system.

Problems in the active system can be detected and isolated as soon as they occur. The alternate system can recover and restart quickly, like an emergency restart, and the time for reconnection of terminals is reduced.

Design overview

A detailed overview of this function is given in the .

Control blocks

A command list table (CLT) is used by an alternate system when it takes over the running of CICS from an active system. It holds the ID data for the JES system in use, data used to verify its authority to take over, and routing information. If there is more than one active system in two CECs, the CLT also holds VTAM MODIFY commands, and messages to the operator (WTO) to complete the takeover. It is loaded during takeover, and deleted when processed.

See *CICS Data Areas* for a detailed description of this control block.

Modules

Figure 46 on page 174 shows the modules for XRF.

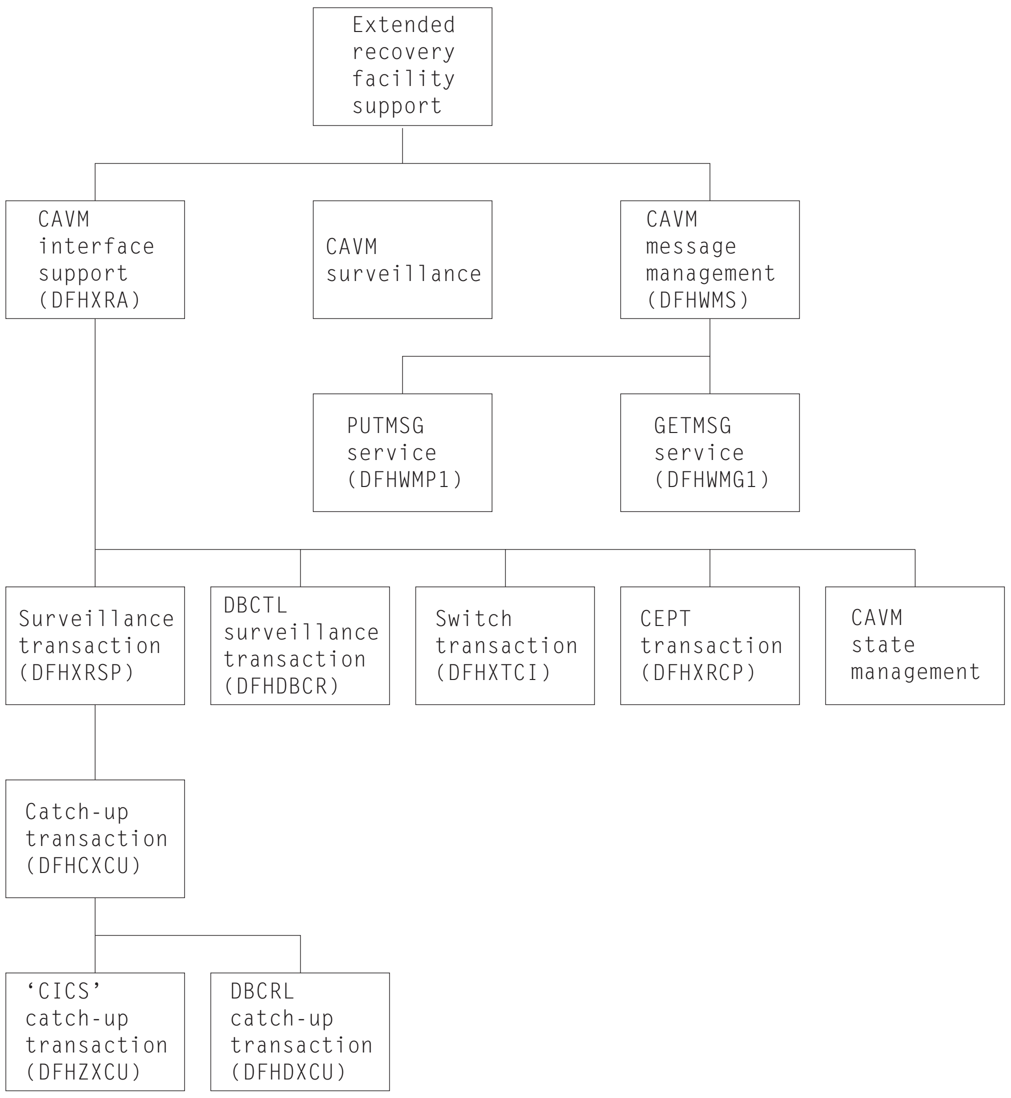

Extended recovery facility support
CAVM interface support (DFHXRA)
CAVM surveillance
CAVM message management (DFHWMS)
PUTMSG service (DFHWMP1)
GETMSG service (DFHWMG1)
Surveillance transaction (DFHXRSP)
DBCTL surveillance transaction (DFHDBCR)
Switch transaction (DFHXTCI)
CEPT transaction (DFHXRCP)
CAVM state management
Catch-up transaction (DFHCXCU)
'CICS' catch-up transaction (DFHZXCU)
DBCRL catch-up transaction (DFHDXCU)

Figure 46. Extended recovery facility support

Exits

There is one global user exit point in DFHXRA: XXRSTAT. For further information about this, see the *CICS Customization Guide*.

Trace

The following point IDs are provided for the CAVM services:

- AP 00C4, AP 00C5, AP 00C6, and AP 00C7, for which the trace level is AP 1.

The following point IDs are provided for the XRF takeover signon/sign-off function:

- AP 0Axx, for which the trace levels are AP 1, AP 2, and Exc.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 22. External CICS interface

The external CICS interface (EXCI) is an integral part of CICS Transaction Server for z/OS. The function is called an external CICS interface because it enables non-CICS application programs (*client programs*) running in MVS to call programs (*server programs*) running in a CICS Transaction Server for z/OS region and to pass and receive data by means of a communications area.

Design overview

This section provides an overview of the design of the external CICS interface. For more information about the external CICS interface, see the*CICS External Interfaces Guide*.

The external CICS interface is an application programming interface that enables a non-CICS program (a *client program*) running in MVS to call a program (a *server program*) running in a CICS region and to pass and receive data by means of a communications area. The CICS application program is invoked as if linked-to by another CICS application program.

This programming interface allows a user to allocate and open sessions (or *pipes*) to a CICS region, and to pass distributed program link (DPL) requests over them. The multiregion operation (MRO) facility of CICS interregion communication (IRC) facility supports these requests, and each pipe (A pipe is a one-way communication path between a sending process and a receiving process. In an external CICS interface implementation, each pipe maps onto one MRO session, where the client program represents the sending process and the CICS server region represents the receiving process. maps onto one MRO session).

Unless the CICS region is running in a sysplex under MVS/ESA 5.1 and therefore able to use cross-system MRO (XCF/MRO), the client program and the CICS server region (the region where the server program runs or is defined) must be in the same MVS image. Although the external CICS interface does not support the cross-memory access method, it can use the XCF access method provided by XCF/MRO. See the *CICS Intercommunication Guide* for information about XCF/MRO.

A client program that uses the external CICS interface can operate multiple sessions for different users (either under the same or separate TCBs) all coexisting in the same MVS address space without knowledge of, or interference from, each other.

Where a client program attaches another client program, the attached program runs under its own TCB.

The programming interfaces

The external CICS interface provides two forms of programming interface: the EXCI CALL interface and the EXEC CICS interface.

The EXCI CALL interface

This interface consists of six commands that allow you to:

- Allocate and open sessions to a CICS system from non-CICS programs running under MVS

- Issue DPL requests on these sessions from the non-CICS programs
- Close and deallocate the sessions on completion of the DPL requests.

The six EXCI commands are:
1. Initialize_User
2. Allocate_Pipe
3. Open_Pipe
4. DPL call
5. Close_Pipe
6. Deallocate_Pipe

The processing of an EXCI CALL-level command is shown in Figure 47.

The EXEC CICS interface

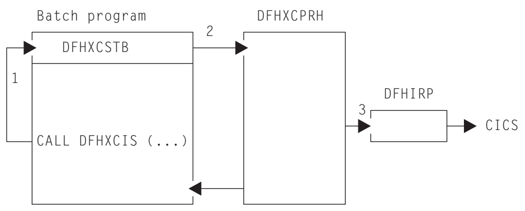
The external CICS interface provides a single, composite command–EXEC CICS LINK PROGRAM– that performs all six commands of the EXCI CALL interface in one invocation. The processing of an EXEC CICS LINK command is shown in Figure 48 on page 177.

This command takes the same form as the distributed program link command of the CICS command-level application programming interface.

API restrictions for server programs

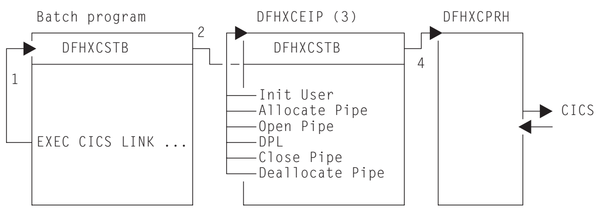
A CICS server program invoked by an external CICS interface request is restricted to the DPL subset of the CICS application programming interface. This subset (the DPL subset) of the API commands is the same as for a CICS-to-CICS server program.

For details about the DPL subset for server programs, see the *CICS Application Programming Guide*.



Note:
1. An EXCI CALL API request is issued, and invokes the DFHXCIS entry point in the EXCI stub, DFHXCSTB.
2. DFHXCSTB locates DFHXCPRH, and invokes it to process the EXCI request. If DFHXCPRH is not found, DFHXCSTB loads DFHXCPRH before invoking it.
3. DFHXCPRH sets up the control blocks needed for the EXCI request. For a DPL request, DFHXCPRH invokes DFHIRP to pass control to CICS.

Figure 47. External CICS interface, CALL-level API



Note:

1. An EXCI EXEC API request is issued, and invokes the DFHXCEI entry point in the EXCI stub, DFHXCSTB.
2. DFHXCSTB locates DFHXCEIP, and invokes it to process the EXCI request. If DFHXCEIP is not found, DFHXCSTB loads DFHXCEIP before invoking it.
3. DFHXCEIP converts the EXCI EXEC-level request into a series of EXCI CALL-level requests.
4. The CALL-level requests result in calls to the EXCI stub, DFHXCSTB (as in Figure 47 on page 176).

Figure 48. External CICS interface, EXEC-level API

Modules

Module	Function
DFHXCALL	EXEC-level API macro. Invoked by the CICS translator when processing EXCI EXEC-level requests.
DFHXCDMP	dump services. Calls the CICS SVC to issue SDUMP macro requests, to take an SDUMP of the EXCI address space.
DFHXCSTB	stub link-edited with applications that want to use EXCI.
DFHXCEIP	EXEC-level API handler. The main EXCI module that processes EXCI EXEC-level requests.
DFHXCO	options macro for generating the DFHXCOPT options table.
DFHXCOPT	options table to customize the EXCI environment.
DFHXCPLD	Assembler-language parameter list definitions. Copybook defining the parameters for use with the EXCI APIs.
DFHXCPLH	C parameter list definitions. Copybook defining the parameters for use with the EXCI APIs.
DFHXCPLL	PL/I parameter list definitions. Copybook defining the parameters for use with the EXCI APIs.
DFHXCPLO	COBOL parameter list definitions. Copybook defining the parameters for use with the EXCI APIs.
DFHXCPRH	program request handler The main EXCI module that processes EXCI CALL-level requests.
DFHXCRCD	Assembler-language return code definitions. Copybook defining the return codes for use with the EXCI APIs.
DFHXCRCH	C return code definitions. Copybook defining the return codes for use with the EXCI APIs.
DFHXCRCL	PL/I return code definitions. Copybook defining the return codes for use with the EXCI APIs.

Module	Function
DFHXCRCO	COBOL return code definitions. Copybook defining the return codes for use with the EXCI APIs.
DFHXCSVC	SVC services. Invoked by the CICS SVC to issue an SDUMP macro to take an SDUMP of the EXCI address space.
DFHXCTAB	language table. Copybook defining the syntax of the EXCI EXEC language for use by the CICS translator.
DFHXCTRA	global trap program. The EXCI equivalent of the DFHTRAP module, providing the service with ability to collect extra diagnostic information.
DFHXCTRD	local trap parameter list definition. Defines the parameter list passed to DFHXCTRA and all EXCI trace points used by DFHXCTRA.
DFHXCTRP	trace services. Writes EXCI trace entries to the EXCI internal trace table.
DFHXCTRI	trace initialization. Initializes EXCI trace services.
DFHXCURM	User-replaceable program that allows the user to modify the applid of the CICS region to which the EXCI request is to be issued.

Exits

There are no exit points for the EXCI.

Trace

The EXCI has its own internal trace table in the EXCI address space where the client program is running. EXCI trace entries can also be written to the MVS GTF trace data set.

EXCI trace point IDs are EXxxxx, with a trace level of 1, 2, or Exc.

For more information about EXCI tracing, see the *CICS External Interfaces Guide*.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 23. Field engineering program

The field engineering program (DFHFEP) is a CICS system service function primarily designed for an IBM field engineer to use when installing new terminals. When CICS is running, this program (invoked by the CSFE transaction) transmits a set of characters to the requesting terminal. In addition, the program can be used to echo a message; that is, it repeats exactly what is keyed at the terminal.

This program also supports some general debugging functions.

Design overview

When used for testing terminals, DFHFEP first prepares for device-dependent conditions. It then issues a storage control FREEMAIN, followed by a GETMAIN for storage for the ENTER message, which it writes using terminal control WRITE, READ, and WAIT macros. Finally, if **print** was requested, the character set is printed; if **end** was requested, the completion message is issued; otherwise the input is echoed.

DFHFEP performs all the requests made by the CSFE transaction. In addition to the terminal test function, CSFE can request the activation or deactivation of:

- System spooling interface trace
- Terminal builder trace
- Storage freeze
- Storage violation trap
- Global trap/trace exit.

See *CICS Supplied Transactions* for details of the command syntax and functions provided.

Modules

DFHFEP

Exits

No global user exit points are provided for this function.

Trace

No trace points are provided for this function.

Chapter 24. File control

File control provides a facility for accessing data sets, files, and data tables, using keyed or relative-byte-address (RBA) access through the virtual storage access method (VSAM), the basic direct access method (BDAM), shared data table services and the coupling facility data tables server. VSAM data sets can be accessed in either RLS or non-RLS mode. RLS mode allows sharing of data sets across a parallel sysplex. File control allows updates, additions, deletions, random retrieval, and sequential retrieval (browsing) of logical data in the data sets. If VSAM is used, access to logical data can be via a VSAM alternate index path, as well as through the base data set.

File control reads from, and writes to, user-defined data sets and data tables, gathers statistics, and acquires dynamic storage for I/O operations. File control uses control information defined by the user in the file control table (FCT). This table describes the physical characteristics of all the data sets, and any logical relationships that may exist between them.

Design overview

File control provides the following services and features:

- Random record retrieval
- Random record update
- Random record addition
- Random record deletion (VSAM only)
- Sequential record retrieval
- BDAM deblocking
- Enabling and disabling of files, making them accessible to applications
- Opening and closing of files for the access method
- Exclusive control of records during update operations
- Mass record insertion (VSAM only)
- Automatic journaling and logging.

Deblocking services for BDAM data sets

CICS provides deblocking of logical records on a direct-access (BDAM) data set. This service is provided for both fixed-length and variable-length records. The data set must have been created according to standard operating system record-formatting conventions.

Concurrency control

Protection is provided against the concurrent updating (adding, deleting or changing) of a data set record by two or more transactions (or strictly speaking, two or more units of work; a transaction may optionally consist of a sequence of units of work). This protection is in most cases achieved using locking. If a second unit of work attempts to update a record which has been locked by another unit of work, the second unit of work is normally queued until the first releases its lock. If the lock has been converted into a retained lock (this is done if a syncpoint failure occurs) then the second unit of work gets an error response rather than being queued. An optimized alternative to locking is used to achieve concurrency control for coupling facility data tables. This is described in the section 'Concurrency control for coupling facility data tables'.

For a VSAM data set being accessed in non-RLS mode, CICS acquires locks (or enqueues) using the NQ domain that prevent the same record from being updated by more than one unit of work at a time. If the file is recoverable, then the lock is not released until syncpoint (that is, the end of the unit of work), otherwise it is released when the request thread completes. A request thread consists, for example, of a read update followed by a rewrite. In non-RLS mode, VSAM also provides a form of concurrency control known as **exclusive control**. The sphere of exclusive control is the control interval (CI), and this means that two different records cannot be concurrently updated if they are both within the same CI. Exclusive control is only maintained while a record is being updated, and is released as soon as the operation is complete.

For a VSAM data set being accessed in RLS mode, VSAM acquires locks at the record level to prevent the same record from being updated by more than one unit of work within the sysplex at a time. If the data set is recoverable, then the lock is not released until syncpoint, otherwise it is released when the request sequence completes. There is no CI locking with RLS mode.

For a recoverable BDAM file, CICS acquires locks using the NQ domain that prevent the same record from being updated by more than one unit of work at a time.

Concurrency control for coupling facility data tables

Concurrency control for coupling facility data tables is provided by using one of two update models provided by coupling facility data tables support (CFDT support).

The default is the locking update model, in which the CFDT server acquires locks at the record level to prevent the same record from being updated by more than one unit of work within the sysplex at a time. If the data set is recoverable, then the lock is not released until syncpoint, otherwise it is released when the request sequence completes.

The contention update model is an optimized alternative to using locking to achieve update integrity (concurrency control). With this model, which can be specified on a per-data table basis, no locks are acquired when a record is read for update, but if another unit of work subsequently changes or deletes this record, then the first unit of work will be informed that the record has changed (or been deleted) when it comes to rewrite or delete the record itself. The occurrence of such a contention is detected by the CFDT server, and the contention update model is only available for coupling facility data tables.

Sequential retrieval

A facility supported by CICS file control is the sequential retrieval of records from the database. This facility is known as browsing. To initiate a browse operation, the user provides either a specific or generic (partial) record reference (key) for the point at which sequential retrieval is to begin. Each subsequent get request by the user initiates retrieval of the next sequential record. The application, while in browse mode, can issue random get for update requests to a different data set, without interrupting the browse operation. For VSAM files accessed in RLS mode, the application can update the records that it is browsing. For VSAM files accessed in non-RLS mode, and BDAM files, in order to update a record of the same data set, the application must first terminate the browse operation. The same application can concurrently browse several different data sets and browse the same data set with multiple tasks.

With VSAM data sets, the application can skip forward during a browse operation to bypass unwanted data.

All types of CICS data tables (CICS-maintained, user-maintained and coupling facility) can be browsed.

Read Integrity

When a file is accessed in RLS mode, three levels of read integrity are supported:

- UNCOMMITTED read integrity is the same level of read integrity as is supported for non-RLS requests. With this level of read integrity, read requests can return data which has not yet been committed, and which might subsequently be backed out.
- CONSISTENT read integrity. With this level of read integrity, read requests are serialized with concurrent update activity for the record, so that a read request will wait until data which is being updated has been committed (or until the update has completed, for a non-recoverable data set). This means that read requests will always see commit-consistent data.
- REPEATABLE read integrity. With this level of read integrity, additional locking is used so that in addition to waiting for updates to be committed, records that have been read within a unit of work cannot be updated until the unit of work completes. This means that if a read is repeated within a unit of work, the same data will be returned.

Backout logging

File control will perform automatic logging of file operations which update recoverable files. This logging is written to the CICS system log stream. In the event of either a system or a transaction failure, the information can subsequently be used to restore the recoverable data set as though the current transaction had never run.

For coupling facility data tables, the CFDT server performs its own logging, and is responsible for backing out updates in the event of a failure.

Forward Recovery Logging

If a file (non-RLS VSAM) or data set (RLS or non-RLS VSAM) is defined to be forward recoverable, then CICS will perform automatic logging of file operations which update it. This logging is written to the forward recovery log stream specified on the file definition or data set. In the event of a failure, the information can be used to forward recover from a backup copy of the data set.

Forward recovery support is not provided for user-maintained data tables or coupling facility data tables.

Automatic journaling and logging

Except in the case of user-maintained data tables and coupling facility data tables, CICS provides optional automatic journaling and logging facilities for records that are updated, deleted from, or added to a file control data set. Automatic journaling is specified in the file control table, by the user, for each data set affected. For a specified data set, a record read for update, a new record added, or an existing record deleted is automatically written to the specified journal. To allow journaled records to be associated with the appropriate data set (instead of with the CICS file name), a special record is journaled showing the current data set allocation whenever it changes.

Use of concurrent tasks

The file control non-RLS VSAM interface program (DFHFCVR) uses a change-mode request to the dispatcher to allow VSAM I/O requests and VSAM UPAD exit code to run under a concurrent task. This provides overlapping of processing in a multiprocessor environment.

RLS requests use a different mechanism: SMSVSAM assigns each request its own SRB, allowing MVS to concurrently schedule requests in an analogous way to that provided by subtasking for non-RLS.

Shared Data table services

Shared data tables (that is, CICS-maintained and user-maintained data tables) are managed by a set of OCO modules, referred to in this book as "data table services". The services are invoked by a branch-and-link interface passing a parameter block.

Services provided include the following:
- Initialization
- Open, close, and load of tables
- Retrieval and update of table records
- Backout and commit of table changes
- Statistics.

For files that are defined by the user as CICS-maintained or user-maintained data tables, file control invokes these services at appropriate points in the processing of application requests.

Coupling facility data tables server

Coupling facility data tables are managed by OCO modules within the CICS address space, and in a separate address space that is known as the *Coupling Facility Data Tables server* (CFDT server). The CFDT server provides access to coupling facility data tables residing in a coupling facility data tables pool, so that they can be shared by CICS regions across a parallel sysplex. Refer to the *CICS System Definition Guide* for more details about CFDT servers.

For files that are defined by the user as accessing coupling facility data tables, file control makes calls to the CFDT server at appropriate points in the processing of application requests.

How CICS processes file control requests

CICS receives file control requests from applications through the EXEC interface. This section describes only the mainstream processing for such requests. It does not describe exceptional conditions. For guidance about exceptional conditions, see the *CICS Application Programming Guide*. For general-use programming interface information about exceptional conditions, see the *CICS Application Programming Reference*. This section also does not provide details about the specific processing for requests to any kind of data table.

Processing using VSAM

For VSAM data sets, this section describes the processing followed when the file is being accessed in non-RLS mode. For RLS mode, the processing is broadly similar, although it differs in some of the interfaces used to VSAM, and the locking mechanisms are very different.

Note: File control processing is constrained by the availability of buffers, CICS strings and (for local shared resource (LSR) files) LSR strings. Tasks can get suspended during the execution of any file control request if there are not enough strings or buffers available for the immediate processing that is to be done.

With VSAM RLS, a task waiting for buffers will be suspended in VSAM rather than in CICS.

Processing using Data Tables

For shared data tables (CICS-maintained and user-maintained data tables), processing is broadly similar to that for non-RLS VSAM. The main differences are that, for remote files, non-update requests may be processed locally instead of being function shipped, and that, in cases where a request cannot be satisfied from a data table, it may be converted into a non-RLS or RLS VSAM request to be processed by DFHFCVS or DFHFCRS, or function shipped via DFHFCDTX.

For coupling facility data tables, processing is also broadly similar to that for non-RLS VSAM. The main difference is that instead of issuing the request to VSAM, a call or calls are made to entry points within the CFDT server, which then processes the request and returns the results. A task accessing a coupling facility data table may occasionally be suspended in the CFDT server.

Note that the following processing sections do not describe data table processing explicitly.

General request processing

All file requests, whatever the request and whatever the file access method, follow the same general sequence of steps:

1. User exit XFCREQ is called.
2. The request is converted from EXEC parameter list form to FCFR interface form.
3. If this is the first file access request by the transaction, a FRAB is obtained and its address stored in Recovery Manager's FC Token. The FRAB provides the anchor for file request state for this transaction.
4. If this is the first request to this file by the transaction, a FLAB is obtained and the file control table entry is located. If the file is remote or an explicit SYSID has been specified on the request, the FLAB is marked with a remote indicator. If this is not the first request to the file, then the FLAB is located that repressents accesses made to the file by this transaction.
5. If this is the first, or only, request of a request sequence, a FRTE is obtained. If this is not the first request in a request sequence, the FRTE that represents the sequence is located. rather than being function shipped.
6. If the request is to a local file, and if resource security is active, the security check is made, unless a check has already been made within the current UOW for this file.
7. If the request is to a local file and the file is not already open, it is opened and its access method dependent attributes are saved in its file control table entry.

8. The SERVREQ attributes of the file are checked.
9. For READ and browse requests, SET storage is released and/or obtained, as necesssary.
10. The access method specific request processor is called as follows:
    - DFHFCVS for non-RLS VSAM files
    - DFHFCRS for RLS VSAM files
    - DFHFCBD for BDAM files
    - DFHFCDR for coupling facility data tables
    - DFHFCDTS for user-maintained data tables
    - DFHFCDTS for non-update requests to CICS maintained data tables
    - DFHFCVS for update requests to CICS maintained data tables
    - DFHFCRF for requests that are to be shipped to a remote region
11. CICS has checked whether the file is defined as local or remote. If it is remote, the request is function-shipped to the file-owning region, where CICS processes the request as if it had originated locally.

    There is an exception for CICS-maintained and user-maintained data tables, for which non-update requests are treated as local rather than being function shipped.

    Note that RLS support and coupling facility data tables support both provided shared access within a parallel sysplex without the use of function shipping. Files which use either of these types of sharing will be defined as local on all systems which want to share the data set (in the case of RLS support) or data table (CFDT support).
12. SET storage is obtained for BDAM files or below the line READ requests.
13. The FRTE is released if the request sequence has ended and the file is closed if a close is pending, this FRTE is the last user and the FLAB indicates that the file can be closed.
14. The FCFR responsed are converted to EXEC parameter list responses. In particular, the EIBRCODE and RESP2 values are constructed.
15. User exit XFCREQC is called.

READ request processing

The course of READ request processing depends on the access method, and whether or not the UPDATE option is specified on the request:

VSAM processing:

1. The supplied keylength is validated.
2. A VSAM work area (VSWA) is created. This includes the request parameter list (RPL) that will be passed to VSAM.

   The processing that follows depends on whether the UPDATE option was specified on the READ request.

   UPDATE option not specified:

   a. The RPL is completed, and a call made to VSAM to get the record.

   b. If the request specifies INTO and the record is too large for the user-specified area, the request is reissued specifying a work area large enough to hold the record. The record is then copied to the user-specified area in truncated form, and the LENGERR condition is raised.

   c. The VSWA is freed.

   d. The read is journaled if specified in the FCT entry.

UPDATE option specified:

a. The UPDATE flag is set in the RPL.
b. An attempt is made to read the record by issuing the VSAM request. READ UPDATE requires exclusive control of the control interval (CI) containing the record. VSAM manages the locking mechanism for control intervals. If the CI is already locked, VSAM returns an error and the requesting task is forced to wait on resource type FCXCWAIT.
c. CICS file control acquires a record lock on the record just read, using a CICS ENQUEUE request. The record lock prevents any other transaction from updating the record before the owning transaction has reached a syncpoint (for recoverable files), or before the REWRITE, DELETE, UNLOCK or syncpoint that completes the request sequence (non-recoverable files).
d. Exclusive control of the CI is retained until the REWRITE, DELETE, or UNLOCK request that follows the READ UPDATE has been completed, or until the next syncpoint.

   The CICS record lock (if any) is retained until the next syncpoint, in case the transaction updating the record abends and dynamic transaction backout processing is necessary.
e. If the file is recoverable the request is logged. If required, the request is also recorded in a user-specified journal.

BDAM processing:

a. A file I/O area (FIOA) is obtained.
b. If the UPDATE option has been specified:
   1) The address of the RIDFLD is saved in the FIOA.
   2) If the data set is recoverable, the RIDFLD is ENQUEUEd on to lock the record against other updates. The ENQUEUE is retained until the next syncpoint.
c. The KEYLENGTH is checked for validity.
d. The key field is converted from character string format (TTTTTTRR) to binary format (TTR), if necessary.
e. A BDAM READ request is issued. If the READ is successful, the required block is returned in the FIOA.
f. The key field returned by BDAM is converted from binary format to character string format, if necessary.
g. If the file is recoverable and UPDATE has been specified, the request is logged. If required, the request is also recorded in a user-specified journal.
h. If deblocking is required, the required record is located in the block that has been returned by BDAM:
   1) If DEBREC has been specified, the record number is used to locate the record.
   2) If DEBKEY has been specified, the embedded key is used to locate the record.

WRITE request processing

The course of WRITE request processing depends on the access method, and for VSAM access on whether the file is a data table: **VSAM processing:**

1. The KEYLENGTH is checked for validity. If it is incorrect, the INVREQ condition is raised.
2. A VSAM work area (VSWA) is created. This includes the request parameter list (RPL) that will be passed to VSAM.

Different paths are now followed depending on the type of file.

ESDS file:

a. If the file is recoverable or writes are to be journaled then
   1) If this is not the first write of a sequence and the ESDS write lock is being waited for by another transaction, then release the lock and end this sequence, logging the completion if recoverable.
   2) If this is (or has become) the first write of a sequence, acquire the ESDS write lock for the data set.
b. If the file is recoverable, the WRITE ADD request is recorded in the CICS system log.
c. If required, the WRITE ADD request is recorded in a user-specified journal.
d. Any fields in the RPL not supplied when the VSWA was created are completed.
e. The RPL is set to point to the user-specified data area. If the user specified a record that is too large for the file, the length in the RPL is set to the maximum length, so that the record is truncated.
f. A VSAM PUT request is issued to write the record.
g. If the file is recoverable, a CICS record lock is obtained for the record that has just been written. The record lock will be retained until the next syncpoint, in case the transaction writing the record abends and dynamic transaction backout processing has to be performed.
h. If the file is recoverable, the after-image of the record is logged for forward recovery and a write complete record is written on the system log.
i. If not a MASSINSERT the ESDS write lock is released, if held.

KSDS or RRDS file:

a. For KSDS requests, the RIDFLD key specified in the request is checked against the key field in the record to be written. (The record is currently in the application FROM data area.) If it does not match, the INVREQ condition is raised.
b. If the file is recoverable and not in load mode:
   1) A CICS lock is obtained on the record that is to be written, and an attempt is made to read the record (by means of a VSAM GET request) to discover whether it already exists in the file. If it does, the DUPREQ condition will be raised on the write to VSAM.
   2) If the file is a KSDS, and if this request is part of a MASSINSERT, or if a MASSINSERT is in progress, the read is issued with GTEQ to find the next record in the base data set. A lock is created, using the key of this next record, to prevent other transactions from inserting records into the empty range.
   3) If there is no existing record with the given key, the WRITE ADD request to VSAM is recorded in the CICS system log and, if required, in a user-specified journal.
c. If the file is not recoverable or in load mode, the WRITE request is recorded, if required, in the user-specified journal, and if recoverable a record lock is obtained and the write logged.
d. Any fields in the RPL not supplied when the VSWA was created are completed.
e. If a data table is associated with the base cluster (the data table will be a CICS-maintained table, as user-maintained and coupling facility data tables follow a separate processing path which is not described here). a data table

pre-add is issued to place the record in the table as a not-yet-valid entry. If the file is recoverable, a record lock is already held; if not, a lock is acquired before the data table service is called.

f. A VSAM request is issued to write the record.

g. If the file is recoverable, the after-image of the record is logged for forward recovery.

h. If required, the after-image is recorded in a user-specified journal.

i. If the file is a data table, a data table request is issued to complete the add to the data table by validating the record. If a record lock was obtained for a non-recoverable file, it is released.

3. If the MASSINSERT option has *not* been specified on the WRITE request, the VSWA for the operation is released.

   If MASSINSERT has been specified, the VSWA is not released, because it is likely to be needed for subsequent WRITE operations. In this case, the end of MASSINSERT processing is notified to VSAM by the CICS UNLOCK function. (See "UNLOCK request processing" on page 190.)

   Specifying MASSINSERT causes exclusive control of the CI to be acquired. Exclusive control is released by issuing an UNLOCK request. To avoid deadlocks, this should be done immediately after the last WRITE MASSINSERT request.

BDAM processing:

1. The KEYLENGTH is checked for validity. If it is incorrect, the INVREQ condition is raised.
2. The WRITE command input is checked to ensure that MASSINSERT has not been specified—BDAM does not support MASSINSERT processing. If it has, condition INVREQ is raised.
3. A file I/O area (FIOA) is obtained.
4. If the file is recoverable, the record to be written is ENQUEUEd on. The lock is retained until the next syncpoint.
5. The record to be written is copied from the user-supplied data area to the FIOA. If the record is too large, it is truncated.
6. If the file is recoverable, the request is logged. If required, the request is also recorded in a user-specified journal.
7. The key field is converted from character string format to binary format, if necessary, and the BDAM I/O request issued.
8. The key returned by BDAM is converted from binary format to character string format, if necessary, and passed to the application.
9. A supervisor call (SVC 53) is issued to release BDAM exclusive control, if necessary.
10. The FIOA is FREEMAINed.

REWRITE request processing

The REWRITE request is used to write a record back to a file following a READ UPDATE request. **VSAM processing:**

1. The RPL is set to point to the user-specified data area. If the user specified a record that is too large for the file, the length in the RPL is set to the maximum length, so that the record is truncated.
2. The RPL is completed.
3. If there is a data table associated with the base cluster (this will be a CICS-maintained table, as user-maintained tables follow data table processing):

   a. If the file is nonrecoverable, a record lock is obtained. (If the file is recoverable, a lock is already held).
   b. A data table request is issued to invalidate the record in the table before the VSAM update.
4. VSAM is called to PUT(UPDATE) the record. Exclusive control of the CI, which was obtained for the preceding READ UPDATE request, is released, but the CICS record lock (for recoverable files) is retained until the next syncpoint, in case the transaction abends and dynamic transaction backout processing is necessary.
5. If there is a data table associated with the data set, the table record is updated and its validity is reinstated, by issuing a call to data table services. If the file is nonrecoverable, the record lock is released.
6. If the file is recoverable, and if the record is successfully rewritten, the after-image is written to the log for forward recovery.
7. The VSWA for the operation is released.

   Note: When a record is updated by way of a path, the corresponding alternate index is updated by VSAM to reflect the change. However, if the record is updated directly by way of the base, or by a different path, the AIX® will only be updated by VSAM if it has been defined to VSAM (when created) to belong to the **upgrade set** of the base data set.

BDAM processing:

1. The FIOA that was used in the corresponding READ UPDATE request is located, and the modified record read into it from the user-specified area. If the record is too long, it is truncated.
2. A FREEMAIN call is issued to release the FWA.
3. If the file is recoverable, the request is logged. If required, the request is also recorded in a user-specified journal.
4. The key field is converted from character string format to binary format, if necessary, and the BDAM I/O request issued.
5. The key returned by BDAM is converted from binary format to character string format, if necessary, and passed to the application.
6. A supervisor call (SVC 53) is issued to release BDAM exclusive control, if necessary.
7. A FREEMAIN call is issued to release the FIOA.

UNLOCK request processing

The UNLOCK request is used to release exclusive control obtained during a READ UPDATE (VSAM or BDAM) or WRITE MASSINSERT (VSAM only) request.

VSAM processing (including CICS-maintained data tables):

1. The VSWA for the operation is released, together with associated storage.
2. An ENDREQ request is sent to VSAM. This releases exclusive control of the CI, if it is held, and frees any VSAM strings.

BDAM processing:

1. A supervisor call (SVC 53) is issued to release BDAM exclusive control, if necessary.
2. A FREEMAIN call is issued to release the FIOA.

DELETE request processing

The course of DELETE request processing depends on whether a RIDFLD has been specified. The processing for user-maintained data tables differs from that for CICS-maintained data tables. DELETE requests are not valid for VSAM ESDS or for BDAM files.

VSAM processing (including CICS-maintained data tables):

1. If a RIDFLD has been specified:
   a. If a KEYLENGTH has been specified, it is checked for validity.
   b. If the GENERIC option has been specified, and the file is *not* a KSDS, condition INVREQ is raised.
   c. A VSWA is created.
2. If no RIDFLD was specified, the SERVREQ attribute of the file is checked to ensure that DELETE requests are valid for this file. If not, the INVREQ condition is raised.

   If a RIDFLD has been specified, the cycle of actions described below is performed once if GENERIC has not been specified, or is repeated until there are no more records containing the generic key, if GENERIC has been specified.

   Start of cycle:
3. VSAM is requested to GET for UPDATE a record with the specific or generic key. GET UPDATE processing requires exclusive control of the CI. The record is read into an internal buffer.

   The generic key value, if supplied, is checked against the key contained in the record. If it does not match, there are no more records containing the generic key in the file.
4. If the file is recoverable:
   a. A CICS record lock is obtained for the record. This will be held until the next syncpoint.
   b. The VSAM GET UPDATE request is recorded synchronously on the system log.
   c. A CICS range lock is obtained for the record to be deleted if a MASSINSERT is in progress. This is to prevent an end-of-range record from being deleted while the range is in use for a MASSINSERT sequence.
5. If there is a data table (which will be CICS-maintained) associated with the base cluster, a record lock is acquired if the file is nonrecoverable, and a data table pre-update call is issued to invalidate the record before the VSAM update.
6. A VSAM ERASE request is issued, to delete the record from the file.
7. If there is a data table associated with the base cluster, the record is deleted from the table by issuing a call to data table services. If the file is nonrecoverable, the record lock is released.
8. If a range lock was acquired, it is released.
9. If the file is recoverable, a WRITE DELETE record is written in the system log for forward recovery.
10. If required, a WRITE DELETE record is written to a user-specified journal.

    End of cycle.
11. The VSWA is released.

STARTBR and RESETBR request processing

STARTBR and RESETBR request processing are very similar, and are described together.

VSAM processing:

1. A VSWA is created if STARTBR.
2. The user key is recorded in the VSWA for use in subsequent BROWSE processing.
3. A call is made to VSAM to point to the record, and to acquire shared control of the CI.

BDAM processing:

1. An FIOA is obtained and initialized if STARTBR.
2. The initial key is saved in the FIOA, converting the key from character string format to binary format if necessary.
3. If deblocking is required, the deblocking indicator (DEBREC or DEBKEY) is saved in the FIOA.

READNEXT and READPREV request processing

READNEXT and READPREV request processing are very similar, and are described together.

VSAM processing:

1. A check is made that READPREV with a generic key was not requested. If it was, condition INVREQ is raised.
2. If KEYLENGTH was specified, it is checked for validity. If it is incorrect, the INVREQ condition is raised.
3. The RPL options are set.
4. If SET is specified, an internal work area is obtained and the RPL is set to point to the work area. The area is either above or below the 16MB line, depending on the requirements of the application.
5. If INTO is specified, the RPL is set to point to the user-specified area.
6. A VSAM request is issued to read the record. Shared control of the CI is needed, and the request will not succeed if some other task already has exclusive control. In such a case, a call is made to VSAM to reestablish the correct position in the file. The task then waits until VSAM informs CICS that the CI is available to the task. CICS resumes the task, which can now acquire shared control and obtain the required record.
7. If SET is specified, the SET pointer points to the work area.
8. If INTO is specified, a check is made to see if the record is too large to fit into the user-specified area. If it is too large, the request is reissued using an internal work area, the data is copied from the work area into the user-specified area and truncated, and the LENGERR condition is raised.
9. If required, the request is recorded in a user-specified journal.

BDAM processing—READNEXT requests:

1. A check is made that READPREV was not issued. If it was, condition INVREQ is raised.
2. The FIOA that was created on STARTBR is located.
3. If a new block is required, a BDAM I/O request is issued to get it.
4. If deblocking is required, the required record is located in the block that has been returned by BDAM:

    a. If DEBREC has been specified, the record number is used to locate the record.
    b. If DEBKEY has been specified, the embedded key is used to locate the record.
5. If INTO is specified, the record or block is moved from the FIOA to the user-specified area. If the record is longer than the user-specified area, it is truncated, and the LENGERR condition is raised.
6. If SET is specified, the SET pointer points to the record in the FIOA.
7. The RIDFLD of the record is returned to the application.
8. The current browse position is recorded in the FIOA.

ENDBR request processing

The ENDBR request is used to end a browse session on a file. To avoid deadlocks, ENDBR must be issued when the browse session is complete.

VSAM processing:

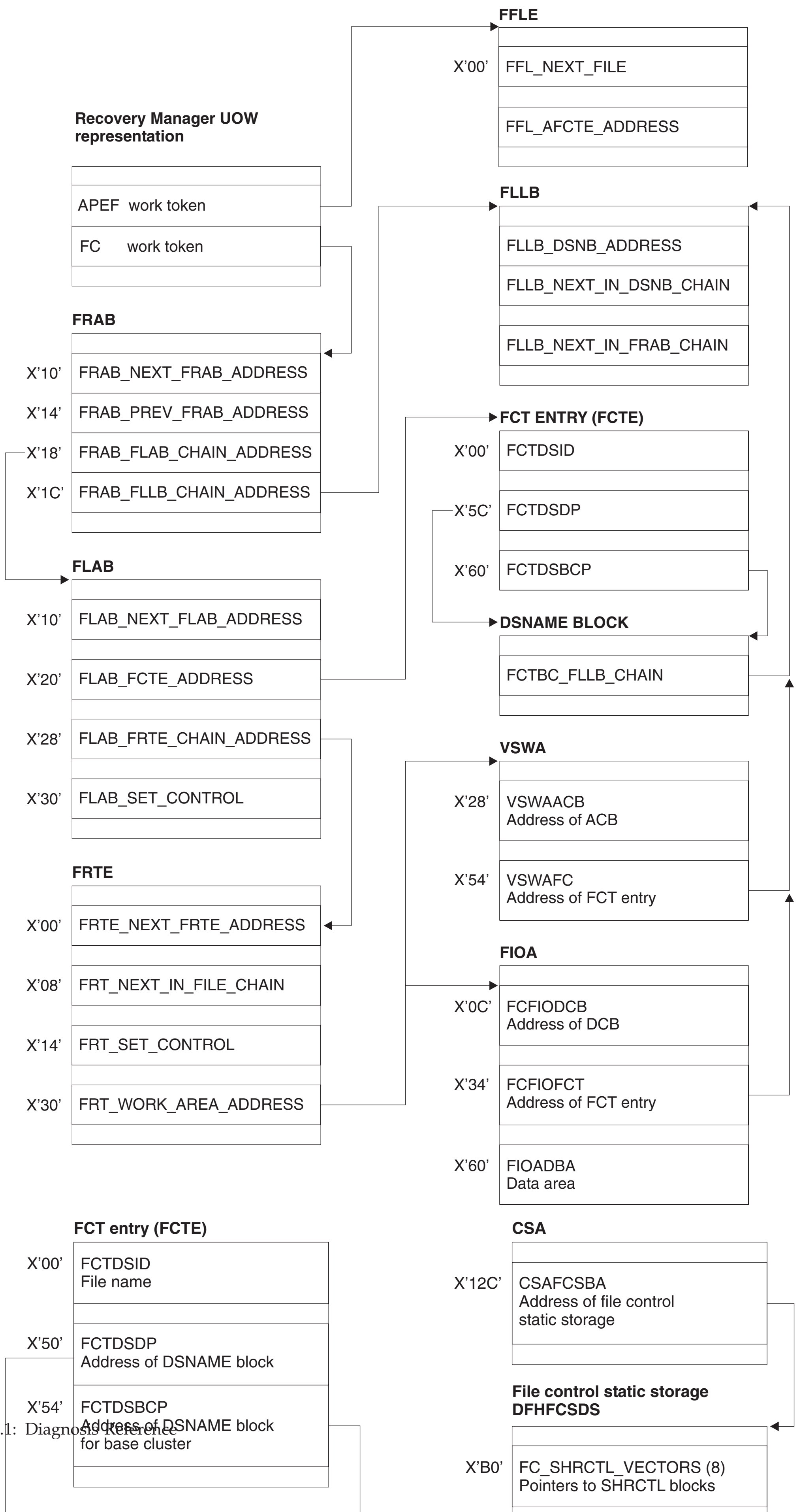
1. An ENDREQ request is sent to VSAM. This frees any VSAM strings that are held, and relinquishes shared control of the CI.
2. The VSWA for the operation is released.

BDAM processing:

- The FIOA that was used for the browse session is FREEMAINed.

Control blocks

Figure 49 on page 194 shows the major control blocks associated with file control. Control blocks which are not shown in this diagram include those relating to coupling facility data tables support.


FFLE
X'00' FFL_NEXT_FILE
FFL_AFCTE_ADDRESS
Recovery Manager UOW representation
APEF work token
FC work token
FLLB
FLLB_DSNB_ADDRESS
FLLB_NEXT_IN_DSNB_CHAIN
FLLB_NEXT_IN_FRAB_CHAIN
FRAB
X'10' FRAB_NEXT_FRAB_ADDRESS
X'14' FRAB_PREV_FRAB_ADDRESS
X'18' FRAB_FLAB_CHAIN_ADDRESS
X'1C' FRAB_FLLB_CHAIN_ADDRESS
FCT ENTRY (FCTE)
X'00' FCTDSID
X'5C' FCTDSDP
X'60' FCTDSBCP
FLAB
X'10' FLAB_NEXT_FLAB_ADDRESS
DSNAME BLOCK
X'20' FLAB_FCTE_ADDRESS
FCTBC_FLLB_CHAIN
X'28' FLAB_FRTE_CHAIN_ADDRESS
VSWA
X'30' FLAB_SET_CONTROL
X'28' VSWAACB Address of ACB
FRTE
X'54' VSWAFC Address of FCT entry
X'00' FRTE_NEXT_FRTE_ADDRESS
FIOA
X'08' FRT_NEXT_IN_FILE_CHAIN
X'0C' FCFIODCB Address of DCB
X'14' FRT_SET_CONTROL
X'34' FCFIOFCT Address of FCT entry
X'30' FRT_WORK_AREA_ADDRESS
X'60' FIOADBA Data area
FCT entry (FCTE)
CSA
X'00' FCTDSID File name
X'12C' CSAFCSBA Address of file control static storage
X'50' FCTDSDP Address of DSNAME block
X'54' FCTDSBCP Address of DSNAME block for base cluster
File control static storage DFHFCSDS
X'B0' FC_SHRCTL_VECTORS (8) Pointers to SHRCTL blocks

Note: The pointer to the DSNAME block, FCTDSDP, is different from the pointer to the base cluster DSNAME block, FCTDSBCP, only when the FCT entry does not represent a base. DSNAME blocks that do not correspond to bases do not have the base cluster information, although the space is allocated.

These control blocks are described in “Access method control block (ACB)” through “VSAM work area (VSWA)” on page 204.

Access method control block (ACB)

The ACB identifies to VSAM the file associated with this VSAM request. It is passed to VSAM by DFHFCRV, for RLS, or DFHFCVR, for non-RLS (it is the RPL, which points to the ACB, that is passed) to initiate a VSAM request. The ACB lasts as long as the associated CICS file is open; that is, it is created at file open time and deleted at file close time by DFHFCN for non-RLS or DFHFCRO for RLS.

The ACB is addressable through a pointer in the associated FCT entry. In addition, a 4-byte field appended (by CICS) to the ACB structure points back to this FCTE.

Note that the ACB is a VSAM control block.

At open time, storage is obtained from a subpool above the 16MB line. A VSAM GENCB macro is issued to generate the ACB with attributes obtained from the FCT entry. At open time, VSAM fills in more information in the ACB. Some of this is subsequently copied back into the FCTE.

The storage for the ACB is freed when the file is closed.

There is one ACB per VSAM FCT entry.

The layout of the ACB is defined by the VSAM IFGACB structure, and also by a DSECT of the same name.

ACBs are not cataloged and are not restored across WARM or emergency starts. The ACB is rebuilt every time a CICS file is opened.

A special type of ACB, known as a base cluster ACB, is created by DFHFCM to allow for the implicit opening of a base cluster, when required by a non-RLS file access through an alternate index path. In this case, the 4-byte field appended to the ACB structure points to the associated DSNAME block for the base cluster.

A second special type of ACB, known as a **control ACB** is required for VSAM RLS processing. Storage for the control ACB is obtained by DFHFCCA and filled in using the GENCB macro before registering the control ACB. The storage is freed when the control ACB is unregistered by DFHFCCA. The control ACB is passed to VSAM on calls issued by DFHFCCA. It is used for all requests that are not associated with a specific file.

Data control block (DCB)

The DCB identifies to BDAM the file associated with this BDAM request. It is passed to BDAM by DFHFCBD to initiate a BDAM request, and lasts for the lifetime of the CICS run.

The DCB is addressable through a pointer in the associated FCT entry. In addition, a 4-byte field appended (by CICS) to the DCB structure points back to this FCTE.

Note that the DCB is a BDAM control block.

There is one DCB per BDAM FCT entry.

The layout of the DCB is defined by the generalized structure IHADCB. The structure is qualified with a parameter stating that a BDAM DCB is required. There is also a DSECT of the same name.

The DCB is assembled as part of the FCT. (Note that there is no RDO for BDAM files.) DFHFCRP acquires storage for the DCB below the 16MB line and copies the DCB into it (only on cold start). The DCB is cataloged and restored across a warm and emergency start. Thus, unlike an ACB, a DCB is only built once.

Data set name block (DSNB)

The DSNB represents a physical VSAM or BDAM data set that is being accessed through one or more CICS files. It is used by file control to hold information relevant to the data set and not only to the CICS file. Also, it provides a single "anchor block" to control many requests accessing this data set through many different CICS files.

After it has been created, a DSNB survives the lifetime of a CICS run unless the user deletes it by means of an EXEC CICS SET DSNAME REMOVE command or its CEMT equivalent.

The DSNB is addressable through pointers in an FCTE entry, or through DFHTMP using the 44-character name as a key, or using the DSNB number as a key.

A DSNB is created, if it does not exist already, when an FCTE attempts to connect itself to a DSNB. This happens at file open time, or when an EXEC CICS SET FILE DSNAME command (or its CEMT equivalent) is executed.

A DSNB that represents a VSAM base data set has a **base cluster block** embedded in it, which has information specific to the base data set. Note that a BDAM data set has a small amount of information held in the base cluster block.

A DSNB representing a VSAM path has a blank base cluster block embedded in it.

Information about the base data set is obtained from the VSAM catalog when a CICS file (path or base) referencing that data set is opened. The information is stored in the base cluster block.

DSNBs are cataloged in the CICS global catalog and are restored across warm and emergency starts.

DSNBs reside above the 16MB line.

The layout of the DSNB is defined by the DFHDSNPS structure, and by the DFHDSNDS DSECT (using the DFHDSND macro).

The DFHFCDN module handles DSNAME blocks (creation, deletion, FCTE-DSNB connections). DFHFCDN also provides an interface for the EXEC layer to process DSNAME blocks through the use of EXEC CICS INQUIRE or SET DSNAME, and CEMT INQUIRE or SET DSNAME. Modules within the file control component can access the DSNBs directly through pointers in the FCTE.

File browse work area (FBWA)

The FBWA maintains the state of a browse to a data table. It is used for browsing coupling facility data tables, CICS-maintained data tables, and user-maintained data tables.

An FBWA is created when the browse is started (via a STARTBR request), and is addressed by the FRT_FBWA_ADDRESS field in the FRTE. It is stored in a file control IO buffer of the appropriate size to hold the key information.

Some of the fields are specific to CICS-maintained data tables, because the source data set will sometimes be accessed during a browse of a CICS-maintained data table.

There is a variable-length portion at the end of the FBWA which contains keys, which are pointed to by fields in the fixed hang on!

part:

- CURRENT_KEY points to the first of the key fields, which is used to hold the key returned by the most recent request.
- REQUEST_KEY points to the second of the key fields, which is used to contain the key specified at the start of a browse segment (STARTBR or RESETBR).
- NEXT_KEY points to the third of the key fields, which is used for CICS-maintained data tables to handle "gaps".

File control static storage (FC static)

File control static storage is used by file control to store information for use throughout the lifetime of a CICS run; for example, SHRCTL vectors and entry points of file control modules. It is used by file control modules and by modules outside the file control component, and lasts for the lifetime of a CICS run. It is addressed by a field in the CSA named CSAFCSBA; it is created by DFHFCIN during CICS initialization before DFHFCRP gets control, and resides above the 16MB line.

FC static storage is defined by the DFHFCSPS structure and by the DFHFCSDS DSECT.

File control quiesce receive element (FCQRE)

File control uses quiesce receive elements to communicate details of quiesce requests received from SMSVSAM. There is also a permanent error FCQRE used for communicating errors. The FCQRE contains information about the data set to which the quiesce applies (or the cache for quiesce type QUICA), the type of quiesce, and (for the error FCQRE) the type of error and error data.

Each quiesce request received from SMSVSAM via the quiesce exit results in DFHFCQX, the quiesce exit module, creating an FCQRE which is passed to DFHFCQR, the quiesce receive system task module.

Storage for FCQREs is obtained from storage MVS getmained above the 16MB line.

FCQREs are chained in a one-way linked list anchored from file control static storage. The permanent error FCQRE is also anchored from file control static storage, and is added to the FCQRE chain when an error occurs.

The layout of the FCQRE is defined by the DFHFCQRE structure and the DFHFCQRE DSECT.

File control quiesce send element (FCQSE)

File control uses quiesce send elements to communicate the details of quiesce requests that are to be sent to SMSVSAM. They contain information about the task initiating the request, the data set to be quiesced, the type of quiesce requested, and the address of an ECB which is posted by SMSVSAM when the request is completed.

Each quiesce request initiated by CICS results in DFHFCQI, the quiesce initiate module, creating an FCQSE which is passed to DFHFCQS, the quiesce send module.

Storage for FCQSEs is obtained from the FC_ABOVE subpool, which resides above the 16MB line.

FCQSEs are chained in a two-way linked list anchored from fields in file control static storage.

The layout of the FCQSE is defined by the DFHFCQSE structure and the DFHFCQSE DSECT.

File control coupling facility data table pool element (FCPE)

A file control CFDT pool element represents one connection to a Coupling Facility Data Table Pool. For each CFDT pool which can be accessed by a given MVS image, there is a CFDT server running in that image which manages access to the pool.

An FCPE is created and chained to FC static when a file definition that refers to the pool is installed and there is not already a pool element for that CFDT pool. The creation of an FCPE can occur:
- when files are installed at CICS startup,
- when files are installed using CEDA,
- when a SET FILE is issued which names a CFDT pool for which there is not already a pool element.

FCPEs are getmained from the FCPE subpool which is created by DFHFCRP during File Control Initialization, and chained to the FCPE chain in FC static. The head of the FCPE chain is the field FC_FCPE_CHAIN.

FCPEs are catalogued when they are created, so that they can be restored at emergency restart.

File control coupling facility data table pool wait element (FCPW)

The file control CFDT pool wait element (FCPW) represents a task which has tried to issue a request to a coupling facility data table that resides in a particular pool, but which has to wait because there are no available request slots. Depending on the kind of request, the FCPW will represent either a 'Locking request slot' (LRS) waiter or a 'MaxReqs' waiter. A flag in the FCPW indicates what kind of wait it is.

The FCPW is created when a task goes into a MaxReqs or LRS wait. It is getmained from the pool wait element subpool, and appended to a chain of wait elements for the pool. The wait chains are anchored in the pool element (FCPE), with one FCPW for each task that is waiting. The FCPE contains head and tail fields for the chains of LRS and MaxReqs FCPWs (FCPE_FIRST_LRS_WAITER, FCPE_LAST_LRS_WAITER, FCPE_FIRST_WAITER and FCPE_LAST_WAITER). The chains are manipulated using logic which does not require any special case code for the ends of the chains, but which does mean that when the chains are empty, the head and tail fields contain a special initial value, rather than zero.

The FCPW includes:
- A pointer to the next FCPW in the chain (if no next FCPW, this contains the special initial value).
- A pointer to previous FCPW in the chain (if no previous FCPW, this contains the special initial value).
- The suspend token for the wait.
- The task token of the waiting task.
- The suspend start time.

File control table entry (FCTE)

Each entry in the file control table defines a CICS file that is defined to be the CICS view of a VSAM or BDAM data set or a data table. The FCTE is used by all modules in the file control component (but never outside), and lasts for the lifetime of a CICS run, or from when it is created by RDO to the end of the CICS run.

The FCTE contains information that can be split into three broad groups:
- CICS information about the file, including statistics
- Information that is used as input to build the VSAM ACB or BDAM DCB
- Information that is returned by VSAM, both from the ACB and direct from the VSAM catalog, when the file is opened.

An FCTE can be created in two ways:
- By defining the file using the DFHFCT TYPE=FILE macro (BDAM only).
- By defining the file online using RDO while CICS is running (VSAM only).

File control table entry (FCPW)

File control coupling facility data tables UOW pool block (FCUP)

The File Control CFDT UOW Pool Block (FCUP) represents recoverable updates made within a unit of work to one or more coupling facility data tables residing in a coupling facility data table pool. An FCUP block is created when a unit of work makes its first recoverable request to a CFDT in a given pool, at the same time as an RMC link is added to represent the recoverable update.

There is one FCUP block per UOW per recoverably-updated CFDT pool. The FCUP is getmained and freemained from the FCUP subpool using the storage manager quickcell mechanism. The FCUP blocks for a unit of work are chained from the FRAB for that unit of work, addressed by FRAB_FCUP_CHAIN_ADDRESS.

An FCUP block contains:
- Forward and back pointers for the chain of FCUP blocks relating to this unit of work.
- The name of the CFDT pool.

- The CFDT RMC link token.
- A pointer to the pool element for the CFDT pool.
- A pointer back to the owning FRAB.

File input/output area (FIOA)

The FIOA is analogous to the VSWA for VSAM, in that it represents the request to BDAM. Embedded in the FIOA is what is known as the data event control block (DECB), which is passed to BDAM to initiate the request.

The FIOA is used by DFHFCBD when processing browse requests against BDAM files. It holds position in a browse when browsing a BDAM file.

An FIOA survives as long as the DECB needs to survive to complete the BDAM request; for example, it survives from READ UPDATE to the REWRITE request.

The address of the FIOA is held in the file request thread element (FRTE) in the FRT_WORK_AREA_ADDRESS field.

Storage for the FIOA is acquired from below the 16MB line.

The layout of the FIOA is defined by the DFHFIOA DSECT.

File lasting access block (FLAB)

The FLAB serves as an anchor for the set of file request thread elements (FRTEs) belonging to a particular file within a given transaction and a given environment. If a transaction accesses several files from within the same environment, there will be one FLAB for each file. If a transaction accesses the same file from more than one environment, there will be one FLAB for each environment.

The FLAB contains pointers to the FCTE for the file, to the owning FRAB, to the chain of FRTEs owned by the FLAB, and to the next FLAB in the chain of FLABs for the unit of work.

The FLAB is used by file control to

- anchor the FRTEs for the file within the unit of work and environment,
- ensure that a file cannot be closed if there are any FRTEs associated with it, or if there have been recoverable updates made by units of work which have not yet reached syncpoint phase 2,
- ensure that the corresponding file entry cannot be reallocated to a different data set, even if the file is closed and disabled, when there is uncommitted recoverable work associated with the file,
- hold READ SET storage control information across intermediate syncpoints,
- ensure that units of work which have updated the file reach syncpoint before a copy or BWO copy for a file opened in RLS mode is allowed to proceed,
- record the reason for a failure during syncpoint, and keep track of the fact that the file has uncommitted updates within a unit of work as a result of the failure.

The file lasting access block is built by DFHFCFR as part of processing of the first file control request for a particular file within a given transaction and environment. FLABs for recoverable files are also rebuilt by DFHFCIR at warm and emergency restart.

The storage for the FLAB is obtained from a FLAB storage subpool above the 16MB line.

The FLAB is deleted after all the FRTEs have been processed during syncpoint terminate processing, providing that there have been no syncpoint failures for the file within the unit of work. The FLAB storage is not returned to the FLAB storage subpool, but is instead added to a chain of free FLABs, anchored from file control static storage. Subsequent requests to build a FLAB are, if possible, satisfied by a quick cell mechanism from this chain.

If a unit of work is shunted as a result of a syncpoint failure, the FLABs for any files which suffered the syncpoint failure are also shunted.

The chain of FLABs for a unit of work is anchored from field FRAB_FLAB_CHAIN_ADDRESS in the FLAB.

The layout of the FLAB is defined by the DFHFLAB structure and the DFHFLAB DSECT.

File control locks locator blocks (FLLBs)

The file control locks locator block records the fact that a unit of work held locks against a file which were protecting uncommitted changes to the file, and that it is now uncertain whether the locks are valid. This can occur, for example, if the data set against which the locks were held is now in the lost locks state, or if a non-RLS open for update has taken place despite the presence of retained locks and has overridden the locks (in this case the locks are intact, but the data may not be). It is used by file control to keep track of outstanding recovery work, because whilst the data set still has FLLBs associated with it, special processing rules apply (the actual rules vary with the type of lock condition that has occurred).

FLLBs are created by DFHFCRR (for the lost locks condition, or for an OFFSITE=YES CICS restart), or by DFHFCRO (after a file open which has returned the 'non-RLS override' reason code).

FLLBs are chained from both the associated DSNB and the associated FRAB. There is one FLLB per file that held locks per unit of work. Since the FLLB records information about a data set and a unit of work, it contains the DSNB address and the local unit of work ID. It also contains an indicator of the type of lock failure condition that it represents.

FLLBs are getmained from an FLLB subpool above the 16MB line.

File control locks locator blocks are freemained by DFHFCRC at commit time when there are no longer any retained FLABs for the file.

The layout of the FLLB is defined by the DFHFLLB structure and the DFHFLLB DSECT.

File request anchor block (FRAB)

The file request anchor block serves as an anchor for the set of file lasting access blocks (FLABs) belonging to a particular transaction. The file request thread elements (FRTEs) are chained from the FLABs. The FRAB identifies the transaction to which a given file control request belongs.

The FRAB contains pointers to: the next FRAB in the chain from the FC static, the chain of FLABs for this transaction, the chain of FLLBs for the transaction, and any VSWA that has suffered exclusive control conflict for the transaction. The FRAB also contains some indicators related to recovery, such as whether or not the transaction holds RLS locks, whether the unit of work has been through phase 2 of syncpoint, and whether the unit of work has ever been shunted. There is also some information related to RLS access, including the local unit of work id, a timeout value to be specified on RLS requests, and some problem determination information returned by VSAM RLS when deadlocks occur.

The FRAB is built by DFHFCFR as part of processing of the first File Control request in a transaction. The storage for the FRAB is obtained from a FRAB storage subpool above the 16MB line. The address of the FRAB is then used as the Recovery Manager token associated with the client name ‘FC’. FRABs are rebuilt by DFHFCIR at warm or emergency restart, for units of work which had not completed when CICS terminated. A FRAB is also built if a failure occurs during phase 2 of an intermediate syncpoint. The original FRAB for the transaction is shunted along with the failed parts of the unit of work, and the newly built FRAB is passed on to the next unit of work in the transaction.

If a unit of work is shunted, the FRAB is shunted with it, unless there was no recoverable file control work in the unit of work.

The FRAB is deleted after all the FLABs have been processed during syncpoint at transaction termination. At the same time, the Recovery Manager token is set to zero. At this point, the FRAB storage is not returned to the FRAB storage subpool, but is instead added to a chain of free FRABs, anchored from file control static storage. Subsequent requests to build a FRAB are, if possible, satisfied by a quick cell mechanism from this chain.

Issuing an INQUIRE_WORK_TOKEN call to the recovery manager with client name ‘FC’ returns the address of the file request anchor block for a transaction. There is a chain of all the FRABs in a CICS system, anchored from field FC_FRAB_CHAIN in file control static storage.

The layout of the FRAB is defined by the DFHFRAB structure and the DFHFRAB DSECT.

File request thread elements (FRTEs)

FRTEs are used by file control to:

- Represent active file control requests
- Link related requests together as a file thread, for example, the request sequence STARTBR, READNEXT, ..., ENDBR, or READ UPDATE, REWRITE
- Anchor SET storage used for READ SET UPDATE requests and browse requests with the set option, the lifetime of which is that of the request thread.

FRTEs are created by the main file control module, DFHFCFR, and are freed ***either*** by DFHFCFR at the end of a request or thread of requests ***or*** by the file control recovery control program, DFHFCRC, at syncpoint if this occurs before a thread of requests has completed.

FRTEs for a particular file within a particular task and environment are chained together, and anchored from the FLAB for that file, task and environment.

Storage for FRTEs is acquired from above the 16MB line.

The layout of FRTEs is defined by the DFHFRTE structure and by the DFHFRTE DSECT.

Keypoint list element (KPLE)

The keypoint list forms part of file control's implementation of backup while open (BWO) copy for data sets accessed in non-RLS mode. One KPLE exists for each keypoint and records the start and end times at which tie up records are written.

The KPLE chain is anchored from FC_KPLE_CHAIN in file control static storage.

The keypoint list elements are created, processed and deleted (when they become redundant) by DFHFCRC following RMKP take keypoint calls from the recovery manager. These calls are made whenever a CICS keypoint is taken. KPLEs are getmained from above the 16MB line.

The layout of the KPLE is defined by the KPLE structure.

Shared resources control (SHRCTL) block

The SHRCTL block represents the CICS region's requirements of, and the use made of, a local shared resources pool (LSRPOOL). It is used by DFHFCL when calling VSAM to build an LSRPOOL. It is also used by DFHFCL and statistics programs to hold and update file control statistics.

It lasts for the lifetime of a CICS run, and is addressable through a pointer in file control static storage. There are eight pointers collectively named the SHRCTL vector.

A SHRCTL block holds information such as how many virtual and hyperspace buffers of a particular size are needed, how many strings are needed, the maximum key length allowed. CICS passes this information to VSAM when the pool is built. It also holds statistics about the pool which are sent to the statistics domain when requested or when the pool is deleted.

Each SHRCTL block represents one LSRPOOL, and there are eight SHRCTL blocks. The layout of each SHRCTL block is defined by the DFHFCTLS structure and by the DFHFCTSR DSECT, and they reside above the 16MB line.

On a CICS cold start, DFHFCRP performs the following:
- Unconditionally builds eight SHRCTL blocks above the 16MB line from a SHRCTL block subpool
- Fills in default settings in the block, or inserts user-specified information
- Catalogs each SHRCTL block in the CICS global catalog.

On a CICS warm or emergency start:
- DFHFCRP restores all eight SHRCTL blocks from the global catalog.

The contents of a SHRCTL block are decided in one of three ways:
- User defines the contents in the FCT by means of the DFHFCT TYPE=SHRCTL,LSRPOOL=n macro call. This assembled information is used by DFHFCRP on a COLD start only (as per FCT entries).
- User defines the contents online through a **CEDA DEFINE LSRPOOL** command.
- If neither of the above two methods is used, DFHFCL calculates the contents before calling VSAM to build the LSRPOOL.

VSAM work area (VSWA)

The VSWA represents a VSAM request to CICS. Embedded in the VSWA is the request parameter list (RPL) which is passed to VSAM to perform the request. In addition to the RPL, the VSWA contains other CICS information related to the request.

The VSWA is used by DFHFCVS and DFHFCRS when processing VSAM files.

A VSWA survives as long as the RPL needs to survive to complete the VSAM request; for example, it survives from READ UPDATE to the REWRITE request.

The address of the VSWA is held in the file request thread element (FRTE) in the FRT_WORK_AREA_ADDRESS field.

Storage for the VSWA is acquired from above the 16MB line.

The layout of the VSWA is defined by the DFHVSWAS structure and by the DFHVSWA DSECT.

Modules

This section describes the file control modules. Unless otherwise stated, addressing mode and residency mode are AMODE 31 and RMODE ANY respectively.

There are also a number of modules which make up the coupling facility data tables server. These all have names of the form DFHCFxx.

Figure 50 on page 205 shows the main file control modules and their interfaces.

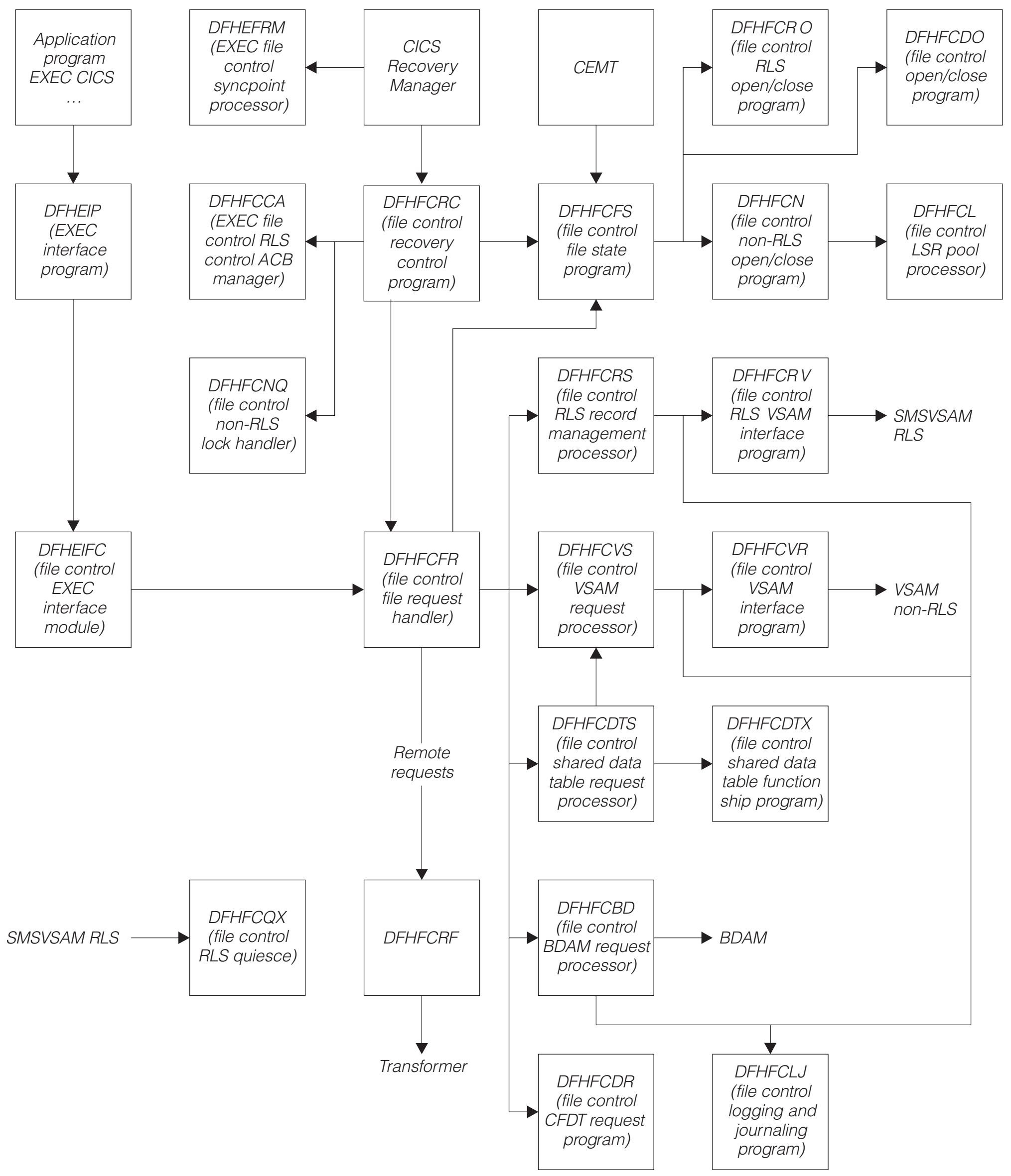

Application program EXEC CICS …
DFHEFRM (EXEC file control syncpoint processor)
CICS Recovery Manager
CEMT
DFHFCRO (file control RLS open/close program)
DFHFCDO (file control open/close program)
DFHEIP (EXEC interface program)
DFHFCCA (EXEC file control RLS control ACB manager)
DFHFCRC (file control recovery control program)
DFHFCFS (file control file state program)
DFHFCN (file control non-RLS open/close program)
DFHFCL (file control LSR pool processor)
DFHFCNQ (file control non-RLS lock handler)
DFHFCRS (file control RLS record management processor)
DFHFCRV (file control RLS VSAM interface program)
SMSVSAM RLS
DFHEIFC (file control EXEC interface module)
DFHFCFR (file control file request handler)
DFHFCVS (file control VSAM request processor)
DFHFCVR (file control VSAM interface program)
VSAM non-RLS
Remote requests
DFHFCDTS (file control shared data table request processor)
DFHFCDTX (file control shared data table function ship program)
SMSVSAM RLS
DFHFCQX (file control RLS quiesce)
DFHFCRF
DFHFCBD (file control BDAM request processor)
BDAM
Transformer
DFHFCDR (file control CFDT request program)
DFHFCLJ (file control logging and journaling program)

Figure 50. Main file control modules and their interfaces

DFHEIFC (file control EXEC interface module)

Call mechanism

Kernel subroutine call. Automatic stack storage acquired as part of the call.

Entry address

DFHEIFC. Stored in the CSA in a field named CSAEIFC.

Purpose

DFHEIFC is DFHEIP's file control interface. It routes requests to the file control file request handler, DFHFCFR.

Called by

DFHEIP exclusively.

Inputs

The EIEI parameter list, as defined by the DFHEIEIA DSECT.

Outputs

Updated EIEI parameter list, with completed EIB.

Operation

- Call user exit XFCREQ.
- Call file control request handler DFHFCFR.
- Call user exit XFCREQC.

How loaded

At CICS startup, as part of the building of the CICS nucleus. The nucleus is built by DFHSIB1, which uses its nucleus build list to determine the content and characteristics of the CICS nucleus.

DFHFCAT (file control catalog manager)

Call mechanism

Kernel subroutine call. Automatic stack storage acquired as part of the call.

Entry address

DFHFCAT. The entry point address is held in FC static storage in a field named FC_FCAT_ADDRESS, which is set by DFHFCRP when it loads DFHFCAT.

Purpose

The file control catalog manager is part of the file control component. This program processes inquire and update requests on the state of the backup while open (BWO) attributes in the ICF catalog for VSAM data sets and inquire on the quiesce state in the ICF catalog. The DFSMS Callable Services interface is used for these operations.

Called by

DFHFCDN
: Get the base data set name for a DSNB that has not yet been validated, update the recovery point, or to set the BWO attributes to a ‘forward recovered’ state

DFHFCN
: Inquire on the current state of, and to update, BWO attributes during file open processing; and to reset these attributes during file close processing.

DFHFCQI
: Inquire on the quiesce state of a data set.

Inputs

The FCAT parameter list, as defined by the DFHFCATA DSECT, is created as part of the subroutine call.

The input parameters are:
  Data set name
  Recovery point

Outputs

Returned in the FCAT parameter list:
  Quiesce state

Base data set name
State (fuzzy, sharp)
Response
Reason

Operation

DFHFCAT provides the following functions:

INQ_BASEDSNAME
: Gets the base data set name for a specified data set name from the ICF catalog. This function is used when there is not a validated DSN block for the data set.

INQ_CATALOG_QUIESCESTATE
: If the level of DFSMS is 1.3 or higher, issues an IGWARLS call to determine the quiesce state of the data set (quiesced or unquiesced).

INQ_DATASET_STATE
: Determines the current state of a VSAM data set's BWO attributes in the ICF catalog. If the BWO attributes indicate that the data set is "back level", that is, a backup copy has been restored but not forward recovered, an exception response is returned; otherwise, a state of 'fuzzy' or 'sharp' is returned, indicating whether or not the data set is defined in the ICF catalog as eligible for BWO.

SET_CATALOG_RECOVERED
: Updates a VSAM data set's BWO attributes in the ICF catalog to a 'forward recovered' state to indicate that the data set has been forward recovered.

SET_CATALOG_RECOV_POINT
: Updates a VSAM data set's BWO attributes in the ICF catalog with the new recovery point.

SET_BWO_BITS_DISABLED
: Updates a VSAM data set's BWO attributes in the ICF catalog to show that the data set is no longer eligible for BWO support, and updates the recovery point.

SET_BWO_BITS_ENABLED
: Updates a VSAM data set's BWO attributes in the ICF catalog to show that the data set is eligible for BWO support, and updates the recovery point.

How loaded

By DFHFCRP as part of file control initialization.

DFHFCBD (file control BDAM request processor)

Call mechanism

Kernel subroutine call. Automatic stack storage acquired as part of the call.

Entry address

DFHFCBD. The entry point address is held in FC static storage in a field named FC_BDAM_ENTRY_ADDRESS.

Addressing mode

AMODE 31.

Residency mode

RMODE 24.

Purpose

The BDAM request processor is part of the file control component. It processes access requests to BDAM files.

Called by
DFHFCFR, after having determined that the request is for a BDAM file.

Inputs
The FCFR parameter list, as defined by the DFHFCFRA DSECT. Also, the file control environment, including FC static storage and the FCT.

Outputs
Updated FCFR parameter list.

Operation
Acquires and releases FIOA storage as necessary. Implements BDAM exclusive control requests. Performs record-length and key-length checking. Calls BDAM to perform the I/O request.

Acquires storage, in the correct key subpool, for requests that specify SET.

How loaded
By DFHFCFS, by means of a loader domain call. DFHFCBD is not loaded unless DFHFCFS is called to open a BDAM file and, in doing so, it discovers that DFHFCBD is not yet in storage.

DFHFCCA (file control RLS control ACB manager)
DFHFCCA is the file control RLS control ACB manager. The RLS control ACB is a special ACB required when a commit protocol application such as CICS uses VSAM RLS. FCCA processes requests to register and unregister the control ACB, and all other file control requests to SMSVSAM that have to be made via the control ACB. These requests are:
- IDAREGP (register)
- IDAUNRP (unregister)
- IDARECOV (clear recovery status)
- IDAINQRC (inquire on recovery)
- IDAQUIES (quiesce)
- IDALKREL (release locks, and retain locks marked for retention)
- IDARETLK (mark locks for retention)

DFHFCCA also includes the code for the RLSWAIT exit used by control ACB requests. Whenever CICS issues such a request, VSAM drives the RLSWAIT exit as soon as it is about to transfer control to the SMSVSAM address space. CICS is then able to drive the dispatcher and schedule other CICS tasks whilst the SMSVSAM address space is busy processing the request.

DFHFCDL (file control CFDT load program)
DFHFCDL is attached by DFHFCDO to load a load-capable coupling facility data tavle with records from a source data set.

DFHFCDN (file control DSN block manager)

Call mechanism
Kernel subroutine call. Automatic stack storage acquired as part of the call.

Entry address

DFHFCDN. The entry point address is held in FC static storage in a field named FC_FCDN_ADDRESS, which is set by DFHFCRP when it loads DFHFCDN.

Purpose

The DSNAME block manager is part of the file control component. This program is called to perform various operations on data set name blocks. These operations include connecting and disconnecting DSN blocks and FCT entries, setting their attributes, and deleting them when no longer required. The program also allows the caller to inspect a particular DSN block or browse a set of blocks. It can also be called to update the backup while open (BWO) attributes in the ICF catalog for VSAM data sets, and to set the quiesce state to normal in all DSN blocks. Finally it can be called to catalog the information in a DSN block to the CICS global catalog.

Called by

DFHAMFC
: Connect a DSN block to a newly created FCT entry

DFHAMPFI
: Connect the DSN block for the CSD to the associated FCT entry

DFHEIQDN
: Connect, disconnect, delete, set attributes, browse, and inquire against DSN blocks in response to external requests; and to update the BWO attributes in the ICF catalog for a VSAM data set to a ‘forward recovered’ state

DFHEIQDS
: Connect or disconnect DSN blocks and FCT entries in response to external requests

DFHFCLF
: Set the availability attribute to unavailable after a forward recovery log stream failure

DFHFCMT
: Disconnect the DSN block when deleting an FCT entry

DFHFCN
: Connect or disconnect and to catalog a DSN block

DFHFCRC
: Update the recovery point in the ICF catalog for all VSAM data sets that are open for update in non-RLS mode and defined as eligible for BWO support at keypoint time

DFHFCRD
: To reset all quiesce states to normal after an SMSVSAM server failure

DFHFCRO
: Connect or disconnect and to catalog a DSN block

DFHFCRP
: Connect or reconnect DSN blocks during file control initialization or restart.

Inputs

The FCDN parameter list, as defined by the DFHFCDNA DSECT, is created as part of the subroutine call.

The input parameters include:

- Request identifier
- Address of FCTE or FCTE token
- Data set name
- Browse token
- Availability status
- Type of pointer
- Recovery point

Outputs

Output parameters, as part of the FCDN parameter list. Apart from the response, all these are returned on the inquire or browse requests. The parameters include:

Access method
Base data set name
Availability status
DSNB type
File count
DSNB valid status
Lost locks status
Forward-recovery log stream name
Forward-recovery log ID
Recovery status
Response
Reason

Operation

- Connect:

  The inputs are a data set name and an FCTE pointer or an FCTE token, with an indication of whether the entity to be connected is a base or an object.

  If the FCT entry is already connected, the connection is broken before connecting it to a DSN block representing the new object. The DSN block that is connected can exist already, or DFHFCDN creates a new block before connecting it.

  The request is rejected if it requires an existing connection to be broken, and there are uncommitted updates to the file; that is, there are retained locks.
- Disconnect:

  The connection between the FCT entry and the DSN block is broken. The DSN block remains even if there are no other FCT entries connected to it. The request is rejected if there are uncommitted updates to the file: that is, there are retained locks.
- Delete:

  Checks are made to ensure that the DSN block is allowed to be deleted. If the deletion can proceed, the table manager is called to delete the DSN from the DSN index, and the storage domain is called to free the storage.
- Inquire:

  The attributes stored in the DSN block are returned to the caller in the FCDN parameter list.
- Set:

  The availability status is set in the DSN block. The catalog domain is called to catalog the change.
- Start browse, get next, end browse:

  The DSN blocks are browsed in order. For each, the attributes are returned to the caller.
- Catalog:

  The information in a DSN block is cataloged to the CICS global catalog.
- SET_CATALOG_RECOVERED:

  This function is used by DFHEIQDN. DFHFCDN in turn issues a SET_CATALOG_RECOVERED call to DFHFCAT to update the BWO attributes in the ICF catalog for a given VSAM data set to a ‘forward recovered’ state.
- UPDATE_RECOVERY_POINTS:

This function is used by DFHFCRC. DFHFCDN in turn issues a SET_CATALOG_RECOV_POINT call to DFHFCAT to update the recovery point in the BWO attributes in the ICF catalog for every data set that is open for update in non-RLS mode and defined as eligible for BWO support.

The recovery point is the time from which a forward-recovery utility should start applying log records. It is always before the time the last backup was taken. For further information about recovery points and backup while open in general, see the *CICS Recovery and Restart Guide*.

- RESET_ALL_QUIESCE_STATUS:

  This function is used by DFHFCRD. The DSNB table is scanned, and the quiesce status is reset to normal in each DSNB.

How loaded

By DFHFCRP as part of file control initialization.

DFHFCDO (file control CFDT open/close program)

When called using the FCFS parameter list, DFHFCDO performs an equivalent function for coupling facility data table opens and closes as is performed by DFHFCN for non-RLS VSAM files.

When called using the FCDS parameter list, DFHFCDO performs statistics collection for coupling facility data tables, and disconnects from CFDT pools at shutdown.

DFHFCDR (file control CFDT request processor)

DFHFCDR performs an equivalent function for coupling facility data tables as is performed by DFHFCVS for non-RLS VSAM files, and uses the same interface.

DFHFCDTS (file control shared data table request program)

DFHFCDTS performs an equivalent function for CICS-maintained and user-maintained data tables as is performed by DFHFCVS for non-RLS VSAM files and uses the same interface.

DFHFCDTX (file control shared data table function ship program)

DFHFCDTX receives file requests from DFHFCDTS in FCFRR format, converts them into command level interface form and then calls ISP to function ship the request.

The response returned by ISP in the EIB is translated back into an FCFRR response and reason code.

DFHFCDU (file control CFDT UOW calls program)

DFHFCDU encapsulates the processing required to call the coupling facility data tables server for unit of work related operations, such as commit, backout, inquire. It is called via the FCDU parameter list by DFHFCDW and DFHFCDY.

DFHFCDW (file control CFDT RMC program)

DFHFCDW provides a recovery manager connector (RMC) between file control and the coupling facility data tables server, to support 2-phase commit and recovery for recoverable coupling facility data tables. It is called by the CICS Recovery Manager using the RMLK parameter list.

DFHFCDY (file control CFDT resynchronization program)

DFHFCDY performs resynchronization of coupling facility data table pools and links. It is called using the FCDY parameter list by DFHFCDO, DFHFCDR and DFHFCDU.

DFHFCES (file control ENF servicer)

DFHFCES is the file control ENF servicer. It is used to prompt dynamic restart of RLS file control when the SMSVSAM Server becomes available again after an earlier failure. DFHFCES is invoked whenever the MVS Event Notification Facility notifies CICS (via the CICS domain manager ENF support) that SMSVSAM is available.

DFHFCES establishes a transaction environment, and calls DFHFCRR to dynamically restart RLS.

DFHFCFL (file control FRAB and FLAB processor)

DFHFCFL is the File Control FRAB/FLAB processor. It contains a number of functions to process FLAB control blocks belonging to a particular base data set. It processes the functions of the FCFL interface.

The DSNB of the data set is not locked during the processing of the commands. As a FLAB exists, and hence an FCTE, the DSNB cannot be deleted, therefore there is no need to lock the DSNB.

DFHFCFR (file control file request handler)

Call mechanism

Kernel subroutine call. Automatic stack storage acquired as part of the call.

Entry address

DFHFCFR. Stored in the CSA in a field named CSAFCEP.

Purpose

The central module in the file control component.

Processes file control requests issued by DFHEIFC (requests from application programs), or from other CICS modules (internal CICS file control requests).

Receives and routes file control access-method dependent requests to one of the following:

- DFHFCRS for VSAM RLS files
- DFHFCVS for VSAM non-RLS files
- DFHFCBD for BDAM files
- DFHFCDR for coupling facility data tables
- DFHFCTS for user-maintained data tables
- DFHFCDTS for non-update requests to CICS maintained data table
- DFHFCVS for update requests to CICS-maintained data tables
- DFHFCRF for requests to remote files

Implements TEST_FILE_USER requests.

Routes RESTART_FILE_CONTROL requests to DFHFCVS and DFHFCRS during the file control initialization.

Frees buffers at the request of DFHAPSM when 'short on storage' has been detected.

Performs a CLEAR_ENVIRONMENT when requested by DFHERM, DFHAPLI or DFHUEH. This cleans up file control storage at the completion of a task-related user exit, a user-replaceable program, or a global user exit:
- The FLAB and FRTE chain are scanned to find all FRTEs for the specified environment.
- An ENDBR request is issued to terminate any active browse operation.
- An UNLOCK request is issued for any active READ UPDATE or WRITE MASSINSERT.

Called by

DFHAPLI
AP language interface program

DFHAPSM
AP domain storage notify gate

DFHDMPCA
CSD manager adapter

DFHDTLX
Shared data tables load program

DFHEIFC
File control EXEC interface module

DFHERM
Resource manager interface (RMI) module

DFHFCDL
Coupling facility data tables load program

DFHFCDTS
File control shared data table request processor

DFHFCFR
File control file request handler (a recursive call)

DFHFCRC
File control recovery control program

DFHFCRP
File control restart program

DFHUEH
AP user exit handler.

Inputs

The FCFR parameter list, as defined by the DFHFCFRA DSECT. Also the file control environment, including FC static storage and the FCT.

Outputs

Updated FCFR parameter list.

Operation

Selects on the request type, and passes control to the routine specific to that request.

Performs monitoring.

Obtains a FLAB and FRTE to represent this request, or scans the FLAB and FRTE chains to associate this request with a previous FRTE if required. Some checking for error situations is performed during the scan.

Performs file state checking to determine whether or not a (VSAM or BDAM) request to a file is able to proceed. If file is enabled but closed and is not a request to a remote file, opens it before carrying out the request.

Checks for "privileged" requests.

If the request is not remote, checks the "service request" attributes for the file to determine whether the request can proceed.

Checks the file's access method (VSAM or BDAM as defined in the FCT). If BDAM, calls DFHFCBD to process the request. If VSAM and non-RLS, calls DFHFCVS to process the request. If VSAM and RLS, calls DFHFCRS to process the request. If a data table, calls DFHFCDTS for read requests against a CICS-maintained data table or any request against a user-maintained table, and calls DFHFCVS otherwise (that is, for update and browse requests against a CICS-maintained data table). If the file is remote, calls DFHFCRF to process the request.

On return, performs cleanup if required.

How loaded

By DFHSIB1 as part of the CICS nucleus.

DFHFCFS (file control file state program)

Call mechanism

Kernel subroutine call. Automatic stack storage acquired as part of the call.

Entry address

DFHFCFS. The entry point address is held in FC static storage in a field named FC_FCFS_ADDRESS, which is set by DFHFCRP when it loads DFHFCFS.

Purpose

The file control file state program is part of the file control component.

The program processes requests to enable, disable, open, and close files. Such requests can originate from explicit requests (either CEMT or EXEC CICS SET), from implicit requests (such as implicit open), or from requests made from CICS internal processing.

Close and disable requests are processed in different ways, depending on whether the request has been issued with the WAIT or the NOWAIT option. A request with the WAIT option is treated as a synchronous request, that is, control returns to the requesting program only after all users of the file have completed their use.

A request with the NOWAIT option is treated as an asynchronous request. In this case, the file is marked with the intended state and control is returned immediately.

Called by

DFHAMFC
Enable a newly installed file

DFHDMPCA
: Change the state of the CSD

DFHDMRM
: Close CSD after an error

DFHDTLX
: Close the data set associated with a shared data table

DFHEIQDS
: Implement CEMT and EXEC CICS requests

DFHFCDL
: Close the data set associated with a coupling facility data table

DFHFCDTS
: Close shared data table if remote connection disabled or invalidated

DFHFCFR
: Implicit open

DFHFCQU
: Close files for quiesce, cancel close for unquiesce, enable files

DFHFCRC
: Open files which need backout, and close files at syncpoint

DFHFCRD
: Immediate close of RLS files

DFHFCRV
: Close files for pending immediate close requests

DFHFCSD
: Close files on a normal CICS shutdown

DFHFCU
: Open all files with FILSTAT=OPEN coded

DFHFCVS
: Open the base, and during empty file or I/O error processing.

Inputs

The FCFS parameter list, as defined by the DFHFCFSA DSECT, is created as part of the subroutine call.

The input parameters are:

Request identifier (open, close, enable, disable, cancel close)
FCTE address
FCTE token
Open options (open base, open for backout)
Close qualifier (close pending, shutdown, immediate close, quiesce, and so on)
Action (wait, do not wait, force)

Outputs

Returned in the FCFS parameter list:

DFHFCN return code
Register 15 return code
VSAM return code

Operation

Before any processing to change the state of a file is carried out, its FCT entry is locked by means of a DFHKC ENQ call. At the conclusion of file state change processing, the FCT entry is unlocked before returning to the caller.

- Enable file.

  DFHFCFS marks the FCT entry as 'enabled', and catalogs the change.

- Disable file.

  If the WAIT option is specified, DFHFCFS tests whether the transaction issuing the request is a current user of the file. If it is, DFHFCFS returns an exception response.

  DFHFCFS next marks the FCT entry entry as ‘disabled’ and catalogs the change. If the disable request stems from a close request (see later), DFHFCFS also sets the implicit indicator, thereby marking the state as ‘unenabled’. However, if this close request originated from DFHFCSD as part of CICS shutdown processing, DFHFCFS does ***not*** mark the state as ‘unenabled’.

  Finally, if the WAIT option is specified, the FCT entry is unlocked before waiting for the ‘disabled’ ECB in the FCT entry to be posted by the transaction that reduces the use count to zero.
- Open file.

  If the file is unenabled (due to a previous close), DFHFCFS enables it and catalogs the new state, unless the open option is open for backout.

  If the file refers to a BDAM data set, DFHFCFS tests whether DFHFCBD is already loaded; if not, it calls loader domain to do so.

  If the file is a data table, DFHFCFS loads and initializes data table services, if this has not been done already on a previous open request.

  DFHFCFS next calls DFHFCN (for non-RLS) or DFHFCRO (for RLS) to perform the physical open. After the file has been successfully opened, its FCT entry is marked accordingly.

  For a data table, DFHFCFS issues OPEN and LOAD requests to data table services.
- Close file.

  If there is no close qualifier, the file is first implicitly disabled (as described above), taking into account the WAIT or NOWAIT option. The new state is cataloged.

  If the file use count is zero, DFHFCFS calls DFHFCN or DFHFCRO to perform the physical close. After the file has been successfully closed, its FCT entry is marked accordingly.

  An immediate close is issued if the SMSVSAM RLS server fails. The close must wait until there are no requests active in the RLS record management processor. The enablement state of the file is not changed. A close with close qualifier of quiesce is issued to process an RLS quiesce request. The file is unenabled, and the state catalogued.

  For a data table, DFHFCFS issues a CLOSE request to data table services, except in the case of a special type of CLOSE request issued by DFHFCVS for a user-maintained data table, when loading is complete and the source data set is to be closed, but not the table itself.

  For a remote data table, DFHFCFS issues a DISCONNECT request to data table services.

  If the file use count is nonzero, DFHFCFS sets the ‘close requested’ indicator in the FCT and returns to the caller. Any subsequent transaction that reduces the use count to zero tests the ‘close requested’ indicator and, if set, performs the actual close.

  When called by DFHFCSD during CICS shutdown, DFHFCFS ensures that files are closed, marks the file as ‘closed unenabled’ in the FCT, but does ***not*** record this change in the global catalog. This allows implicit file opens on a subsequent restart.
- Cancel close.

An in-progress close is cancelled if a data set is unquiesced. The close_in_progress flag is reset, any tasks waiting for the file to close are resumed, and the file is re-enabled.

How loaded

By DFHFCRP as part of file control initialization.

DFHFCIN1 (file control initialization program 1)

Call mechanism

Kernel subroutine call. Automatic stack storage acquired as part of the call.

Entry address

DFHFCIN1. Stored in the CSA in a field named CSAFCXAD.

Purpose

The file control initialization program is part of the file control component. This program initializes file control and starts the file control restart task. It also waits for the restart task to complete, and returns the status of the completion to the caller.

Called by

DFHSII1, as part of CICS initialization.

Inputs

The FCIN parameter list, as defined by the DFHFCINA DSECT.

Outputs

Updated FCIN parameter list.

Operation

Initialize:

- Calls storage manager domain to add a subpool for file control static storage.
- Calls storage manager domain to create the storage for file control static storage.
- Initializes file control static storage.
- Attaches the file control restart task by means of a DFHKC request, with entry point address DFHFCIN2.

WAITINIT:

- Issues a dispatcher domain call to wait on the CICS ECB which indicates that the file control restart task has finished (FC_RECOV_ALLOWED_ACB) in file control static storage.
- On completion of the wait, tests the response and returns to DFHSII1.

How loaded

Link-edited with DFHFCIN2 to form the DFHFCIN module, which is loaded by DFHSIB1 as part of the CICS nucleus.

DFHFCIN2 (file control initialization program 2)

Call mechanism

Attached by DFHFCIN1 as a separate CICS task. Given control by means of the DFHKC TYPE=ATTACH mechanism.

Entry address
DFHFCIN2. Because DFHFCIN2 is link-edited with DFHFCIN1, the entry address is known to DFHFCIN1 at the time the DFHKC TYPE=ATTACH is issued.

Purpose
The file control initialization program is part of the file control component. This program loads and calls the file control restart program (DFHFCRP), to perform file control restart as a separate task.

Called by
CICS task control, after being attached by DFHFCIN1.

Inputs
None.

Outputs
The initialized file control component. Addresses and indicators completed in file control static storage.

Operation
Calls loader domain to acquire (that is, to load) the DFHFCRP program. Stores the entry point address of the loaded module (which is also the load point) in DFHFCIN2's automatic storage in a field named FCRP_ENTRY_ADDRESS.

If the ACQUIRE request failed, calls loader domain to define program and then retries the ACQUIRE request.

Calls DFHFCRP by means of a subroutine call via the kernel.

On successful completion, calls loader domain to release DFHFCRP. On both successful and unsuccessful completion, posts the ECBs FC_NON_RECOV_ALLOWED_ECB and FC_RECOV_ALLOWED_ECB. The success or otherwise of File Control restart is indicated by the flag FCSCMPLT in file control static storage.

On unsuccessful completion, posts the Restart Task ECB complete and returns.

How loaded
By DFHSIB1 as part of the CICS nucleus.

DFHFCIR (file control initialize recovery)
DFHFCIR is the File Control Initialize Recovery Module. It initializes the File Control environment in which recovery after a CICS failure is carried out.

DFHFCIR handles the delivery of recovery data by the CICS Recovery Manager during its scan of the system log at warm or emergency restart, and rebuilds the file control structures that represent units of work that were in-flight or shunted when CICS terminated.

During its log scan, Recovery Manager calls File Control's recovery gate, which invokes the module DFHFCRC. DFHFCRC passes the calls through to DFHFCIR via a kernel subroutine call. The calls are the RMDE functions START_DELIVERY, DELIVER_RECOVERY, DELIVER_FORGET and END_DELIVERY.

DFHFCL (file control shared resources pool processor)

Call mechanism
BALR, obtaining LIFO storage on entry.

Entry address
DFHFCLNA. DFHFCL is, together with DFHFCN and DFHFCM, link-edited with DFHFCFS. All calls to DFHFCL are made from DFHFCN; the entry point address is known to DFHFCN from the link edit.

Purpose
The shared resources pool processor is part of the file control component.

This program is called at file open time to create a specific local shared resources pool if it does not exist. It is also called to delete a specific pool when the last file to use the pool is being closed.

The size and characteristics of the pool being built are obtained either from information in the SHRCTL definition in the FCT or, if that information has not been provided, from the best information available to DFHFCL at the time of the open.

Called by
DFHFCL is called exclusively by DFHFCN.

Inputs
The FCLPARAM parameter list, created in DFHFCN's automatic storage and addressed by register 1 on the call.

The input parameters are:

Request identifier (build, delete)
LSR pool number

Outputs
Returned in the FCLPARAM parameter list:

DFHFCL return code
BLDVRP/DLVRP return code
VSAM return code

Operation
If the request is for LSR pool creation, DFHFCL first checks whether the SHRCTL block includes specifications for the number of strings, maximum key length, and the number of virtual and hyperspace buffers of each of the eleven sizes in the pool. If these values are known, DFHFCL sets up the BLDVRP parameter list and creates the pool by issuing the BLDVRP macro.

If some or all of the pool characteristics are not specified in the SHRCTL definition, DFHFCL calculates the pool requirements from the information in the FCT and the VSAM catalog.

Each FCT entry is inspected to find whether it is to be included in the pool being built. If so, its DSNAME is determined and this is used to obtain data set characteristics from the VSAM catalog. The information required for the BLDVRP macro is accumulated in the SHRCTL block and the pool is built from these values.

If the request is for LSR pool deletion, DFHFCL first obtains the VSAM statistics for the pool and saves them in the SHRCTL block. These statistics are unobtainable after the pool has been deleted.

DFHFCL next deletes the specified pool by issuing a DLVRP macro.

Finally, DFHFCL sends pool statistics to the statistics domain as unsolicited data.

How loaded

As a constituent part of DFHFCFS, which is loaded by DFHFCRP as part of file control initialization.

DFHFCLF (file control log failures handler)

DFHFCLF provides control of long term logger failures for File Control. It is called in the event of a failure of a general log stream, which will be either the forward recovery log for a data set or the autojournal for a file.

The CICS Log Manager invokes DFHFCLF when an MVS log stream being used for forward recovery or file autojournalling suffers a long term failure. The call is made using the LGGL ERROR function.

When file control opens a forward recovery log stream or an autojournal, it will register this call back gate to the Log Manager by specifying FCLF as the file control error gate.

When called, DFHFCLF takes action to ensure that the log stream failure causes minimum damage. For a forward recovery log failure it closes all files open against the data set using that forward recovery log (across the sysplex for a data set accessed in RLS mode) and issues a message advising that a new backup copy should be taken. For an autojournal it closes the file using that autojournal and issues a warning message.

DFHFCLJ (file control logging and journaling program

DFHFCLJ is the file control logging and journaling program. It is called to perform logging for transaction backout and forward recovery, to write to journals for autojournal requests and to write to the log of logs.

Records are written to the system log using the RMRE APPEND function, and optionally forced using the RMRE FORCE function. Records are written to forward recovery logs and autojournals using the LGGL WRITE function, and to the log of logs using the LGGL WRITE_JNL function.

DFHFCMT (file control table manager)

Call mechanism

Kernel subroutine call. Automatic stack storage acquired as part of the call.

Entry address

DFHFCMT. The entry point address is held in FC static storage in a field named FC_FCMT_ADDRESS, which is set by DFHFCRP when it loads DFHFCMT.

Purpose

The file control table manager is part of the file control component. This program is called to add, delete, and set FCT entries, and to return attributes of an FCT entry (inquire).

Called by

DFHAMFC
: Inquire on, add, or delete a newly created FCT entry to the system

DFHAMPFI
: Add the entry in the FCT for the CSD to the system

DFHDMPCA
: Inquire on and set the attributes of the FCT entry for the CSD

DFHEDFX
: Inquire on the attributes of an FCT entry

DFHEIQDS
: Inquire on or set the attributes of FCT entries, or delete an FCT entry.

Inputs

The FCMT parameter list, as defined by the DFHFCMTA assembler DSECT, is created as part of the subroutine call.

The input parameters are:

Common parameters:
- File name
- String number
- Journal ID
- Recovery characteristics
- Journaling characteristics
- Enablement status
- Open time
- Data set disposition
- Service request attributes
- Record format
- Number of data buffers
- Number of index buffers
- Whether to catalog the FCT entry

VSAM-specific parameters:
- VSAM password
- Empty status
- Data set name sharing
- LSR pool ID
- Base name
- Forward recovery log ID
- BWO eligibility
- RLS access mode
- Read integrity

BDAM-specific parameters:
- Exclusive control

Outputs

Output parameters, as part of the FCMT parameter list. Apart from the response, all these are returned on the inquire or browse requests. The output parameters are:

Common parameters:
- File type
- String number
- Record size

Key length
Key position
Recovery characteristics
Journaling characteristics
Enablement status
Open status
Open time
Data set type
Data set disposition
Data set name
Base data set name
Service request attributes
Record format
Block format
Access method
Remote name
Remote system

VSAM-specific parameters:
VSAM password
Empty status
Object type
Data set name sharing
Number of data buffers
Number of index buffers
Number of active strings
LSR pool ID
Whether using shared resources
Forward-recovery log ID
RLS access mode
Read integrity

BDAM-specific parameters:
Block size
Block key length
Relative address form
Exclusive control
Response
Reason

Data Table specific parameters:
Table type
Table size

Operation

- Add:

  Storage for the new FCT entry is obtained out of the VSAM FCT storage subpool (BDAM FCT entries cannot be created).

  The new FCT entry is completed by filling in the information from the caller's parameter list.

  The name of the new FCT entry is added to the TMP index.

  Finally the information in the new entry is written to the CICS global catalog if required.
- Delete:

The request is rejected if there are uncommitted updates for the file; that is, there are retained locks. DFHTMP is called to locate and quiesce the FCT entry.

Any DSN block that is connected to the FCT entry is disconnected.

The FCT entry name is deleted from the TMP index.

The storage for the FCT entry is freed. In the case of a BDAM FCT entry, its DCB storage is also freed.

Any catalog entries for the FCT entry are deleted.

- Set:

  DFHTMP is called to locate the FCT entry.

  The request is rejected if there are uncommitted updates for the file; that is, there are retained locks.

  If the FCT entry is not marked ‘closed’ and ‘disabled’ (or ‘unenabled’), the request is rejected.

  Changes are made to the information in the FCT according to the caller’s parameter list.

  Finally the changes are recorded by writing them to the CICS global catalog.
- Inquire:

  DFHTMP is called to locate the FCT entry.

  The attributes are returned in the FCMT parameter list.
- Connect:

  DFHTMP is called to locate the FCT entry.

  The connect count is incremented. The FCT token is returned to the caller.
- Disconnect:

  DFHTMP is called to quiesce the FCT entry.

  A check is made to ensure that the file is closed and disabled (or unenabled). If the check fails, an error is returned to the caller.

  The connect count in the FCT is cleared and a call is again made to DFHTMP to release the quiesce.

How loaded

By DFHFCRP as part of file control initialization.

DFHFCN (file control open/close program)

Call mechanism

BALR, obtaining LIFO storage on entry.

Entry address

DFHFCNNA. DFHFCN is link-edited with DFHFCFS. All calls to DFHFCN are made from DFHFCFS; the entry point address is known to DFHFCFS from the link-edit.

Purpose

The file control open/close program is part of the file control component.

This program performs the physical opening and closing of files by making the corresponding requests to VSAM or BDAM. Associated with these operations are a number of further activities that must be completed before control is returned to DFHFCFS.

These activities include:

- Dynamic allocation of the file
- Empty file checking
- Dynamically setting up ACB fields in advance of the VSAM open
- Copying into file-control control blocks VSAM information about the file which is available after the open
- Inquiring on, and updating, the VSAM data set's backup while open (BWO) attributes in the ICF catalog for a file that is defined in the FCT as eligible for BWO support if the appropriate prerequisite software levels have been installed
- On close, deallocating the file if necessary and clearing the file control information related to the file
- Resetting a VSAM data set's BWO attributes in the ICF catalog during close processing.

Called by

DFHFCFS, exclusively.

Inputs

The FCSPARMS parameter list, created in DFHFCFS's automatic storage and addressed by register 1 on the call.

The input parameters are:

FCTE address
Request identifier

Outputs

Returned in the FCSPARMS parameter list:

DFHFCN return code
Register 15 return code
VSAM return code
Base data set name
Recovery attributes of base

Operation

Execution of the DFHFCN code is serialized. This is done by DFHFCFS issuing a DFHKC ENQ before calling DFHFCN, and a DFHKC DEQ after calling DFHFCN. As a consequence, only a single open or close request to any file can be in progress at any time, and multiple concurrent requests are single-threaded.

The main actions when processing an open request:

1. If the file is being opened for update and any type of autojournalling is specified on the file definition, then the autojournal log stream is opened, via a call to DFHLGGL.
2. The file is tested to determine if it is allocated to the job by means of a JCL statement or is to be allocated dynamically.

   If the file is already allocated, any existing DSN block to which it may be connected is disconnected and a new block with the actual DSNAME is connected. Connecting and disconnecting of DSNAME blocks is always performed by calling DFHFCDN.

   If the file is not already allocated, it is at this point dynamically allocated to the DSNAME in the DSNAME block to which it is connected.

   In the case of a VSAM file, the file's data set name is used to issue appropriate SHOWCAT and LOCATE instructions to determine relevant information from the VSAM catalog about the data set that the file represents. In particular, the following are obtained:

Base/path indicator
Base data set name
Attributes of the data set
Key length of the base
Relative key position of base key
Maximum record length
Control interval size
Share options
High RBA

3. The data set is checked to determine if it is empty (high RBA is zero) or is to be emptied.

   The 'load' mode indicator is set on.
4. DFHFCDN is now called to connect the FCT entry to a DSNAME block for the base cluster (which may be the existing allocation DSNAME block, or may need to be newly created, or may already exist and need only be pointed to from the FCT). The base cluster's attributes, as obtained from the VSAM catalog, are stored in the base cluster block.

   The file's recovery characteristics are checked against any that may already have been stored in the base cluster block and, if they have not yet been set up, are saved there. Any conflict with the stored values is handled. In some cases the new value overrides the old one, in others an error is returned.

   During this processing, if this is the first open for update for a file associated with this particular data set:
   a. a call is made to the VSAM callable interface IGWARLS, in order to get any recovery attributes that may be defined in the VSAM catalog. If they are present, then they override any values in the FCT entry.
   b. if forward recovery logging is specified, the forward recovery log stream is opened, using either the log stream name from the VSAM catalog, or a log stream name derived from the id specified in the file definition.

   In the case of an entry sequenced data set or a path to an ESDS, the next available RBA in the data set is determined and stored in the base cluster block.
5. If the file uses a shared resources (LSR) pool, and if the pool is not currently in existence, DFHFCL is called to determine the pool's characteristics and to build it.
6. Before opening a VSAM file, any STRNO, BUFND, or BUFNI parameters that may have been specified in the JCL DD statement are copied to the FCT entry (for LSR opens, these are ignored). The ACB is now created and its various options and parameters filled in from information in the FCT entry. The OPEN is finally completed by a call to VSAM.
7. If the file refers to a BDAM data set, the assembled DCB is used for the open request and no dynamic setting of DCB options is carried out.
8. After the VSAM file has been successfully opened, certain file attributes are obtained from VSAM and are stored in the FCT entry. These include:

   Key length
   Relative key position
   Base/path/AIX indicator
   KSDS/ESDS/RRDS/VRRDS indicator
   Number of strings required for an update operation.

9. For a file opened for update against a VSAM base data set when the update use count in the DSNB for this data set is zero, the BWO attributes in the ICF catalog are validated to find their current state. This is done by making an INQ_DATASET_STATE call to DFHFCAT, regardless of whether the file is defined in the FCT as eligible for BWO support.

   The file open request is rejected if one of the following is true:

   a. The BWO attributes in the ICF catalog show ***either*** that the data set is "back level", that is, a backup copy has been restored but not forward recovered, ***or*** that either the catalog or the data set has been corrupted.
   b. The BWO attributes in the FCT entry conflict with those defined in the DSNB, that is, the file has already been opened with different attributes since the DSNB was created.

   If the file is defined in the FCT as eligible for BWO support, the BWO attributes in the ICF catalog are updated by making a SET_BWO_BITS_ENABLED call to DFHFCAT.

   However, if the file is not defined in the FCT as eligible for BWO support, but the BWO attributes in the ICF catalog currently show that the VSAM base data set is eligible for BWO support, the BWO attributes in the ICF catalog are disabled by making a SET_BWO_BITS_DISABLED call to DFHFCAT, and CICS issues a warning message.

   Note: The ICF BWO attributes are a property of a VSAM sphere; therefore, the VSAM base data set and alternate index path definitions should be consistent. For a general description of the CICS backup while open (BWO) facility, see the *CICS Recovery and Restart Guide*.
10. The base DSNB, and path DSNB if this is a path, are marked as validated and catalogued.

The main actions when processing a close request:

1. If the close request is for the last file that was opened for update against a VSAM base data set and the file is defined in the FCT as eligible for BWO support, the BWO attributes in the ICF catalog are reset so that BWO support is no longer enabled. This is done by making a SET_BWO_BITS_DISABLED call to DFHFCAT.
2. Before performing the access method close for a VSAM file, the number of accumulated EXCPs is obtained by making a call to VSAM and is saved in the FCT entry ready to be sent to the statistics domain as part of the file statistics.
3. A CLOSE request is then made by issuing the appropriate (VSAM or BDAM) macro.
4. The ACB storage is freed, and certain fields in the FCT entry which are no longer valid are cleared.
5. File statistics and data table statistics, if any, are sent to the statistics domain as unsolicited data.
6. If the file being closed uses shared resources, and if it is the last to have been closed in its LSR pool, DFHFCL is called to delete the pool.
7. If the file was dynamically allocated at open time, it is deallocated, leaving a pointer to the DSNAME block in the FCT entry.
8. If the file had an autojournal, then the autojournal log stream is closed.
9. If the base data set was forward recoverable, and its use count is non-zero, then the forward recovery log stream is closed.

How loaded

As a constituent part of DFHFCFS, which is loaded by DFHFCRP as part of file control initialization.

DFHFCNQ (file control non-RLS lock handler)

DFHFCNQ is the file control non-RLS lock handler. It is called using the FCCA RETAIN_DATASET_LOCKS interface to retain locks in cases of backout failure. It is called using the NQNQ INTERPRET_ENQUEUE interface to interpret File Control locks for presentation purposes.

Lock retention

When DFHFCRC encounters a failure during an attempt to backout a unit of work it must retain all record locks held by that UOW for the failing data set. It issues an FCCA RETAIN_DATASET_LOCKS request to DFHFCCA for RLS access data sets and to this DFHFCNQ for non-RLS access data sets.

Lock name interpretation

Non-RLS locks include record locks for all file types, and for VSAM files, mass-insert range locks, load mode locks and ESDS WRITE locks. Each lock belongs to one of some half dozen or so pools created by DFHFCRP during CICS initialization. DFHFCNQ is called using the NQNQ INTERPRET_ENQUEUE interface and is passed the enqueue pool name and the lock identifier. The name of pool to which a lock belongs is sufficient information to allow the identifier to be parsed and its constituents returned to the caller.

The pool names and lock constituents are:

- FCDSRECD - Data set name and record identifier - for VSAM and CICS-maintained data tables
- FCFLRECD - File name and record identifier - for BDAM and user-maintained data tables
- FCDSRNGE - Data set name and record identifier - VSAM range locks
- FCDSLDMD - Data set name - VSAM load mode locks
- FCDSESWR - Data set name - VSAM ESDS WRITE locks
- FCFLUMTL - File name - UMT load locks

DFHFCOR (file control offsite recovery completion)

DFHFCOR is the file control RLS offsite recovery completion transaction.

Transaction CFOR is attached when CICS detects that is has completed its RLS offsite recovery processing. RLS offsite recovery is only performed when OFFSITE=YES is specified as a system initialization override. CFOR may be attached either during RLS warm or emergency restart (if there is no RLS offsite recovery work to be performed) or during file control commit processing (if the commit was for the last remaining item of RLS offsite recovery work).

DFHFCOR issues message DFHFC0575 and awaits an operator reply. When the reply is received, it enables RLS access for new transactions.

DFHFCQI (file control RLS quiesce initiation)

DFHFCQI is the RLS Quiesce Initiation module. It provides code to initiate a quiesce request against a base data set. It also provides code to inquire on the quiesce state of a base data set, and to complete a quiesce request against a base data set. Quiesce initiations are issued by the CICS API, or by CICS internally, or by CICS internally cancelling certain in-progress quiesce operations. Quiesce inquiries are issued via the CICS API. Quiesce completions are issued by CICS internally.

DFHFCQR (file control quiesce receive transaction)

DFHFCQR is the VSAM RLS Quiesce Receive module, running under a dedicated CFQR system transaction. It provides code to take quiesce requests from the CICS VSAM RLS quiesce exit and pass them to DFHFCQU for processing. As DFHFCQR runs under a system transaction, it has full transaction environment which enables it to invoke API-capable global user exits, or to call parts of file control that reference the TCA.

DFHFCQS (file control RLS quiesce send transaction)

DFHFCQS is the VSAM RLS Quiesce Send module, running under a dedicated CFQS system transaction. It provides code to take quiesce requests from another task and pass them to SMSVSAM. As DFHFCQS runs under a system transaction, it has full transaction environment which enables it to invoke API-capable global user exits, or to call parts of file control that reference the TCA. DFHFCQS is called from DFHFCQT, the quiesce system transaction module, if the transaction id under which DFHFCQT was started is 'CFQS'.

DFHFCQT (file control RLS quiesce common system transaction)

DFHFCQT is the file control RLS quiesce common system transaction.

There are two file control system transactions dedicated to RLS quiesce processing: CFQS and CFQR. CFQS sends quiesce requests to SMSVSAM in order to initiate the quiesce or unquiesce of a data set throughout the sysplex. CFQR receives quiesce requests from VSAM RLS and performs the quiesce processing required for the CICS region concerned. These transactions share a common top-level program, DFHFCQT.

There is no DFHFCQT parameter list. The action DFHFCQT takes depends on the transid of the transaction it is running under. If it is CFQS then DFHFCQS SEND_QUIESCES is called. If it is CFQR then DFHFCQR RECEIVE_QUIESCES is called. If DFHFCQS or DFHFCQR subsequently fail with a disastrous error, control is returned to DFHFCQT and a transaction abend is issued, having first re-attached the transaction concerned to ensure that RLS Quiesce support is not lost for ever.

DFHFCQU (file control RLS quiesce processor)

DFHFCQU is the RLS Quiesce Process module. It processes quiesce requests received from SMSVSAM via the quiesce exit mechanism.

DFHFCQX (file control RLS quiesce exit)

DFHFCQX is the RLS Quiesce Exit module. It is called by SMSVSAM whenever the CICS region concerned is required to perform processing for a quiesce request.

The quiesce exit is specified on the RLS control ACB EXLST. The exit initiates processing and returns to VSAM. It must not issue any VSAM requests. It is scheduled as an IRB on the TCB that registered the RLS control ACB. Because of the environment DFHFCQX cannot issue CICS requests. GTF tracing is used to trace entry, exit and any errors.In addition, timestamps are made on entry to and exit from DFHFCQX, and are stored in fields FC_DFHFCQX_ENTRY_STCK and FC_DFHFCQX_EXIT_STCK respectively of the File Control Static area.

On entry to DFHFCQX, register 1 contains the address of a VSAM structure mapped by IFGQUIES which defines the quiesce request. The processing of the quiesce request is performed by the CFQR long-running system transaction (DFHFCQR). To communicate the quiesce to CFQR, DFHFCQX creates an FC Quiesce Receive Element (FCQRE) to describe the request, and adds it to a chain in file control static storage, posting an ECB associated with the chain also in FC static.

DFHFCRC (file control recovery control program)

DFHFCRC provides recovery control for file control. All calls from the Recovery Manager domain to file control come through DFHFCRC.

DFHFCRC is called by the Recovery Manager domain to participate in syncpoint and in warm and emergency restart.

Early on during startup File Control registers as a client of the CICS Recovery Manager. During File Control initialization, File Control will add its recovery gate to the kernel, specifying DFHFCRC as the entry point, and then declares the recovery gate to the CICS Recovery Manager via an RMCD SET_GATE call.

At syncpoint, a resource owner such as File Control may be called either

1. to prepare, optionally followed by shunt-unshunt pairs, followed either by calls to backout (as in 2 below) or a call to commit.
2. to backout, which involves start_backout, optional delivery of backout data, and end_backout, followed by prepare and commit, optionally followed by backout retries (which consist of shunt-unshunt pairs followed by the start_backout - delivery of backout data - end_backout - prepare - commit sequence).

At warm or emergency restart, a resource owner such as File Control will be called with start_delivery, optional deliver_recovery and deliver_forget calls, followed by end_deliver.

The Recovery Manager functions processed by DFHFCRC are:
- RMRO PERFORM_PREPARE
- RMRO PERFORM_COMMIT
- RMRO START_BACKOUT
- RMRO DELIVER_BACKOUT_DATA
- RMRO END_BACKOUT
- RMRO PERFORM_SHUNT
- RMRO PERFORM_UNSHUNT
- RMKP TAKE_KEYPOINT
- RMDE START_DELIVERY
- RMDE DELIVER_RECOVERY
- RMDE DELIVER_FORGET
- RMDE END_DELIVERY

DFHFCRC performs different processing depending on the function with which it has been called:

PERFORM_PREPARE
Any active VSAM requests are terminated, and a vote of READ_ONLY is returned if the unit of work did not make any recoverable file control updates, a vote of YES if the prepare was successful, or a vote of NO otherwise.

PERFORM_COMMIT
For a forwards syncpoint, any changes made by the unit of work to recoverable user-maintained data tables are committed. For a backwards syncpoint, locks for any backout-failed data sets are retained. All other locks are released.

On transaction termination, the FLABs and FRAB are freed unless there are FLABs marked for retention. On an intermediate syncpoint, various flags in the FLABs and FRAB are reset to indicate that a commit has been performed.

START_BACKOUT
Any active VSAM requests are terminated, and any changes made by the unit of work to recoverable user-maintained data tables are backed out.

DELIVER_BACKOUT_DATA
The recoverable file control change represented by the log record delivered to DFHFCRC is backed out via calls to DFHFCFR which reverse the update. The change is not backed out if the unit of work has already suffered a backout failure for the data set, or if the data set is in a 'non-RLS update permitted' state, or if this call is being made as part of a CEMT or EXEC CICS SET DSNAME RESETLOCKS request.

If a failure occurs during the backout, then backout failure processing is carried out.

END_BACKOUT
Under normal conditions there should be no processing required at END_BACKOUT, but it is conceivable that there might be outstanding active VSAM requests to be terminated.

PERFORM_SHUNT
The failed parts of the unit of work's file control structures are put into a condition to survive without an executable transaction environment. This involves retaining any FLABs that are marked for retention, which will allow files to be closed, but not to be reallocated to a different data set.

If this is an intermediate syncpoint, and the shunt is due to a failure in phase 2 of syncpoint, the transactional parts of the unit of work are copied into a new control structure to be passed to the follow-on unit of work. A new FRAB is acquired to anchor this control structure. If this is transaction termination, or the shunt is due to a failure in phase 1 of syncpoint, the transactional parts are cleaned up.

PERFORM_UNSHUNT
The file control structures are converted back into a condition suitable for a unit of work that is in an executable state. Retained FLABs for the unit of work are restored.

TAKE_KEYPOINT
DFHFCRC is called when CICS takes a keypoint, to perform processing required by BWO backup on non-RLS data sets. This involves the writing of a set of 'tie up records' and the calculation of a new BWO recovery time.

START_DELIVERY
DFHFCIR is called to process the call.

DELIVER_RECOVERY
DFHFCIR is called to process the call.

DELIVER_FORGET
DFHFCIR is called to process the call.

END_DELIVERY
DFHFCIR is called to process the call.

DFHFCRD (file control RLS cleanup transaction)

As soon as CICS detects an SMSVSAM server failure, it runs program DFHFCRD under transaction CSFR to perform cleanup.

Following the server failure all current RLS ACBs become unusable. DFHFCRD scans a chain of files open in RLS mode, which is anchored from file control static storage and call DFHFCFS to perform an IMMEDIATE_CLOSE for each open file.

DFHFCRD then waits:
1. for the last file to close,
2. once the last file has closed, for SMSVSAM to complete any residual requests against the RLS control ACB.

When both these events have occurred, DFHFCRD calls DFHFCCA to perform UNREGISTER_CONTROL_ACB processing in order to clean up the CICS and VSAM state with respect to the control ACB.

DFHFCRD finally posts an ECB which allows dynamic RLS restart to go ahead. Dynamic RLS restart cannot start until DFHFCRD has completed clean up and posted this ECB.

DFHFCRF (file control function shipping interface module)

Call mechanism
Kernel subroutine call. Automatic stack storage acquired as part of the call.

Entry address
FC_FCRF_ADDRESS stored in FC Static Storage.

Purpose
DFHFCRF is the function shipping interface module. It is called by the access method independent module DFHFCFR for record management requests (e.g. reads, writes, rewrites, etc.) that are to be directed to files that are defined as remote.

DFHFCRF is called with the FCFR parameter list. From this it constructs an FCRF parameter list, which is subsequently passed to DFHISP and, in turn, either to DFHXFX (the MRO transformer) or to DFHXFFP (the ISC transformer).

DFHFCRF executes the following requests from the DFHFCFRR parameter list:
- Simple read requests
  - READ_INTO and READ_SET
- The read update family

  - READ_UPDATE_INTO and READ_UPDATE_SET
  - REWRITE
  - REWRITE_DELETE
  - UNLOCK
- The browse family
  - START_BROWSE
  - RESET_BROWSE
  - READ_NEXT_SET, READ_NEXT_INTO, READ_PREVIOUS_SET, READ_NEXT_UPDATE_SET, READ_NEXT_UPDATE_INTO, READ_PREVIOUS_UPDATE_SET, and READ_PREVIOUS_UPDATE_INTO
  - END_BROWSE
- Write requests
  - WRITE
- Delete requests
  - DELETE

Called by

DFHFCFR, the File Control file request handler.

Inputs

The FCFR parameter list, as defined by the DFHFCFRA DSECT.

Outputs

The FCRF parameter list, as defined by the DFHFCRFA DSECT.

Operation

Traces module entry.

Checks for an explicit SYSID specified on the request and sets the remote system and remote file name in the DFHFCRF parameter list ready for function shipping.

Increments statistics for the type of request.

Checks request specific parameters

Ships the request.

Handles return codes.

Finally, traces the module exit.

How loaded

By FCRP at file control initialization.

DFHFCRL (file control share control block manager)

Call mechanism

Kernel subroutine call. Automatic stack storage acquired as part of the call.

Entry address

DFHFCRL. The entry point address is held in FC static storage in a field named FC_FCRL_ADDRESS, which is set by DFHFCRP when it loads DFHFCRL.

Purpose
The file control share control block manager is part of the file control component.

This program modifies the CICS specification of a shared resources pool. The changes are allowed to be made only when the actual pool is deleted.

Called by
DFHAMFC, when installing an LSR pool defined by RDO.

Inputs
The FCRL parameter list, as defined by the DFHFCRLA DSECT, is created as part of the subroutine call.

The input parameters are:

Request identifier
Pool identifier
Number of strings
Maximum key length
Share limit
Buffer characteristics

Outputs
The response and reason codes only. These are returned in the FCRL parameter list.

Operation
The SHRCTL block for the specified pool is addressed. A test is made to determine whether or not the pool is currently built; if it is built, the request is rejected with an error response.

The pool characteristics specified in the input parameter list are included in the SHRCTL block.

Finally the information in the SHRCTL block is written to the CICS global catalog.

How loaded
By DFHFCRP as part of file control initialization.

DFHFCRO (file control RLS open/close program)
DFHFCRO performs an equivalent function for RLS opens and closes as is performed by DFHFCN for non-RLS access mode.

DFHFCRP (file control restart program)

Call mechanism
Kernel subroutine call. Automatic stack storage acquired as part of the call.

Entry address
DFHFCRP. This address is needed only by DFHFCIN2 during initialization; it is therefore not saved in FC static storage.

Purpose
The file control restart program is part of the file control component. This program creates a file control component on a cold or initial start of CICS, or re-creates it

after a warm or emergency start. For a warm or emergency start, the intention is to reconstruct the identical file control environment which was in effect at the time of the previous CICS termination.

Called by

DFHFCIN2, during file control initialization.

Inputs

None.

Outputs

The restarted file control component. File control static addresses and indicators are set up. DFHFCRP's response and reason codes are set in the parameter list defined by DFHFCRPA DSECT.

Operation

Calls loader domain to define (if necessary) and acquire (load) the following file control programs: DFHDTINS, DFHFCAT, DFHFCCA, DFHFCDN, DFHFCD2, DFHFCES, DFHFCFL, DFHFCFS, DFHFCIR, DFHFCLF, DFHFCLJ, DFHFCMT, DFHFCNQ, DFHFCQI, DFHFCQU, DFHFCQX, DFHFCRC, DFHFCRL, DFHFCRO, DFHFCRR, DFHFCRS, DFHFCRV, DFHFCSD, DFHFCST, and DFHFCVS.

Adds gates to the kernel for recovery control, ENF services, and log stream failure notification.

Calls storage manager domain to add (create) the following storage subpools: file control general below 16MB, VSAM FCTE, BDAM FCTE, ACB, DCB, SHRCTL, DSN, FFLE, FRAB, FRTE, FLLB, FLAB, RPL, IFGLUWID, file control fixed-length buffer storage. Calls the NQ domain to add (create) enqueue subpools for: dataset record NQs, file record NQs, range NQs, load mode NQs, ESDS write NQs, and UMT loading NQs.

Calls DFHTMP to create TMP primary indexes for the FCT, AFCT, and DSN tables, and a TMP secondary index for the DSN table.

If RLS is supported (correct level of DFSMS, and RLS=YES SIT parameter) initializes the CSFR, CFQS, CFQR and CFOR tasks, registers file control's interest in the SMSVSAM ENF signal by a LISTEN call to DFHDMEN, and calls DFHFCRR to restart RLS.

On a warm or emergency start:

- Determines installation levels of the MVS/Data Facility Product (MVS/DFP) (or DFSMS), the Data Facility Hierarchical Storage Manager (DFHSM), and the Data Facility Data Set Services (DFDSS) for VSAM backup while open (BWO) support.
- Restores DSNAME blocks from the CICS global catalog, recreating a DSN control block in the DSN subpool storage. For each block, adds its DS name to the TMP primary index, and adds its DS number to the TMP secondary index.
- Restores VSAM file entries from the CICS global catalog. For each entry, adds its file name to the TMP FCT index.
- Restores BDAM file entries from the CICS global catalog. For each entry, adds its file name to the TMP FCT index. Further, for each entry, restores the BDAM DCB from the catalog and copies it to an entry in the DCB storage subpool.
- Restores DSNAME references from the CICS global catalog. For each entry, locates its FCTE and invokes DFHFCDN to connect the FCTE to its DSN block.

- Restores SHRCTL blocks from the CICS global catalog.

On a cold start:

- As for a warm or emergency start, determines installation levels of MVS/DFP, DFHSM, and DFDSS for VSAM backup while open (BWO) support.
- Purges the CICS global catalog of all FCTEs, SHRCTL blocks, DSNAME references, AFCTEs, and BDAM DCBs.
- Calls the loader domain to load the FCT specified by the FCT system initialization parameter.
- Builds all eight SHRCTL blocks, using any information that may have been specified in the loaded FCT. Writes the blocks to the CICS global catalog.
- For each file control table entry in the loaded FCT, creates an FCT entry in the FCT storage subpool, copies the information to it, adds the file name to the TMP index, and writes the table entry to the CICS global catalog.
- Calls the loader domain to delete the previously loaded FCT.

Indicates file control restart complete for non-recoverable business by setting FC_NON_REV_ALLOWED_ECB on.

Sends message to inform that file control restart is complete.

If all was successful, turns on the FCSCMPLT flag in FC static.

Finally, posts the FC_RECOV_ALLOWED_ECB in FC static.

How loaded

By the file control initialization module 2, DFHFCIN2, and deleted after it has completed.

DFHFCRR (file control RLS restart)

DFHFCRR is used to restart the RLS component of File Control. It is called whenever CICS is restarted and after any total RLS failure. DFHFCRR is also called whenever a resource can be made available again after earlier failures have been rectified, and after recovery from Lost Locks.

DFHFCRR is invoked whenever CICS is restarted (COLD, WARM or EMERGENCY) by DFHFCRP, and following any total RLS failure (DYNAMIC restart) by DFHFCES.

DFHFCRR is also called to retry work which has been shunted because a resource (a data set, and RLS cache, or the VSAM RLS server) was not available. For this purpose, it is called by DFHFCQU when CICS is notified that a data set has been unquiesced, has completed a non-BWO copy or has completed forward recovery, and when CICS is notified that a previously failed cache is now available; by DFHFCFL when the API interface is used to retry all shunted work for a given data set; and by DFHFCRO when an override condition is detected, in order to drive any shunted work. DFHFCRR is also called by DFHFCQU when CICS is notified that all systems have completed lost locks recovery for a data set.

DFHFCRS (file control RLS record management processor)

DFHFCRS performs an equivalent function for RLS access mode record management requests as is performed by DFHFCVS for non-RLS access mode requests.

DFHFCRV (file control RLS VSAM interface processor)

DFHFCRV performs an equivalent function for RLS access mode record management requests as is performed by DFHFCVR for non-RLS access mode requests.

DFHFCSD (file control shutdown program)

Call mechanism

Kernel subroutine call. Automatic stack storage acquired as part of the call.

Entry address

DFHFCSD. The entry point address is held in FC static storage in a field named FC_FCSD_ADDRESS, which is set by DFHFCRP when it loads DFHFCSD.

Purpose

The file control shutdown program is part of the file control component. Its purpose is to close all CICS files that are still open during phase 2 of a normal controlled CICS termination. This processing is bypassed for immediate termination.

Called by

DFHSTP, to close all open files managed by CICS file control.

Inputs

The FCSD parameter list, as defined by the DFHFCSDA DSECT, is created as part of the subroutine call.

The input parameters are:

Type of shutdown (immediate, warm)

Outputs

The response and reason codes only, which are returned in the FCSD parameter list.

Operation

DFHFCSD has only one function: TERMINATE.

On a ‘warm’ shutdown (that is, a not-immediate shutdown), DFHFCSD calls DFHTMP to scan all FCT entries. For each file, it calls DFHFCFS to close the file. A special CLOSE qualifier (shutdown) is specified on the call to DFHFCFS so as not to catalog the FCT entry as in an ‘unenabled’ state. DFHFCSD also calls DFHFCDO to disconnect coupling facility data table pools.

If RLS is supported, the quiesce system tasks CFQS and CFQR are terminated.

How loaded

By DFHFCRP as part of file control initialization.

DFHFCST (file control statistics program)

Call mechanism

Kernel subroutine call. Automatic stack storage acquired as part of the call.

Entry address

DFHFCST. The entry point address is held in FC static storage in a field named FC_FCST_ADDRESS, which is set by DFHFCRP when it loads DFHFCST.

Purpose

The file control statistics program is part of the file control component.

This program is called to collect statistics for a single file, together with any data table statistics, or to collect statistics for the activity in a shared resources pool.

It is also called to return file statistics associated with a file's use of a shared resources pool.

Called by

DFHSTFC
Collect file statistics

DFHSTLS
Collect pool statistics and also file-in-pool statistics.

Inputs

The FCST parameter list, as defined by the DFHFCSTA DSECT, is created as part of the subroutine call.

The input parameters are:

Request identifier
File name
FCTE token
Statistics record
Pool identifier
Browse token
Reset indicator

Outputs

Returned in the FCST parameter list:

Browse token
Response
Reason

Operation

- Collect file statistics:

  The FCT entry token is validated if supplied; otherwise, the file name is used to locate the FCT entry.

  The file statistics, and any data table statistics, are collected from the FCTE and copied into the statistics record. The statistics in the FCTE are optionally reset according to the reset indicator.

  For data tables, a STATISTICS data table service request is issued to retrieve and reset those statistics that are maintained by data table services. These statistics are appended to the file statistics record.

  The FCT entry is unlocked and the statistics record returned to the caller.
- Collect pool statistics:

  The SHRCTL block for the specified pool is addressed. The pool statistics are copied into the statistics record and are returned to the caller.
- Start browse of files in pool:

Storage is obtained from the general file control pool for the browse cursor. The browse token is returned to the caller.

- Get statistics for next file in pool:

  DFHTMP is invoked to locate the FCT entry identified by the browse cursor. If the file uses the specified pool, the shared pool statistics for this file are retrieved and returned in the statistics record.

  The statistics contain the data and index buffer sizes, and the number of times buffer waits occurred.

  The browse cursor is updated before returning to the caller.
- End browse of files in pool:

  The browse cursor storage is freed before returning to the caller.

How loaded
By DFHFCRP as part of file control initialization.

DFHFCVR (file control VSAM interface program)

Call mechanism
BALR, obtaining LIFO storage on entry.

Entry address
DFHFCVR. DFHFCVR is link-edited with DFHFCVS. For calls to DFHFCVR from DFHFCVS, the entry point address is known to DFHFCVS from the link-edit. This address is also stored in FC static storage in a field named FC_FCVR_ENTRY. In addition, there is a further “entry address”, UPADEXIT, which is the entry code for the UPAD exit code.

Purpose
The VSAM request interface program is part of the file control component.

This module contains code that issues the VSAM requests, and performs UPAD exit processing in the case of synchronous requests to LSR files, or performs the IOEVENT wait (‘FCIOWAIT’) in the case of asynchronous requests to NSR files.

The module also contains a number of further routines that implement functions required by DFHFCVS.

Called by
DFHFCBD
: To issue a message

DFHFCFR
: To wait on a CICS ECB

DFHFCVR
: Recursively, to issue an ENDREQ request to free a deadlock

DFHFCVS
: When issuing VSAM requests

DFHFCVS
: To execute one of the constituent functions

VSAM
: To invoke the UPAD exit.

Inputs
The FCWSV parameter list, as defined by the DFHFCWS macro, is created in the caller’s automatic storage and addressed by register 1 on the call. The input parameters are:

Request identifier
FCTE address
VSWA address
ECB address
Wait resource type
Message number
Dump code

In addition, DFHFCVR requires access to the TCA for certain of its operations.

Outputs

FCVR_RESPONSE parameter (only), defined as part of the FCWSV parameter list.

Operation

Initialize: Copies the VSAM exit list to FC static storage. This action is performed as part of file control initialization.

VSAM_Request: Issues the request to VSAM. Performs the IOEVENT wait. Handles LSR 'no buffers' logical error. Issues change mode request to perform the request under the concurrent TCB if possible.

Get_Strings and Free_Strings: Acquires and frees the required number of shared strings from the LSR pool.

Get_TRANID and Free_TRANID: Allocates and releases a VSAM tranid required during sequential update operations to an LSR file.

Wait_CICSECB: Issues a function request to wait for a CICS ECB to be posted.

Wait_String: Issues a function request to wait for a private string to become available.

Send_Message: Issues a function request to send a message.

How loaded

Link-edited with DFHFCVS to form the DFHFCVS load module, which is loaded by DFHFCRP as part of file control initialization.

DFHFCVS (file control VSAM request processor)

Call mechanism

Kernel subroutine call. Automatic stack storage acquired as part of the call.

Entry address

DFHFCVS. The entry point address is held in FC static storage in a field named FC_FCVS_ADDRESS, which is set by DFHFCRP when it loads DFHFCVS.

Purpose

Processes file control requests to VSAM files.

Also initializes certain FC static storage fields during file control initialization.

Called by

DFHFCDTS
: To access the VSAM source data set to satisfy requests that cannot be satisfied by the table itself

DFHFCFR
After having determined that the request is for a VSAM file.

Inputs

The FCFR parameter list, as defined by the DFHFCFRA DSECT. Also the file control environment, including FC static storage and the FCT.

Outputs

Updated FCFR parameter list.

Operation

Selects on the request type, and passes control to the routine specific to that request.

Acquires and releases the VSWA as necessary.

Logs and journals the request if required.

Performs record-length and key-length checking.

Acquires storage, in the correct key subpool, for requests that specify SET.

Calls DFHFCVR to perform the VSAM request.

Resolves conflicts of exclusive control.

Performs record locking and resolves locking conflicts, including the detection of deadlocks caused either by single tasks that deadlock themselves or by multiple tasks that deadlock each other.

Performs initialization of FC static storage during file control initialization.

For CICS-maintained data tables, calls data table services to update the table to keep it in step with the VSAM source data set.

How loaded

By DFHFCRP as part of file control initialization.

Parameter lists

File control provides the following functions in OCO modules:

FCCR POINT function

FCCR is the parameter list used by File Control to communicate with the Coupling Facility Data Table cross-memory server, DFHCFMN, for data access requests.

The POINT function locates a record in a coupling facility data table.

Input parameters

TABLE_NAME
is the 16-character name of the CFDT (8 characters padded with trailing spaces).

TABLE_TOKEN
is the token returned on OPEN which must be passed on all subsequent requests against that open table.

KEY
: is the 16-byte key of the record to be accessed. For approximate key operations, this specifies the start key and is updated on successful completion to contain the key of the record accessed.

KEY_COMPARISON
: is the comparison condition, and can take the values

  `LT|LTEQ|EQ|GTEQ|GT`

KEY_MATCH_LENGTH
: is the key match length for generic key operations.

UOW_ID
: is the unit of work identification, which is required when updating using the locking model (non-recoverable or recoverable).

TRANSACTION_NUMBER
: identifies the requesting task within the debug trace, if used.

Output parameters

KEY
: returns the 16-byte key of the located record.

RESPONSE
: is DFHFCCR's response to the call. It can have any of these values:

  `OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
: is returned when RESPONSE is EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED RECORD_NOT_FOUND TABLE_LOADING TABLE_TOKEN_INVALID TABLE_DESTROYED POOL_STATE_ERROR CF_ACCESS_ERROR

FCCR HIGHEST function

FCCR is the parameter list used by File Control to communicate with the Coupling Facility Data Table cross-memory server, DFHCFMN, for data access requests.

The HIGHEST function returns the highest key in a coupling facility data table, if any.

Input parameters

TABLE_NAME
: is the 16-character name of the CFDT (8 characters padded with trailing spaces).

TABLE_TOKEN
: is the token returned on OPEN which must be passed on all subsequent requests against that open table.

TRANSACTION_NUMBER
: identifies the requesting task within the debug trace, if used.

Output parameters

KEY
: returns the 16-byte key of the highest record.

RESPONSE
: is DFHFCCR's response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
: is returned when RESPONSE is EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED RECORD_NOT_FOUND TABLE_LOADING TABLE_TOKEN_INVALID TABLE_DESTROYED POOL_STATE_ERROR CF_ACCESS_ERROR

FCCR READ function

FCCR is the parameter list used by File Control to communicate with the Coupling Facility Data Table cross-memory server, DFHCFMN, for data access requests.

The READ function reads a record from a coupling facility data table, optionally for update.

Input parameters

TABLE_NAME
is the 16-character name of the CFDT (8 characters padded with trailing spaces).

TABLE_TOKEN
is the token returned on OPEN which must be passed on all subsequent requests against that open table.

KEY_COMPARISON
is the comparison condition, and can take the values

`LT|LTEQ|EQ|GTEQ|GT`

KEY_MATCH_LENGTH
is the key match length for generic key operations.

KEY
is the 16-byte key of the record to be accessed. For approximate key operations, this specifies the start key and is updated on successful completion to contain the key of the record accessed.

BUFFER
is the input buffer for read requests.

UOW_ID
is the unit of work identification, which is required when updating using the locking model (non-recoverable or recoverable).

SUSPEND
specifies whether to wait if the requested record is locked by an active lock, and can take the values

`YES|NO`

TRANSACTION_NUMBER
identifies the requesting task within the debug trace, if used.

Output parameters

UPDATE_TOKEN
returns a token on a read for update.

KEY
returns the 16-byte key of the highest record.

LOCK_OWNER_SYSTEM
identifies the MVS system from which the record lock was acquired for a record_busy or record_locked condition. Also set when the wait exit is taken for a lock wait.

LOCK_OWNER_APPLID
identifies the applid of the region which owns the record lock for a record_busy or record_locked condition. Also set when the wait exit is taken for a lock wait.

LOCK_OWNER_UOW_ID
identifies the unit of work which owns the record lock for a record_busy or record_locked condition. Also set when the wait exit is taken for a lock wait.

RESPONSE
is DFHFCCR's response to the call. It can have any of these values:

OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED

[REASON]
is returned when RESPONSE is EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED RECORD_NOT_FOUND RECORD_BUSY RECORD_LOCKED TABLE_LOADING INVALID_REQUEST INCOMPLETE_UPDATE TABLE_TOKEN_INVALID TABLE_DESTROYED UOW_FAILED UOW_NOT_IN_FLIGHT UOW_TOO_LARGE POOL_STATE_ERROR CF_ACCESS_ERROR

FCCR READ_DELETE function

FCCR is the parameter list used by File Control to communicate with the Coupling Facility Data Table cross-memory server, DFHCFMN, for data access requests.

The READ_DELETE function reads and deletes a record from a coupling facility data table. It is not used by CICS.

FCCR UNLOCK function

FCCR is the parameter list used by File Control to communicate with the Coupling Facility Data Table cross-memory server, DFHCFMN, for data access requests.

The UNLOCK function unlocks a record previously read for update in a coupling facility data table.

Input parameters

TABLE_NAME
is the 16-character name of the CFDT (8 characters padded with trailing spaces).

TABLE_TOKEN
is the token returned on OPEN which must be passed on all subsequent requests against that open table.

KEY
is the 16-byte key of the record to be unlocked.

BUFFER
is the input buffer for read requests.

UPDATE_TOKEN
is the token returned on the preceding read for update.

UOW_ID
is the unit of work identification, which is required for the locking model (non-recoverable or recoverable).

TRANSACTION_NUMBER
identifies the requesting task within the debug trace, if used.

Output parameters

RESPONSE
is DFHFCCR's response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
is returned when RESPONSE is EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED RECORD_NOT_FOUND RECORD_CHANGED TABLE_LOADING INVALID_REQUEST UPDATE_TOKEN_INVALID TABLE_TOKEN_INVALID TABLE_DESTROYED UOW_FAILED UOW_NOT_IN_FLIGHT POOL_STATE_ERROR CF_ACCESS_ERROR

FCCR LOAD function

FCCR is the parameter list used by File Control to communicate with the Coupling Facility Data Table cross-memory server, DFHCFMN, for data access requests.

The LOAD function adds a record to a coupling facility data table during loading.

Input parameters

TABLE_NAME
is the 16-character name of the CFDT (8 characters padded with trailing spaces).

TABLE_TOKEN
is the token returned on OPEN which must be passed on all subsequent requests against that open table.

KEY
is the 16-byte key of the record to be loaded.

DATA
is the address and length of the record data to be loaded.

TRANSACTION_NUMBER
identifies the requesting task within the debug trace, if used.

Output parameters

RESPONSE
is DFHFCCR's response to the call. It can have any of these values:

OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED

[REASON]
is returned when RESPONSE is EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED DUPLICATE_RECORD MAXIMUM_RECORDS_REACHED NO_SPACE_IN_POOL INVALID_REQUEST INVALID_LENGTH TABLE_TOKEN_INVALID TABLE_DESTROYED POOL_STATE_ERROR CF_ACCESS_ERROR

FCCR WRITE function

FCCR is the parameter list used by File Control to communicate with the Coupling Facility Data Table cross-memory server, DFHCFMN, for data access requests.

The WRITE function writes a new record to a coupling facility data table.

Input parameters

TABLE_NAME
is the 16-character name of the CFDT (8 characters padded with trailing spaces).

TABLE_TOKEN
is the token returned on OPEN which must be passed on all subsequent requests against that open table.

KEY
is the 16-byte key of the record to be added.

DATA
is the address and length of the record data to be added.

UOW_ID
is the unit of work identification, which is required when updating using the locking model (non-recoverable or recoverable).

SUSPEND
specifies whether to wait if the requested record is locked by an active lock, and can take the values

YES|NO

TRANSACTION_NUMBER
identifies the requesting task within the debug trace, if used.

Output parameters

LOCK_OWNER_SYSTEM
identifies the MVS system from which the record lock was acquired for a record_busy or record_locked condition. Also set when the wait exit is taken for a lock wait.

LOCK_OWNER_APPLID
identifies the applid of the region which owns the record lock for a record_busy or record_locked condition. Also set when the wait exit is taken for a lock wait.

LOCK_OWNER_UOW_ID
identifies the unit of work which owns the record lock for a record_busy or record_locked condition. Also set when the wait exit is taken for a lock wait.

RESPONSE
is DFHFCCR's response to the call. It can have any of these values:

```
OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED
```

[REASON]
is returned when RESPONSE is EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED DUPLICATE_RECORD RECORD_BUSY RECORD_LOCKED MAXIMUM_RECORDS_REACHED NO_SPACE_IN_POOL TABLE_LOADING INVALID_REQUEST INVALID_LENGTH UPDATE_TOKEN_INVALID INCOMPLETE_UPDATE TABLE_TOKEN_INVALID TABLE_DESTROYED UOW_FAILED UOW_NOT_IN_FLIGHT UOW_TOO_LARGE POOL_STATE_ERROR CF_ACCESS_ERROR

FCCR REWRITE function

FCCR is the parameter list used by File Control to communicate with the Coupling Facility Data Table cross-memory server, DFHCFMN, for data access requests.

The REWRITE function rewrites an existing record in a coupling facility data table, following a read for update.

Input parameters

TABLE_NAME
is the 16-character name of the CFDT (8 characters padded with trailing spaces).

TABLE_TOKEN
is the token returned on OPEN which must be passed on all subsequent requests against that open table.

KEY
is the 16-byte key of the record to be rewritten.

DATA
is the address and length of the record data to be rewritten.

UPDATE_TOKEN
is the token returned on the preceding read for update.

UOW_ID
is the unit of work identification, which is required when updating using the locking model (non-recoverable or recoverable).

SUSPEND
specifies whether to wait if the requested record is locked by an active lock, and can take the values

```
YES|NO
```

TRANSACTION_NUMBER
identifies the requesting task within the debug trace, if used.

Output parameters

LOCK_OWNER_SYSTEM
identifies the MVS system from which the record lock was acquired for a record_busy or record_locked condition. Also set when the wait exit is taken for a lock wait.

LOCK_OWNER_APPLID
identifies the applid of the region which owns the record lock for a record_busy or record_locked condition. Also set when the wait exit is taken for a lock wait.

LOCK_OWNER_UOW_ID
identifies the unit of work which owns the record lock for a record_busy or record_locked condition. Also set when the wait exit is taken for a lock wait.

RESPONSE
is DFHFCCR's response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
is returned when RESPONSE is EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED RECORD_NOT_FOUND RECORD_CHANGED RECORD_BUSY RECORD_LOCKED MAXIMUM_RECORDS_REACHED NO_SPACE_IN_POOL TABLE_LOADING INVALID_REQUEST INVALID_LENGTH UPDATE_TOKEN_INVALID INCOMPLETE_UPDATE TABLE_TOKEN_INVALID TABLE_DESTROYED UOW_FAILED UOW_NOT_IN_FLIGHT UOW_TOO_LARGE POOL_STATE_ERROR CF_ACCESS_ERROR

FCCR DELETE function

FCCR is the parameter list used by File Control to communicate with the Coupling Facility Data Table cross-memory server, DFHCFMN, for data access requests.

The DELETE function deletes a record from a coupling facility data table, following a read for update.

Input parameters

TABLE_NAME
is the 16-character name of the CFDT (8 characters padded with trailing spaces).

TABLE_TOKEN
is the token returned on OPEN which must be passed on all subsequent requests against that open table.

KEY_COMPARISON
is the comparison condition, and can take the values

`LT|LTEQ|EQ|GTEQ|GT`

KEY_MATCH_LENGTH
: is the key match length for generic key operations.

KEY
: is the 16-byte key of the record to be deleted.

UPDATE_TOKEN
: is the token returned on the preceding read for update.

UOW_ID
: is the unit of work identification, which is required when updating using the locking model (non-recoverable or recoverable).

SUSPEND
: specifies whether to wait if the requested record is locked by an active lock, and can take the values

  `YES|NO`

TRANSACTION_NUMBER
: identifies the requesting task within the debug trace, if used.

Output parameters

KEY
: is the 16-byte key of the record deleted.

LOCK_OWNER_SYSTEM
: identifies the MVS system from which the record lock was acquired for a record_busy or record_locked condition. Also set when the wait exit is taken for a lock wait.

LOCK_OWNER_APPLID
: identifies the applid of the region which owns the record lock for a record_busy or record_locked condition. Also set when the wait exit is taken for a lock wait.

LOCK_OWNER_UOW_ID
: identifies the unit of work which owns the record lock for a record_busy or record_locked condition. Also set when the wait exit is taken for a lock wait.

RESPONSE
: is DFHFCCR's response to the call. It can have any of these values:

  `OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
: is returned when RESPONSE is EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED RECORD_NOT_FOUND RECORD_CHANGED RECORD_BUSY RECORD_LOCKED TABLE_LOADING INVALID_REQUEST UPDATE_TOKEN_INVALID INCOMPLETE_UPDATE TABLE_TOKEN_INVALID TABLE_DESTROYED UOW_FAILED UOW_NOT_IN_FLIGHT UOW_TOO_LARGE POOL_STATE_ERROR CF_ACCESS_ERROR

FCCR DELETE_MULTIPLE function

FCCR is the parameter list used by File Control to communicate with the Coupling Facility Data Table cross-memory server, DFHCFMN, for data access requests.

The DELETE_MULTIPLE function deletes records from a coupling facility data table, subject to key match conditions, until no more records match or an exception occurs.

Input parameters

TABLE_NAME
is the 16-character name of the CFDT (8 characters padded with trailing spaces).

TABLE_TOKEN
is the token returned on OPEN which must be passed on all subsequent requests against that open table.

KEY_COMPARISON
is the comparison condition, and can take the values

`LT|LTEQ|EQ|GTEQ|GT`

KEY_MATCH_LENGTH
is the key match length for generic key operations.

KEY
is the 16-byte key of the record(s) to be deleted.

UOW_ID
is the unit of work identification, which is required when updating using the locking model (non-recoverable or recoverable).

SUSPEND
specifies whether to wait if the requested record is locked by an active lock, and can take the values

`YES|NO`

TRANSACTION_NUMBER
identifies the requesting task within the debug trace, if used.

Output parameters

DELETED_RECORD_COUNT
is the number of records successfully deleted by the delete_multiple request.

KEY
is the 16-byte key of the last record deleted.

LOCK_OWNER_SYSTEM
identifies the MVS system from which the record lock was acquired for a record_busy or record_locked condition. Also set when the wait exit is taken for a lock wait.

LOCK_OWNER_APPLID
identifies the applid of the region which owns the record lock for a record_busy or record_locked condition. Also set when the wait exit is taken for a lock wait.

LOCK_OWNER_UOW_ID
identifies the unit of work which owns the record lock for a record_busy or record_locked condition. Also set when the wait exit is taken for a lock wait.

RESPONSE
is DFHFCCR's response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
is returned when RESPONSE is EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED RECORD_NOT_FOUND RECORD_CHANGED RECORD_BUSY RECORD_LOCKED TABLE_LOADING INVALID_REQUEST UPDATE_TOKEN_INVALID INCOMPLETE_UPDATE TABLE_TOKEN_INVALID TABLE_DESTROYED UOW_FAILED UOW_NOT_IN_FLIGHT UOW_TOO_LARGE POOL_STATE_ERROR CF_ACCESS_ERROR

FCCT OPEN function

FCCT is the parameter list used by File Control to communicate with the Coupling Facility Data Table cross-memory server, DFHCFMN, for table status functions (Open, Close etc.).

The OPEN function defines a coupling facility data table table and establishes a connection between it and a CICS file. A security check is performed for access to the table name. If the table does not exist, it is implicitly created. If the table requires loading, it can only be opened if the access mode specifies exclusive access (or prefer_shared, allowing exclusive access if necessary).

Input parameters

TABLE_NAME
is the 16-character name of the CFDT (8 characters padded with trailing spaces).

RECORD_LENGTH
specifies the maximum record length, in the range 1 to 32767.

KEY_LENGTH
specifies the key length, in the range 1 to 16.

MAXIMUM_RECORDS
specifies the maximum number of records which can be stored in the table.

UPDATE_MODEL
specifies the method to be used for updating. It can take any of the values:

```
CONTENTION|LOCKING|RECOVERABLE
```

Contention means version compare and swap. Locking means normal update locking. Recoverable includes backout support in addition to the basic locking model.

INITIAL_LOAD
specifies whether initial load is required. It can take the values:

```
YES|NO
```

OPEN_MODE
specifies a read_only or read_write open. It can take the values

```
READ_ONLY|READ_WRITE
```

ACCESS_MODE
specifies whether the table is being opened for exclusive or shared use. It can take the values:

`EXCLUSIVE|SHARED|PREFER_SHARED`

Only one user at a time can have an exclusive open active. If the table requires loading and is not yet being loaded, it can only be opened in exclusive mode. If PREFER_SHARED is specified, the table will be opened in exclusive mode if loading is required, otherwise it will be open in shared mode.

SHARED_ACCESS
specifies for an exclusive mode open whether other users will be allowed shared access to the file at the same time. It can take the values:

`NONE|READ_ONLY|READ_WRITE`

TRANSACTION_NUMBER
identifies the requesting task within the debug trace, if used.

Output parameters

TABLE_TOKEN
is a unique token representing the connection to this table. It must be passed on all subsequent requests against that open table, including close and set.

RECORD_LENGTH
returns the maximum record length of the table.

KEY_LENGTH
returns the key length of the table.

MAXIMUM_RECORDS
returns the maximum number of records limit for the table.

UPDATE_MODEL
returns the update model for the data table. It can take any of the values:

`CONTENTION|LOCKING|RECOVERABLE`

Contention means version compare and swap. Locking means normal update locking. Recoverable includes backout support in addition to the basic locking model.

INITIAL_LOAD
returns whether or not the data table requires initial loading. It can take the values:

`YES|NO`

ACCESS_MODE
returns whether the table was opened for exclusive or shared use. It can take the values:

`EXCLUSIVE|SHARED`

LOADED
returns an indication of whether the table has been loaded. If the table was created as empty this is set to yes as if loading were already done. It can take the values:

`YES|NO`

CURRENT_USERS
returns the number of explicit opens which are currently active against the table (not including internal recoverable opens issued by the server).

CURRENT_RECORDS
returns the number of records in the data table.

CURRENT_HIGH_KEY
returns the key of the last record in the table at the time of the request, or low values if the table does not contain any records.

RESPONSE
is DFHFCCT's response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
is returned when RESPONSE is EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED ACCESS_NOT_ALLOWED TABLE_NOT AVAILABLE NOT_YET_LOADED SHARED_ACCESS_CONFLICT EXCLUSIVE_ACCESS_CONFLICT INCOMPATIBLE_ATTRIBUTES INCOMPLETE_ATTRIBUTES INCORRECT_STATE RECOVERY_NOT_ENABLED OPTION_NOT_SUPPORTED NO_SPACE_IN_POOL MAXIMUM TABLES_REACHED TOO_MANY_USERS TABLE_DESTROYED POOL_STATE_ERROR CF_ACCESS_ERROR

FCCT CLOSE function

FCCT is the parameter list used by File Control to communicate with the Coupling Facility Data Table cross-memory server, DFHCFMN, for table status functions (Open, Close etc.).

The CLOSE function terminates the connection to the specified table.

Input parameters

TABLE_NAME
is the 16-character name of the CFDT (8 characters padded with trailing spaces).

TABLE_TOKEN
is the token which was returned by the open.

TRANSACTION_NUMBER
identifies the requesting task within the debug trace, if used.

Output parameters

RESPONSE
is DFHFCCT's response to the call. It can have any of these values:
OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED

[REASON]
is returned when RESPONSE is EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED TABLE_TOKEN_INVALID TABLE_DESTROYED POOL_STATE_ERROR CF_ACCESS_ERROR

FCCT DELETE function

FCCT is the parameter list used by File Control to communicate with the Coupling Facility Data Table cross-memory server, DFHCFMN, for table status functions (Open, Close etc.).

The DELETE function deletes a coupling facility data table, provided that it is not currently open. A security check for table access is performed.

Input parameters

TABLE_NAME
is the 16-character name of the CFDT (8 characters padded with trailing spaces).

TRANSACTION_NUMBER
identifies the requesting task within the debug trace, if used.

Output parameters

RESPONSE
is DFHFCCT's response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
is returned when RESPONSE is EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED ACCESS_NOT_ALLOWED TABLE_NOT_FOUND EXCLUSIVE_ACCESS_CONFLICT TABLE_DESTROYED POOL_STATE_ERROR CF_ACCESS_ERROR

FCCT SET function

FCCT is the parameter list used by File Control to communicate with the Coupling Facility Data Table cross-memory server, DFHCFMN, for table status functions (Open, Close etc.).

The SET function is used to change the attributes of a table. The maximum number of records can be changed, the open mode can be changed to indicate no longer loading, and the access mode can be changed from exclusive to shared.

Input parameters

TABLE_NAME
is the 16-character name of the CFDT (8 characters padded with trailing spaces).

MAXIMUM_RECORDS
specifies the maximum number of records which can be stored in the table.

AVAILABLE
indicates whether new open requests are to be allowed for this table. It can take the values:

`YES|NO`

LOADED
indicates whether the table is to be marked as loaded. It can take the values:

`YES|NO`

ACCESS_MODE
specifies the access mode which is to be set for the table. It can take the values:

`EXCLUSIVE|SHARED`

The access mode is normally set to shared when a data table load has completed.

`SHARED_ACCESS`
specifies the shared access which is to be allowed by other users when the access mode is shared.

`NONE|READ_ONLY|READ_WRITE`

`TRANSACTION_NUMBER`
identifies the requesting task within the debug trace, if used.

Output parameters

`RESPONSE`
is DFHFCCT's response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

`[REASON]`
is returned when RESPONSE is EXCEPTION. Possible values are:

RESPONSE	**Possible REASON values**
EXCEPTION	SERVER_CONNECTION_FAILED ACCESS_NOT_ALLOWED TABLE_NOT_FOUND SHARED_ACCESS_CONFLICT EXCLUSIVE_ACCESS_CONFLICT ALREADY_SET INCORRECT_STATE OPTION_NOT_SUPPORTED TABLE_TOKEN_INVALID TABLE_DESTROYED POOL_STATE_ERROR CF_ACCESS_ERROR

FCCT EXTRACT_STATISTICS function

FCCT is the parameter list used by File Control to communicate with the Coupling Facility Data Table cross-memory server, DFHCFMN, for table status functions (Open, Close etc.).

The EXTRACT_STATISTICS function returns information about a table which is currently open, with optional reset.

Input parameters

`TABLE_NAME`
is the 16-character name of the CFDT (8 characters padded with trailing spaces).

`TABLE_TOKEN`
is the token which was returned by the open.

`RESET_STATISTICS`
is an optional parameter which specifies whether or not statistics are to be reset. It can take the values

`YES|NO`

`TRANSACTION_NUMBER`
identifies the requesting task within the debug trace, if used.

Output parameters

CURRENT_USERS
is the number of explicit opens which are currently active against the table (not including internal recoverable opens issued by the server).

CURRENT_RECORDS
is the number of records currently in the data table.

HIGHEST_RECORDS
is the highest number of records in the table as seen by the current server at any time since the last statistics reset.

CONTENTION_COUNT
is the number of times a rewrite or delete failed because of a mismatched version (for the contention model) or the number of times that a lock was found to be unavailable (for the locking or recoverable models) since the last statistics reset.

RESPONSE
is DFHFCCT's response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
is returned when RESPONSE is EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED TABLE_TOKEN_INVALID

FCCU PREPARE function

FCCU is the parameter list used by File Control to communicate with the Coupling Facility Data Table cross-memory server, DFHCFMN, for unit of work related functions.

The PREPARE function prepares to commit a unit of work.

Input parameters

UOW_ID
is the CICS unit of work identification, which is prefixed by the CFDT server with the subsystem name to form the fully qualified unit of work identifier.

TRANSACTION_NUMBER
is used for debug trace purposes.

Output parameters

RESPONSE
is DFHFCCU's response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
is returned when RESPONSE is EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED RECOVERY_NOT_ENABLED UOW_NOT_FOUND UOW_MADE_NO_CHANGES UOW_FAILED NO_SPACE_IN_POOL POOL_STATE_ERROR CF_ACCESS_ERROR

FCCU RETAIN function

FCCU is the parameter list used by File Control to communicate with the Coupling Facility Data Table cross-memory server, DFHCFMN, for unit of work related functions.

The RETAIN function marks a unit of work as retained.

Input parameters

UOW_ID
: is the CICS unit of work identification, which is prefixed by the CFDT server with the subsystem name to form the fully qualified unit of work identifier.

TRANSACTION_NUMBER
: is used for debug trace purposes.

Output parameters

RESPONSE
: is DFHFCCU's response to the call. It can have any of these values:

```
OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED
```

[REASON]
: is returned when RESPONSE is EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED RECOVERY_NOT_ENABLED UOW_NOT_FOUND UOW_MADE_NO_CHANGES UOW_FAILED NO_SPACE_IN_POOL POOL_STATE_ERROR CF_ACCESS_ERROR

FCCU COMMIT function

FCCU is the parameter list used by File Control to communicate with the Coupling Facility Data Table cross-memory server, DFHCFMN, for unit of work related functions.

The COMMIT function commits a unit of work.

Input parameters

UOW_ID
: is the CICS unit of work identification, which is prefixed by the CFDT server with the subsystem name to form the fully qualified unit of work identifier.

TRANSACTION_NUMBER
: is used for debug trace purposes.

Output parameters

RESPONSE
: is DFHFCCU's response to the call. It can have any of these values:

```
OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED
```

[REASON]
: is returned when RESPONSE is EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED RECOVERY_NOT_ENABLED UOW_NOT_FOUND UOW_MADE_NO_CHANGES UOW_FAILED NO_SPACE_IN_POOL POOL_STATE_ERROR CF_ACCESS_ERROR

FCCU BACKOUT function

FCCU is the parameter list used by File Control to communicate with the Coupling Facility Data Table cross-memory server, DFHCFMN, for unit of work related functions.

The BACKOUT function backs out a unit of work.

Input parameters

UOW_ID
is the CICS unit of work identification, which is prefixed by the CFDT server with the subsystem name to form the fully qualified unit of work identifier.

TRANSACTION_NUMBER
is used for debug trace purposes.

Output parameters

RESPONSE
is DFHFCCU's response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
is returned when RESPONSE is EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED RECOVERY_NOT_ENABLED UOW_NOT_FOUND UOW_MADE_NO_CHANGES POOL_STATE_ERROR CF_ACCESS_ERROR

FCCU INQUIRE function

FCCU is the parameter list used by File Control to communicate with the Coupling Facility Data Table cross-memory server, DFHCFMN, for unit of work related functions.

The INQUIRE function inquires about the status of a unit of work.

Input parameters

UOW_ID
is the CICS unit of work identification, which is prefixed by the CFDT server with the subsystem name to form the fully qualified unit of work identifier.

UOW_RESTARTED
is an optional parameter which indicates whether the inquire should select only units of work which have been through restart processing, and can take the values:

`NO|YES`

`TRANSACTION_NUMBER`
is used for debug trace purposes.

`BROWSE`
specifies whether the inquire is for a single unit of work or for the first or next UOW in a browse. If omitted, a single UOW inquire is performed. If specified, it can take the values

`FIRST|NEXT`

FIRST indicates a search for a UOWID greater than or equal to the specified UOWID, and NEXT indicates a search for a UOWID greater than the specified UOWID.

Output parameters

`UOW_STATE`
indicates the state of an active unit of work, and can have any of the values:

`IN_FLIGHT|IN_DOUBT|IN_COMMIT|IN_BACKOUT`

In_flight means that the unit of work has made some changes but has not yet reached the stage of prepare to commit. In_doubt means that it has been prepared but not committed or backed out. In_commit means that commit processing has been started. In_backout means that backout processing has been started. (When commit or backout processing completes, the unit of work is deleted).

`UOW_ID`
is the CICS unit of work id of the UOW for which inquire data is being returned.

`UOW_RESTARTED`
indicates whether the unit of work has been through restart processing, and can take the values:

`NO|YES`

`UOW_RETAINED`
indicates whether the locks for the unit of work have been marked as retained, either explicitly within the current connection or implicitly by a restart. It can take the values:

`NO|YES`

`RESPONSE`
is DFHFCCU's response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

`[REASON]`
is returned when RESPONSE is EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED RECOVERY_NOT_ENABLED UOW_NOT_FOUND

FCCU RESTART function

FCCU is the parameter list used by File Control to communicate with the Coupling Facility Data Table cross-memory server, DFHCFMN, for unit of work related functions.

The RESTART function establishes recovery status on connecting to a CFDT server.

Input parameters

UOW_SUBSYSTEM_NAME
: is not specified by CICS (the CICS applid is used by default).

TRANSACTION_NUMBER
: is used for debug trace purposes.

Output parameters

RESPONSE
: is DFHFCCU's response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
: is returned when RESPONSE is EXCEPTION. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED SUBSYSTEM_ALREADY_ACTIVE RESTART_ALREADY_ACTIVE TABLE_OPEN_FAILED NO_SPACE_IN_POOL POOL_STATE_ERROR CF_ACCESS_ERROR

FCDS EXTRACT_CFDT_STATS function

This function causes statistics relating to coupling facility data table usage to be extracted from the coupling facility data tables server.

Input parameters

FCTE_POINTER
: is the address of the FCTE entry of the file for which CFDT statistics are to be extracted.

RESET_STATISTICS
: indicates whether the statistics fields are to be reset to zero or not. It takes the values

`YES|NO`

TRANSACTION_NUMBER
: is an optional parameter which allows the transaction number to be passed to the CFDT server for inclusion in trace messages.

Output parameters

CURRENT_USERS
: is an optional fullword parameter which returns the current number of users of the coupling facility data table (that is, the number of opens issued against it).

MAXIMUM_RECORDS
: is an optional fullword parameter which returns the current value of the MAXNUMRECS limit for the data table.

CURRENT_RECORDS
: is an optional fullword parameter which returns the current number of records in the coupling facility data table.

HIGHEST_RECORDS
: is an optional fullword parameter which returns the highest number of records which have ever been in this coupling facility data table since it was last created.

CONTENTION_COUNT
is an optional fullword parameter which returns the number of contentions which have been detected, for a coupling facility data table which uses the contention update model.

RESPONSE
is DFHFCDS's response to the call. It can have any of these values:

```
OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED
```

[REASON]
is returned when RESPONSE is EXCEPTION, INVALID or DISASTER. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	CFDT_CONNECT_ERROR CFDT_DISCONNECT_ERROR CFDT_REOPEN_ERROR CFDT_SERVER_NOT_AVAILABLE CFDT_SERVER_NOT_FOUND CFDT_STATS_ERROR CFDT_SYSIDERR CFDT_TABLE_GONE
INVALID	INVALID_FORMAT INVALID_FUNCTION
DISASTER	POOL_ELEMENT_NOT_FOUND ABEND DISASTER_PERCOLATION

FCDS DISCONNECT_CFDT_POOLS function

This function causes CICS to disconnect from any coupling facility data table pools to which it is connected.

Input parameters

None

Output parameters

RESPONSE
is DFHFCDS's response to the call. It can have any of these values:

```
OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED
```

[REASON]
is returned when RESPONSE is EXCEPTION, INVALID or DISASTER. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	CFDT_DISCONNECT_ERROR
INVALID	INVALID_FORMAT INVALID_FUNCTION
DISASTER	ABEND DISASTER_PERCOLATION

FCDU PREPARE function

This function causes the coupling facility data table server to be called to prepare a unit of work which has made recoverable updates to one or more coupling facility data tables.

Input parameters

POOL_ELEM_ADDR
is the address of the pool element which identifies the coupling facility data table pool for which the prepare is to be issued. One or more of the coupling facility data tables updated by the unit of work reside in this pool. The prepare call will be issued to the CFDT server for this pool.

POOL_NAME
is the name of the coupling facility data table pool. The pool name is included for diagnostic purposes.

UOW_ID
is the identifier for the unit of work which is to be prepared.

Output parameters

RESPONSE
is DFHFCDU's response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
is returned when RESPONSE is EXCEPTION, INVALID or DISASTER. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED RECOVERY_NOT_ENABLED UOW_NOT_FOUND UOW_MADE_NO_CHANGES UOW_FAILED NO_SPACE_IN_POOL POOL_STATE_ERROR CF_ACCESS_ERROR CFDT_SYSIDERR CFDT_SERVER_NOT_AVAILABLE CFDT_SERVER_NOT_FOUND CFDT_CONNECT_ERROR CFDT_DISCONNECT_ERROR RESYNC_RETRY_FAILED
INVALID	INVALID_FORMAT INVALID_FUNCTION
DISASTER	ABEND DISASTER_PERCOLATION

FCDU RETAIN function

This function causes the coupling facility data table server to be called to convert locks held by the unit of work against recoverable coupling facility data tables into retained locks.

Input parameters

POOL_ELEM_ADDR
is the address of the pool element which identifies the coupling facility data table pool for which the retain is to be issued. One or more of the coupling facility data tables updated by the unit of work reside in this pool. The retain call will be issued to the CFDT server for this pool.

POOL_NAME
is the name of the coupling facility data table pool. The pool name is included for diagnostic purposes.

UOW_ID
is the identifier for the unit of work for which locks are to be retained.

Output parameters

RESPONSE
is DFHFCDU’s response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
is returned when RESPONSE is EXCEPTION, INVALID or DISASTER. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED RECOVERY_NOT_ENABLED UOW_NOT_FOUND UOW_MADE_NO_CHANGES UOW_FAILED NO_SPACE_IN_POOL POOL_STATE_ERROR CF_ACCESS_ERROR CFDT_SYSIDERR CFDT_SERVER_NOT_AVAILABLE CFDT_SERVER_NOT_FOUND CFDT_CONNECT_ERROR CFDT_DISCONNECT_ERROR RESYNC_RETRY_FAILED
INVALID	INVALID_FORMAT INVALID_FUNCTION
DISASTER	ABEND DISASTER_PERCOLATION

FCDU COMMIT function

This function causes the coupling facility data table server to be called to commit a unit of work which has made recoverable updates to one or more coupling facility data tables.

Input parameters

POOL_ELEM_ADDR
is the address of the pool element which identifies the coupling facility data table pool for which the commit is to be issued. One or more of the coupling facility data tables updated by the unit of work reside in this pool. The commit call will be issued to the CFDT server for this pool.

POOL_NAME
is the name of the coupling facility data table pool. The pool name is included for diagnostic purposes.

UOW_ID
is the identifier for the unit of work which is to be committed.

Output parameters

RESPONSE
is DFHFCDU’s response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
is returned when RESPONSE is EXCEPTION, INVALID or DISASTER. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED RECOVERY_NOT_ENABLED UOW_NOT_FOUND UOW_MADE_NO_CHANGES UOW_FAILED NO_SPACE_IN_POOL POOL_STATE_ERROR CF_ACCESS_ERROR CFDT_SYSIDERR CFDT_SERVER_NOT_AVAILABLE CFDT_SERVER_NOT_FOUND CFDT_CONNECT_ERROR CFDT_DISCONNECT_ERROR RESYNC_RETRY_FAILED
INVALID	INVALID_FORMAT INVALID_FUNCTION
DISASTER	ABEND DISASTER_PERCOLATION

FCDU BACKOUT function

This function causes the coupling facility data table server to be called to backout a unit of work which has made recoverable updates to one or more coupling facility data tables.

Input parameters

POOL_ELEM_ADDR
is the address of the pool element which identifies the coupling facility data table pool for which the backout is to be issued. One or more of the coupling facility data tables updated by the unit of work reside in this pool. The backout call will be issued to the CFDT server for this pool.

POOL_NAME
is the name of the coupling facility data table pool. The pool name is included for diagnostic purposes.

UOW_ID
is the identifier for the unit of work which is to be backed out.

Output parameters

RESPONSE
is DFHFCDU’s response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
is returned when RESPONSE is EXCEPTION, INVALID or DISASTER. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED RECOVERY_NOT_ENABLED UOW_NOT_FOUND UOW_MADE_NO_CHANGES POOL_STATE_ERROR CF_ACCESS_ERROR CFDT_SYSIDERR CFDT_SERVER_NOT_AVAILABLE CFDT_SERVER_NOT_FOUND CFDT_CONNECT_ERROR CFDT_DISCONNECT_ERROR RESYNC_RETRY_FAILED
INVALID	INVALID_FORMAT INVALID_FUNCTION
DISASTER	ABEND DISASTER_PERCOLATION

FCDU INQUIRE function

This function causes an INQUIRE to be issued to the coupling facility data table in order to obtain information about the status of an active unit of work. If the BROWSE parameter is specified, then the function will return the status of the next unit of work in the browse.

Input parameters

POOL_ELEM_ADDR
: is the address of the pool element which identifies the coupling facility data table pool for which the INQUIRE is to be issued. The inquire call will be issued to the CFDT server for this pool.

POOL_NAME
: is the name of the coupling facility data table pool. The pool name is included for diagnostic purposes.

UOW_ID
: identifies the unit of work for which status information is to be returned, or gives the previous unit of work in the browse.

UOW_RESTARTED
: is an optional input parameter which indicates whether or not the inquire should select only units of work which have been through restart processing. It can take the values

  `YES|NO`

BROWSE
: is an optional parameter which specified whether the inquire is for a single unit of work or for the first or next UOW in a browse, and which can take the values

  `FIRST|NEXT`

  If the BROWSE parameter is omitted, the request is a single UOW inquire. The FIRST option indicates a search for a UOW id greater than or equal to the specified UOW_ID, and next indicates a search for a UOW id greater than the specified UOW_ID.

Output parameters

RETURNED_UOW_ID
: Is the unit of work for which the browse is returning status information.

UOW_STATE
: indicates the state of the unit of work, and can have the values:

  `IN_FLIGHT|IN_DOUBT|IN_COMMIT|IN_BACKOUT`

UOW_RESTART_STATE
: indicates whether the unit of work has been through restart processing.

UOW_RETAINED
: indicates whether the locks for the unit of work have been retained.

RESPONSE
: is DFHFCDU's response to the call. It can have any of these values:

  `OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
: is returned when RESPONSE is EXCEPTION, INVALID or DISASTER. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED RECOVERY_NOT_ENABLED UOW_NOT_FOUND CF_ACCESS_ERROR CFDT_SYSIDERR CFDT_SERVER_NOT_AVAILABLE CFDT_SERVER_NOT_FOUND CFDT_CONNECT_ERROR CFDT_DISCONNECT_ERROR RESYNC_RETRY_FAILED
INVALID	INVALID_FORMAT INVALID_FUNCTION
DISASTER	ABEND DISASTER_PERCOLATION

FCDU RESTART function

This function establishes recovery status for a coupling facility data table pool when a CICS region has successfully connected to it.

Input parameters

POOL_ELEM_ADDR
: is the address of the pool element which identifies the coupling facility data table pool for recovery status is to be established. The RESTART call will be issued to the CFDT server for this pool.

POOL_NAME
: is the name of the coupling facility data table pool. The pool name is included for diagnostic purposes.

Output parameters

RETURNED_UOW_ID
: Is the unit of work for which the browse is returning status information.

UOW_STATE
: indicates the state of the unit of work, and can have the values:

  `IN_FLIGHT|IN_DOUBT|IN_COMMIT|IN_BACKOUT`

UOW_RESTART_STATE
: indicates whether the unit of work has been through restart processing.

UOW_RETAINED
: indicates whether the locks for the unit of work have been retained.

RESPONSE
: is DFHFCDU's response to the call. It can have any of these values:

OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED

[REASON]
is returned when RESPONSE is EXCEPTION, INVALID or DISASTER. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	SERVER_CONNECTION_FAILED SUBSYSTEM_ALREADY_ACTIVE RESTART_ALREADY_ACTIVE TABLE_OPEN_FAILED NO_SPACE_IN_POOL CF_ACCESS_ERROR CFDT_SYSIDERR CFDT_SERVER_NOT_AVAILABLE CFDT_SERVER_NOT_FOUND CFDT_CONNECT_ERROR CFDT_DISCONNECT_ERROR
INVALID	INVALID_FORMAT INVALID_FUNCTION
DISASTER	ABEND DISASTER_PERCOLATION

FCDY RESYNC_CFDT_POOL function

This function causes a coupling facility data table pool to be resynchronized.

Input parameters

POOL_NAME
is the name of the coupling facility data table pool which is to be resynchronized.

Output parameters

RESPONSE
is DFHFCDY's response to the call. It can have any of these values:

OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED

[REASON]
is returned when RESPONSE is EXCEPTION, INVALID or DISASTER. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	INITIATE_RECOVERY_FAILED TERMINATE_RECOVERY_FAILED CFDT_SERVER_CALL_FAILED
INVALID	INVALID_FORMAT INVALID_FUNCTION
DISASTER	ABEND DISASTER_PERCOLATION

FCDY RESYNC_CFDT_LINK function

This function causes a link between a unit of work and a coupling facility data table pool to be resynchronized.

Input parameters

POOL_NAME
: is the name of the coupling facility data table pool for which the link is to be resynchronized.

UOW_ID
: is the unit of work ID which identifies the link to be resynchronized.

Output parameters

RESPONSE
: is DFHFCDY's response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
: is returned when RESPONSE is EXCEPTION, INVALID or DISASTER. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	INITIATE_RECOVERY_FAILED TERMINATE_RECOVERY_FAILED CFDT_SERVER_CALL_FAILED
INVALID	INVALID_FORMAT INVALID_FUNCTION
DISASTER	ABEND DISASTER_PERCOLATION

FCDY RETURN_CFDT_ENTRY_POINTS function

This function causes module DFHFCDY to return the entry point addresses of the other modules with which it is link-edited.

Input parameters

None

Output parameters

CFDT_EP_DFHFCDW
: is the entry point address of module DFHFCDW.

CFDT_EP_DFHFCDU
: is the entry point address of module DFHFCDU.

RESPONSE
: is DFHFCDY's response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
: is returned when RESPONSE is INVALID or DISASTER. Possible values are:

RESPONSE	Possible REASON values
INVALID	INVALID_FORMAT INVALID_FUNCTION
DISASTER	ABEND DISASTER_PERCOLATION

FCFL END_UOWDSN_BROWSE function

After a browse of all the data set failures within a unit of work, the END_UOWDSN_BROWSE function releases the storage that was used for a snapshot of the failures.

Input parameters

BROWSE_TOKEN
is the token which was used for the browse.

Output parameters

RESPONSE
is DFHFCFL's response to the call. It can have any of these values:

`OK|INVALID|DISASTER|PURGED`

[REASON]
is returned when RESPONSE is INVALID or DISASTER. Possible values are:

RESPONSE	Possible REASON values
INVALID	INVALID_BROWSE_TOKEN
DISASTER	DISASTER_PERCOLATION ABEND

FCFL FIND_RETAINED function

This function looks for any FLAB associated with the specified data set which is flagged as retained, indicating that there are retained locks associated with the data set.

Input parameters

DSNAME
is the 44-character name of the data set for which associated retained locks are to be found.

Output parameters

RETLOCKS
indicates whether or not there are retained locks associated with the data set, and can have either of these values:

`RETAINED|NORETAINED`

RESPONSE
is DFHFCFL's response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
is returned when RESPONSE is DISASTER. Possible values are:

RESPONSE	Possible REASON values
DISASTER	DISASTER_PERCOLATION ABEND

FCFL FORCE_INDOUBTS function

This function is used by the CEMT or EXEC CICS SET DSNAME() UOWACTION(COMMIT|BACKOUT|FORCE) command. Shunted indoubt units of work are forced to complete in the specified direction. FORCE means that the direction is obtained from the ACTION specified on the transaction definition.

Input parameters

DSNAME
is the 44-character name of the data set for which shunted indoubt units of work are to be forced to complete.

DIRECTION
is the direction in which the units of work are to complete: forwards (commit),

backwards (backout), or heuristic (from the action specified on the transaction definition). It can have any of these values:

`FORWARD|BACKWARD|HEURISTIC`

Output parameters

RESPONSE
is DFHFCFL's response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
is returned when RESPONSE is DISASTER. Possible values are:

RESPONSE	Possible REASON values
DISASTER	DISASTER_PERCOLATION ABEND

FCFL GET_NEXT_UOWDSN function

This function returns the failure information for the next data set that has a failure within the unit of work being browsed.

Input parameters

BROWSE_TOKEN
is the token for the browse, which was returned by a START_UOWDSN_BROWSE call.

Output parameters

DSNAME
is the 44-character name of the data set for which failure information is returned.

[RLSACCESS]
indicates whether the data set was last open in RLS or non-RLS access mode, and can have either of these values:

`RLS|NOTRLS`

[CAUSE]
indicates the cause of the failure, and can have any of these values:

`CACHE|RLSSERVER|CONNECTION|DATASET|UNDEFINED`

[RETAIN_REASON]
indicates the reason for the failure, and can have any of these values:

```
RLSGONE|COMMITFAIL|IOERROR|DATASETFULL|INDEXRECFULL|
OPENERROR|DELEXITERROR|DEADLOCK|BACKUPNONBWO|
LOCKSTRUCFULL|FAILEDBKOUT|NOTAPPLIC|RR_COMMITFAIL|
RR_INDOUBT
```

RESPONSE
is DFHFCFL's response to the call. It can have any of these values:

`OK|INVALID|EXCEPTION|DISASTER`

[REASON]
is returned when RESPONSE is EXCEPTION, INVALID, or DISASTER. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	END_OF_LIST
INVALID	INVALID_BROWSE_TOKEN
DISASTER	DISASTER_PERCOLATION ABEND

FCFL RESET_BFAILS function

This function is used by the CEMT and EXEC CICS SET DSNAME() ACTION(RESETLOCKS) command. It purges shunted unit of work log records which hold backout-failure or commit-failure locks on the specified data set, and releases the locks.

Input parameters

DSNAME
is the 44-character name of the data set for which backout and commit failures are to be reset.

Output parameters

RESPONSE
is DFHFCFL's response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
is returned when RESPONSE is DISASTER. Possible values are:

RESPONSE	Possible REASON values
DISASTER	DISASTER_PERCOLATION ABEND REMOVE_FAILURE

FCFL RETRY function

This function is used by the CEMT and EXEC CICS SET DSNAME() UOWACTION(RETRY) command. It drives retry of any failed backouts and commits for the specified data set, by informing DFHFCRR that the failed resource (that is, the data set) is now available.

Input parameters

DSNAME
is the 44-character name of the data set for which backout and/or commits are to be retried.

Output parameters

RESPONSE
is DFHFCFL's response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
is returned when RESPONSE is DISASTER. Possible values are:

RESPONSE	Possible REASON values
DISASTER	DISASTER_PERCOLATION ABEND RESOURCE_NOT_FOUND

FCFL START_UOWDSN_BROWSE function

This function starts a browse of the data set failures within a unit of work. A snapshot of the failed data sets for the unit of work and the reasons for the failures are collected in an in-storage table to be browsed by the GET_NEXT_UOWDSN function.

Input parameters

UOW
is the 8-byte local unit of work identifier.

Output parameters

BROWSE_TOKEN
is a token which is used during the browse.

RESPONSE
is DFHFCFL's response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|PURGED`

[REASON]
is returned when RESPONSE is EXCEPTION or DISASTER. Possible values are:

RESPONSE	Possible REASON values
EXCEPTION	UOW_NOT_FOUND NO_FLABS_FOUND
DISASTER	DISASTER_PERCOLATION ABEND

FCFL TEST_USER function

This function is used to test if the task has updated a record, and therefore established itself as a file user, either for any data set or for a specified data set. It can be used either as a domain subroutine call or as an inline macro.

Input parameters

[ENVIRONMENT]
is an optional parameter which is a fullword environment identifier. If specified, then the function will test whether the task is a user of any files within that environment.

[DSNAME]
is an optional parameter which specifies that a particular data set is to be tested.

Output parameters

FLAB_PTR
is the address of a FLAB which was found by the test. If a non-zero value is returned, then this means that the user is a task.

RESPONSE
is DFHFCFL's response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
is returned when RESPONSE is DISASTER. Possible values are:

RESPONSE	Possible REASON values
DISASTER	DISASTER_PERCOLATION ABEND

FCLJ FILE_OPEN function

This function is called when a file is opened, and causes a 'tie up record' record to be written to the log of logs if either the file (or associated data set) is forward recoverable or if autojournalling is specified for the file, to the forward recovery log if the file (or associated data set) is forward recoverable, and to the autojournal if autojournalling is specified for the file.

Input parameters

FCTE_ADDRESS
is the address of the file control table entry for the file being opened.

Output parameters

RESPONSE
is DFHFCLJ's response to the call. It can have any of these values:

OK|INVALID|PURGED|DISASTER

[REASON]
is returned when RESPONSE is DISASTER. Possible values are:

RESPONSE	Possible REASON values
DISASTER	ABEND LG_RETURNED_ERROR

FCLJ FILE_CLOSE Function

This function is called when a file is closed, and causes a file close log record to be written to the log of logs if either the file (or associated data set) is forward recoverable or if autojournalling is specified for the file, to the forward recovery log if the file (or associated data set) is forward recoverable, and to the autojournal if autojournalling is specified for the file.

Input parameters

FCTE_ADDRESS
is the address of the file control table entry for the file being closed.

Output parameters

RESPONSE
is DFHFCLJ's response to the call. It can have any of these values:

OK|INVALID|PURGED|DISASTER

[REASON]
is returned when RESPONSE is DISASTER. Possible values are:

RESPONSE	Possible REASON values
DISASTER	ABEND LG_RETURNED_ERROR

FCLJ READ_ONLY Function

This function causes a read_only log record to be written to an autojournal, if read-only autojournalling is specified on the file definition. The log record is built using the input parameters.

Input parameters

BASE_ESDS_RBA
is the RBA of the record being read, if the file is an ESDS.

FCTE_ADDRESS
is the address of the file control table entry for the file being read.

KEY_ADDRESS
is the address of the key of the record being read.

KEY_LENGTH
is the key length of the record being read.

RECORD_ADDRESS
is the address of the record being read.

RECORD_LENGTH
is the length of the record being read.

SHUNTED
indicates whether or not the unit of work has ever been shunted (due to some failure during syncpoint). It can have either of these values:

`YES|NO`

Output parameters

RESPONSE
is DFHFCLJ's response to the call. It can have any of these values:

`OK|INVALID|PURGED|DISASTER`

[REASON]
is returned when RESPONSE is DISASTER. Possible values are:

RESPONSE	Possible REASON values
DISASTER	ABEND LG_RETURNED_ERROR RM_RETURNED_ERROR

FCLJ READ_UPDATE Function

This function causes a read_update log record to be written to the system log, if the file is recoverable, and if the destination parameter specifies either LOG or BOTH. It causes a read_update log record to be written to the autojournal if journaling of read updates is specified on the file definition, and if the destination parameter specifies either JOURNAL or BOTH. The log record is built using the input parameters.

Input parameters

BASE_ESDS_RBA
is the RBA of the record being read for update, if the file is an ESDS.

FCTE_ADDRESS
is the address of the file control table entry for the file being read for update.

KEY_ADDRESS
is the address of the key of the record being read for update.

KEY_LENGTH
is the key length of the record being read for update.

RECORD_ADDRESS
is the address of the record being read for update.

RECORD_LENGTH
is the length of the record being read for update.

DESTINATION
specifies whether the log record is to be written to the autojournal, the system log, or both. It is used to suppress writing records that would otherwise be requested by the file definition. It can have any of these values:

`JOURNAL|LOG|BOTH`

SYNCHRONIZE_LOG
indicates whether or not the system log is to be synchronized (forced) when the log record is written. It can have either of these values:

`YES|NO`

SHUNTED
: indicates whether or not the unit of work has ever been shunted (due to some failure during syncpoint). It can have either of these values:

`YES|NO`

Output parameters

[LOG_TOKEN]
: is an optional parameter which is returned if SYNCHRONIZE(NO) was specified, and which contains a token to be used when subsequently synchronizing (forcing) the system log.

RESPONSE
: is DFHFCLJ's response to the call. It can have any of these values:

`OK|INVALID|PURGED|DISASTER`

[REASON]
: is returned when RESPONSE is DISASTER. Possible values are:

RESPONSE	Possible REASON values
DISASTER	ABEND LG_RETURNED_ERROR RM_RETURNED_ERROR

FCLJ WRITE_UPDATE Function

This function causes a write_update log record to be written to the forward recovery log, if the file (or associated data set) is forward recoverable, and to the autojournal, if journaling of write updates is specified on the file definition. A write_update log record represents the completion of a file REWRITE request. The log record is built using the input parameters.

Input parameters

BACKOUT
: indicates if the call is made as part of transaction backout processing. It can have either of these values:

`YES|NO`

BASE_ESDS_RBA
: is the RBA of the record being rewritten, if the file is an ESDS.

FCTE_ADDRESS
: is the address of the file control table entry for the file being rewritten to.

KEY_ADDRESS
: is the address of the key of the record being rewritten.

KEY_LENGTH
: is the key length of the record being rewritten to.

RECORD_ADDRESS
: is the address of the record being rewritten.

RECORD_LENGTH
: is the length of the record being rewritten.

SHUNTED
: indicates whether or not the unit of work has ever been shunted (due to some failure during syncpoint). It can have either of these values:

`YES|NO`

Output parameters

RESPONSE
: is DFHFCLJ's response to the call. It can have any of these values:

`OK|INVALID|PURGED|DISASTER`

[REASON]
is returned when RESPONSE is DISASTER. Possible values are:

RESPONSE	Possible REASON values
DISASTER	ABEND LG_RETURNED_ERROR RM_RETURNED_ERROR

FCLJ WRITE_ADD Function

This function causes a write_add log record to be written to the system log if the file is recoverable, and if the destination parameter specifies BOTH. It causes a write_add log record to be written to the autojournal if journaling of write adds was specified on the file definition. The log record is built using the input parameters.

Input parameters

BACKOUT
indicates if the call is made as part of transaction backout processing. It can have either of these values:

`YES|NO`

BASE_ESDS_RBA
is the RBA of the record being added, if the file is an ESDS.

FCTE_ADDRESS
is the address of the file control table entry for the file being written to.

KEY_ADDRESS
is the address of the key of the record being added.

KEY_LENGTH
is the key length of the record being written to.

MASSINSERT
indicates whether or not the record is being added as part of a mass insert. It can have either of these values:

`YES|NO`

DESTINATION
specifies whether the log record is to be written to the autojournal only, or to both the autojournal and the system log. It is used to suppress writing records that would otherwise be requested by the file definition. It can have either of these values:

`JOURNAL|BOTH`

RECORD_ADDRESS
is the address of the record being added.

RECORD_LENGTH
is the length of the record being added.

SHUNTED
indicates whether or not the unit of work has ever been shunted (due to some failure during syncpoint). It can have either of these values:

`YES|NO`

Output parameters

RESPONSE
is DFHFCLJ's response to the call. It can have any of these values:

`OK|INVALID|PURGED|DISASTER`

[REASON]
is returned when RESPONSE is DISASTER. Possible values are:

RESPONSE	Possible REASON values
DISASTER	ABEND LG_RETURNED_ERROR RM_RETURNED_ERROR

FCLJ WRITE_ADD_COMPLETE Function

This function causes a write_add_complete log record to be written to the forward recovery log if the file (or associated data set) is forward recoverable, and to the autojournal if write_add_complete journaling is specified on the file definition. It causes a truncated write_add_complete log record to be written to the system log if the file is a recoverable ESDS accessed in non-RLS mode. If MASSINSERT(YES) and MASSINSERT_STAGE(LAST) are specified, then only the system log record is written, and not the forward recovery log or autojournal record. The log record is built using the input parameters.

Input parameters

BACKOUT
indicates if the call is made as part of transaction backout processing. It can have either of these values:

YES|NO

BASE_ESDS_RBA
is the RBA of the record that has been added, if the file is an ESDS.

FCTE_ADDRESS
is the address of the file control table entry for the file that has been written to.

KEY_ADDRESS
is the address of the key of the record which has been added.

KEY_LENGTH
is the key length for the file which has been written to.

MASSINSERT
indicates whether or not the record was added as part of a mass insert. It can have either of these values:

YES|NO

[MASSINSERT_STAGE]
is an optional parameter which indicates whether the record is either the first or last record added during a massinsert sequence. It can have either of these values:

FIRST|LAST

RECORD_ADDRESS
is the address of the record which has been added.

RECORD_LENGTH
is the length of the record which has been added.

SHUNTED
indicates whether or not the unit of work has ever been shunted (due to some failure during syncpoint). It can have either of these values:

YES|NO

Output parameters

RESPONSE
is DFHFCLJ's response to the call. It can have any of these values:

OK|INVALID|PURGED|DISASTER

[REASON]
is returned when RESPONSE is DISASTER. Possible values are:

RESPONSE	Possible REASON values
DISASTER	ABEND LG_RETURNED_ERROR RM_RETURNED_ERROR

FCLJ WRITE_DELETE Function

This function causes a write_delete log record to be written to the forward recovery log if the file (or associated data set) is forward recoverable, and to the autojournal if journaling of write_deletes is specified on the file definition. The log record is built using the input parameters.

Input parameters

BACKOUT
: indicates if the call is made as part of transaction backout processing. It can have either of these values:

`YES|NO`

BASE_ESDS_RBA
: is the RBA of the record being deleted, if the file is an ESDS.

FCTE_ADDRESS
: is the address of the file control table entry for the file.

KEY_ADDRESS
: is the address of the key of the record being deleted.

KEY_LENGTH
: is the key length for the file.

BASE_KEY_ADDRESS
: is the address of the base key of the record being deleted, which is used if the data set is being accessed via a path.

SHUNTED
: indicates whether or not the unit of work has ever been shunted (due to some failure during syncpoint). It can have either of these values:

`YES|NO`

Output parameters

RESPONSE
: is DFHFCLJ's response to the call. It can have any of these values:

`OK|INVALID|PURGED|DISASTER`

[REASON]
: is returned when RESPONSE is DISASTER. Possible values are:

RESPONSE	Possible REASON values
DISASTER	ABEND LG_RETURNED_ERROR RM_RETURNED_ERROR

FCLJ SYNCHRONIZE_READ_UPDATE Function

This function causes any log records previously written to the system log for this file to be synchronized (forced). The log token returned on a previous call to write a log record for this file is supplied as input.

Input parameters

FCTE_ADDRESS
: is the address of the file control table entry for the file being read for update.

LOG_TOKEN
is the token returned on a previous call. The system log record written by the previous call, plus any log records written before that, are hardened.

Output parameters

RESPONSE
is DFHFCLJ's response to the call. It can have any of these values:

`OK|INVALID|PURGED|DISASTER`

[REASON]
is returned when RESPONSE is DISASTER. Possible values are:

RESPONSE	Possible REASON values
DISASTER	ABEND RM_RETURNED_ERROR

FCLJ TAKE_KEYPOINT Function

Provided that BWO copy is supported by this CICS (indicated by a flag in file control static storage), then this function performs a scan of the file control table and, unless it has been called within the last half hour, writes a tie up record for each file open for update in non-RLS mode that is BWO-eligible and forward recoverable to the forward recovery log.

A tie up record specifies which CICS system within the sysplex opened the file, and the data set which the file was opened against. Tie up records are used by forward recovery utilities, for example CICSVR.

Input parameters

None

Output parameters

KEYPOINT_TAKEN
indicates whether or not the set of tie up records was successfully written. It can have either of these values:

`YES|NO`

RESPONSE
is DFHFCLJ's response to the call. It can have any of these values:

`OK|INVALID|PURGED|DISASTER`

[REASON]
is returned when RESPONSE is DISASTER. Possible values are:

RESPONSE	Possible REASON values
DISASTER	ABEND LG_RETURNED_ERROR TM_GETNEXT_FCTE_FAILED

FCLJ DATASET_COPY Function

This function is called when DFSMSdss initiates a copy of an RLS data set via the VSAM RLS quiesce mechanism. The function causes a 'tie up record' to be written to the log of logs if either the data set is forward recoverable, or some flavor of autojournalling has been specified in the file definition. In addition, if applicable, a record is written to the forward recovery log.

A tie up record specifies which CICS system within the sysplex opened the file, and the data set which the file was opened against. Tie up records are used by forward recovery utilities, for example CICSVR.

Input parameters

FCTE_ADDRESS
is the address of the file control table entry for the file associated with a data set being copied.

Output parameters

RESPONSE
is DFHFCLJ's response to the call. It can have any of these values:

`OK|INVALID|PURGED|DISASTER`

[REASON]
is returned when RESPONSE is DISASTER. Possible values are:

RESPONSE	Possible REASON values
DISASTER	ABEND LG_RETURNED_ERROR

FCQR RECEIVE_QUIESCES Function

This function consists of a forever loop around a dispatcher wait on an ECB. It receives work from the CICS RLS quiesce exit DFHFCQX whenever SMSVSAM requires CICS to perform processing for a quiesce request. DFHFCQX queues the request to DFHFCQR by adding an FC Quiesce Receive Element (FCQRE) to a chain anchored in file control static storage, and posting the ECB associated with the chain, also in FC static.

The posting of the ECB wakes the CFQR transaction, which executes the code in DFHFCQR. The FCQREs on the chain are processed, and DFHFCQU is called with function PROCESS_QUIESCE to perform the actual work. The ECB might also be posted to inform DFHFCQR that CICS is terminating. When DFHFCQU has finished processing, DFHFCQR unchains and frees the FCQRE.

Input parameters

None.

Output parameters

RESPONSE
is DFHFCQR's response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
is returned when RESPONSE is DISASTER. Possible values are:

RESPONSE	Possible REASON values
DISASTER	ABEND PROCESS_QUIESCE_ERROR DISASTER_PERCOLATION

FCQS SEND_QUIESCES Function

This function consists of a forever loop around a dispatcher wait on a list of ECBs. Work is received from tasks that want to send a quiesce request to SMSVSAM. Such tasks call DFHFCQI with function INITIATE_QUIESCE, which queues the request to DFHFCQS by adding an FC Quiesce Send Element (FCQSE) to the chain anchored in file control static storage, and posting an ECB associated with the chain, also in FC static.

When the ECB is posted, it wakes the CFQS transaction, which executes the code in DFHFCQS. The FCQSEs on the chain are processed, and DFHFCCA is called with function QUIESCE_REQUEST to issue the appropriate flavor of IDAQUIES macro to SMSVSAM. This is an asynchronous operation, and SMSVSAM returns the address of an ECB that will be posted when the IDAQUIES completes. This is saved in the FCQSE.

DFHFCQS then goes back into its dispatcher wait. It is waiting on a list of ECBs, the ECB for the chain plus an ECB for **each** IDAQUIES request. It wakes and processes the chain whenever one of these ECBs is posted. The wait also specifies a timeout interval, so that IDAQUIES requests that hang can be detected. When DFHFCQS wakes up, this can mean that: there is new work on the chain, or a quiesce request has completed, or a quiesce request timed out, or CICS is terminating. When a quiesce request has completed or timed out, DFHFCQS will resume the initiating task if it is waiting, after issuing appropriate messages and invoking global user exit XFCQUIS if active.

Input parameters

None.

Output parameters

RESPONSE
: is DFHFCQS's response to the call. It can have any of these values:
: `OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
: is returned when RESPONSE is DISASTER. Possible values are:

RESPONSE	Possible REASON values
DISASTER	ABEND TIMEOUT_CANCEL_ERROR DISASTER_PERCOLATION

FCQU PROCESS_QUIESCE Function

DFHFCQU PROCESS_QUIESCE is called whenever a quiesce request is received from VSAM RLS. The quiesce exit DFHFCQX queues requests to the CFQR system transaction (DFHFCQR), which calls DFHFCQU to process each one in turn. The PROCESS_QUIESCE function is also called to implement a non-RLS variant of QUIESCE called NON_RLS_CLOSE. This is for non-RLS files, is only used internally by CICS, and does not run under the CFQR system transaction. Each quiesce request type is processed in a different way by DFHFCQU.

QUIESCE
: corresponds to an SMSVSAM QUICLOSE. All files open against the data set are closed, the file state of each file is set to unenabled but with a flag that says re-enable on QUIOPEN, and a QUICMP is issued for the QUICLOSE back to VSAM RLS to indicate our QUICLOSE processing is complete. The immediate option on the DFHFCQU call governs how file closes are to be performed. If NO or omitted then closes will occur when all UOWs using the data set have completed normally. If YES then all such UOWs will be force purged to speed things up.

UNQUIESCE
: corresponds to an SMSVSAM QUIOPEN. All files associated with the data set

are checked to see if the file state requires resetting back to enabled, because it had been set unenabled by a QUICLOSE.

NONBWO_START
: corresponds to an SMSVSAM QUICOPY. CICS prepares for a non-BWO backup of the data set by preventing new units of work from updating the data set, allowing existing UOWs to finish updating the data set, and then issuing a QUICMP for the QUICOPY back to SMSVSAM to indicate that QUICOPY processing is complete. The files involved are not closed.

NONBWO_END
: corresponds to an SMSVSAM QUICEND. All files associated with the data set are checked to see if the file state requires resetting to enabled because it had been set unenabled by an OPEN failure, and a set of 'tie up records' are written for the data set.

BWO
: corresponds to an SMSVSAM QUIBWO. CICS prepares for a BWO backup of the data set by writing a set of 'tie up records' allowing existing units of work to finish updating the data set, and then issuing a QUICMP for the QUIBWO back to SMSVSAM to indicate that QUIBWO processing is complete. The files involved are not closed, nor are updates prevented.

BWO_END
: corresponds to an SMSVSAM QUIBEND. The only processing involved is to stop an existing BWO quiesce if one is in progress.

LOST_LOCKS_RECOVERED
: corresponds to an SMSVSAM QUILLRC. It notifies CICS that lost locks recovery has been completed for the data set throughout the sysplex. DFHFCRR is called with function LOST_LOCKS_RECOVERED to process the availability of the data set.

FORWARD_RECOVERY_COMPLETE
: corresponds to an SMSVSAM QUIFRC. It notifies CICS that forward recovery has been completed for the data set. DFHFCRR is called with function RESOURCE_AVAILABLE to process the availability of the data set.

CACHE_AVAILABLE
: corresponds to an SMSVSAM QUICA. It notifies CICS that a previously failed cache structure is now available. DFHFCRR is called with function RESOURCE_AVAILABLE to process the availability of the cache.

NON_RLS_CLOSE
: processes a non-RLS variant of type CLOSE called NON_RLS_CLOSE. All ACBs open against the specified non-RLS data set are closed.

Some of the requests cause global user exit XFCVSDS to be invoked if active and a DSNB exists for the data set, and XFCVSDS can suppress certain of the requests if desired. Suppression causes the quiesce request to be cancelled throughout the sysplex (by issuing the inverse quiesce request).

The types of quiesce that DFHFCQU can receive fall into two 'completion' categories.

1. Those for which VSAM does not require completion notification. For these no IDAQUIES QUICMP is issued. The successful return of the quiesce exit DFHFCQX to VSAM is sufficient. The requests in this category are:

   `UNQUIESCE, NONBWO_END, BWO_END, CACHE_AVAILABLE, LOCKS_RECOVERY_COMPLETE, FORWARD_RECOVERY_COMPLETE.`
2. Those for which VSAM requires completion notification because CICS must complete some critical processing. For these an IDAQUIES QUICMP must be issued when CICS processing is complete. The requests in this category are:

   `QUIESCE, NONBWO_START, BWO_START.`

Input parameters

QUIESCE_TYPE
indicates the type of quiesce being requested. It can have any of these values:

```
QUIESCE|UNQUIESCE|NONBWO_START|NONBWO_END|BWO_START|
BWO_END|LOCKS_RECOVERY_COMPLETE|
FORWARD_RECOVERY_COMPLETE|CACHE_AVAILABLE|
NON_RLS_CLOSE
```

DSNAME|CACHE_NAME
either specifies the 44-character name of the data set to which the quiesce request applies, or (when the quiesce_type is CACHE_AVAILABLE) the 16-character name of the cache structure which has become available.

[IMMEDIATE]
applies when the quiesce_type is QUIESCE or NON_RLS_CLOSE, and indicates whether units of work which have updated the data set will be forced to complete immediately, or whether the request will wait for such units of work to complete naturally. It can have either of these values:

```
YES|NO
```

[CONCURRENT]
applies when the quiesce_type is NONBWO_START or BWO_START, and indicates whether the concurrent copy technique is being used. It is purely informational, and has no effect on the processing. It can have either of these values:

```
YES|NO
```

[QUIESCE_TOKEN]
is a token which is supplied by SMSVSAM when certain quiesce requests are initiated, and must be passed back when the quiesce complete is issued.

Output parameters

RESPONSE
is DFHFCQU's response to the call. It can have any of these values:

```
OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED
```

[REASON]
is returned when RESPONSE is INVALID, EXCEPTION or DISASTER. Possible values are:

RESPONSE	Possible REASON values
INVALID	INVALID_QUIESCE_TYPE
EXCEPTION	DSNB_NOT_FOUND
DISASTER	ABEND DISASTER_PERCOLATION DFHFCRR_ERROR DFHFCQI_ERROR DFHFCFS_ERROR DFHTM_FAILURE

FCRR RESTART_RLS Function

This function performs a restart of the RLS component of file control. The exact processing depends on the type of restart being performed.

COLD and INITIAL

The RLS control ACB is registered, and RLS is cold started, both via calls to DFHFCCA.

WARM and EMERGENCY

The RLS control ACB is registered, and recovery information is inquired upon from SMSVSAM, both via calls to DFHFCCA. If the recovery information indicates that there are data sets in lost locks status, then the corresponding DSNBs are marked as being lost locks, and preparation for lost locks recovery is carried out. Any orphan locks are eliminated.

DYNAMIC

This type of restart occurs when a new instance of the SMSVSAM server becomes available following a previous server failure.

Having waited for file control restart to complete if it was still in progress, and for any in-progress dynamic RLS restart to complete, RLS access is drained if this has not already been done, the control ACB is registered, and recovery information is inquired upon from SMSVSAM, all three via calls to DFHFCCA. If the recovery information indicates that there are data sets in lost locks status, then the corresponding DSNBs are marked as being lost locks, and preparation for lost locks recovery is carried out. Any orphan locks are eliminated. The CICS recovery manager is called to unshunt any units of work that are backout-failed due to the SMSVSAM server failure or a general file backout failure, and any units of work that are commit-failed due to the SMSVSAM server failure.

Input parameters

TYPE_OF_RESTART
: indicates the type of RLS restart being performed, and can have any of these values:

  `COLD|WARM|EMERGENCY|DYNAMIC`

Output parameters

RESPONSE
: is DFHFCRR's response to the call. It can have any of these values:

  `OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
: is returned when RESPONSE is INVALID, EXCEPTION or DISASTER. Possible values are:

RESPONSE	Possible REASON values
INVALID	INVALID_FUNCTION INVALID_RESTART_TYPE
EXCEPTION	REGISTER_CTL_ACB_FAILED COLD_START_RLS_FAILED DRAIN_RLS_FAILED LOST_LOCKS_INFO_LOST INQUIRE_RECOVERY_FAILED LOST_LOCKS_COMPLETE_FAILED ORPHAN_RELEASE_FAILED
DISASTER	DSSR_FAILED TM_LOCATE_FAILED TM_UNLOCK_FAILED ABEND DISASTER_PERCOLATION

FCRR RESOURCE_AVAILABLE function

This function causes the CICS recovery manager to be notified of the availability of the specified resource. When the resource_type is DSET, an RMRE AVAIL call is issued for the specified data set. When the resource_type is CACHE, an RMRE avail call is issued for every data set that has outstanding work shunted due either to a cache failure or to a general file backout failure. When the resource_type is OTHER, an RMRE AVAIL call is issued for the specified resource.

Input parameters

RESOURCE_TYPE
: is the type of resource which has become available, and can have any of these values:

`DSET|CACHE|OTHER`

RESOURCE_NAME
: is the 44-character field containing the name of the resource which has become available.

RESOURCE_NAME_LENGTH
: is a halfword containing the actual length of the resource name.

Output parameters

RESPONSE
: is DFHFCRR's response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
: is returned when RESPONSE is INVALID or DISASTER. Possible values are:

RESPONSE	Possible REASON values
INVALID	INVALID_FUNCTION INVALID_RESOURCE_TYPE
DISASTER	ABEND DISASTER_PERCOLATION

FCRR LOST_LOCKS_RECOVERED function

This function is called when lost locks recovery for a data set has been completed by all CICS regions that were sharing it, and causes the flag in the DSNB which indicates that the data set is in lost locks state to be cleared.

Input parameters

RESOURCE_NAME
: is the 44-character field containing the name of the resource (data set) for which lost locks recovery has been completed.

Output parameters

RESPONSE
: is DFHFCRR's response to the call. It can have any of these values:

`OK|EXCEPTION|DISASTER|INVALID|KERNERROR|PURGED`

[REASON]
: is returned when RESPONSE is INVALID, EXCEPTION or DISASTER. Possible values are:

RESPONSE	Possible REASON values
INVALID	INVALID_FUNCTION
EXCEPTION	SPHERE_UNKNOWN
DISASTER	TM_LOCATE_FAILED TM_UNLOCK_FAILED ABEND DISASTER_PERCOLATION

File Control's call back gates

Table 8 summarizes file control's call back gates. It shows the FC level-1 trace point IDs of the modules providing the functions for the gate, the functions provided by the gate, and the format for calls to the gate.

Table 8. File control's call back gates

Gate	Trace	Function	Format
RMRO			RMRO
	FC 0BE0	PERFORM_PREPARE	
	FC 0BE1	PERFORM_COMMIT	
		START_BACKOUT	
		DELIVER_BACKOUT_DATA	
		END_BACKOUT	
		PERFORM_SHUNT	
		PERFORM_UNSHUNT	
RMKP			RMKP
	FC 0BE0	TAKE_KEYPOINT	
	FC 0BE1		
RMLK			RMLK
	FC 24A0	PREPARE	
	FC 24A1	COMMIT	
		SEND_DO_COMMIT	
		SHUNT	
		UNSHUNT	
RMDE			RMDE
	FC 0BE0	START_DELIVERY	
	FC 0BE1	DELIVER_RECOVERY	
		DELIVER_FORGET	
		END_DELIVERY	
LGGL			LGGL
	FC 2350	ERROR	
	FC 2351		
DMEN			DMEN
	FC 0BD0	NOTIFY_SMSVSAM_AVAILABLE	
	FC 0BD1		

You can find descriptions of these functions and their input and output parameters, in the following topics:

- “Recovery manager domain call-back formats” on page 1599
- “Log manager domain's call-back formats” on page 1314
- “Domain Manager domain call-back formats” on page 958

The functions of the RMRO gate are processed by DFHFCRC. For PERFORM_PREPARE and PERFORM_COMMIT, DFHFCRC performs prepare and commit processing respectively for any file resources involved in the unit of work. For START_BACKOUT, DELIVER_BACKOUT_DATA and END_BACKOUT, DFHFCRC backs out changes made to file resources by the unit of work. For PERFORM_SHUNT and PERFORM_UNSHUNT, DFHFCRC respectively shunts and unshunts the file control structures representing recoverable parts of the unit of work.

The functions of the RMKP gate are processed by DFHFCRC. For TAKE_KEYPOINT, DFHFCRC performs processing required for forward recovery of BWO-eligible non-RLS files.

The functions of the RMLK gate are processed by DFHFCDW, which performs syncpoint and recovery functions for recoverable coupling facility data tables.

The functions of the RMDE gate are passed through by DFHFCRC to DFHFCIR. For START_DELIVERY, DFHFCIR takes no action. For DELIVER_RECOVERY and DELIVER_FORGET, DFHFCIR uses the log records that are delivered to it to rebuild file control structures representing the recoverable parts of each unit of work, and also rebuilds locks for non-RLS files. For END_DELIVERY, DFHFCIR notifies file control that the rebuilding of recovery information at CICS restart is now complete.

The functions of the LGGL gate are processed by DFHFCLF. For ERROR, DFHFCLF takes actions to handle a log stream failure for a general log used by file control.

The functions of the DMEN gate are processed by DFHFCES. For NOTIFY_SMSVSAM_AVAILABLE, DFHFCES calls DFHFCRR with a function of RESTART_RLS and TYPE_OF_RESTART as DYNAMIC.

Exits

The following global user exit points are provided for file control:

In DFHEIFC
XFCREQ and XFCREQC

In DFHFCFS
XFCSREQ and XFCSREQC

In DFHFCN
| XFCNREC and XFCRLSCO

In DFHFCRC
XFCBFAIL, XFCBOUT, XFCBOVER and XFCLDEL

| **In DFHFCRO**
| XFCRLSCO

The following global user exit points are provided specifically for data table services: XDTAD, XDTLC, and XDTRD.

See the *CICS Customization Guide* for further information.

Trace

The following point IDs are provided for file control:

- AP 04xx, for which the trace levels are FC 1, FC 2, and Exc
- AP 0Bxx, for which the trace levels are FC 1, FC 2, and Exc.
- AP 23xx, for which the trace levels are FC 1, FC 2, and Exc.
- AP 24xx, for which the trace levels are FC 1, FC 2, and Exc.

Note: Trace entries for shared data table services have point IDs at the lower end of the AP 0Bxx range, and a corresponding trace level of FC 2. Trace entries for coupling facility data tables are from AP 2440 upwards.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 25. Front end programming interface (FEPI)

The front end programming interface (FEPI) is an integral part of CICS Transaction Server. The function is called a front end programming interface because it enables you to write CICS application programs that access other CICS or IMS programs. In other words, it provides a front end to those programs.

Design overview

This section describes how FEPI works at a high level. It discusses how the FEPI functions are provided within CICS.

FEPI as a CICS transaction

The main functions of FEPI are provided through the **CSZI** transaction, which is defined in group DFHFEPI. CSZI runs the FEPI Resource Manager, which is responsible for most of the functions of FEPI.

The FEPI Resource Manager transaction is attached during a late stage of CICS initialization. CSZI runs as a high-priority CICS system task, and cannot be canceled by an operator; it is terminated during CICS shutdown processing.

The FEPI commands communicate with the Resource Manager through the FEPI adapter program, which is loaded when CICS initializes, and is part of the CICS nucleus.

The FEPI adapter receives information from FEPI commands through two EXEC stubs, **DFHESZ** and **DFHEIQSZ**. DFHESZ handles the FEPI application programming commands, while DFHEIQSZ handles the system programming commands.

These two EXEC stubs call the adapter to do FEPI work. The adapter communicates with the Resource Manager through work queues. See “Application flows” for details of these flows.

Application flows

“FEPI as a CICS transaction” outlined the main components of FEPI. This section shows the pathways followed by a FEPI command.

Application programming command flows

The FEPI application programming commands flow through the normal EXEC CICS route into DFHEIP, from where they are routed to DFHESZ. DFHESZ passes the command parameter list to the FEPI adapter. After checking and other processing, the adapter generates another parameter list in internal format, and places it on a queue for the FEPI Resource Manager to process.

While the adapter is waiting for the Resource Manager to process the command, it issues a wait. The event control block (ECB) for this wait is contained in the parameter list queued to the Resource Manager. Consequently, the application that issued the FEPI command is in a wait state while the Resource Manager is processing the FEPI command. For information about wait processing, see the *CICS Problem Determination Guide*.

When the Resource Manager has retrieved the command from its queue, and processed it, the ECB is posted, thus ending the wait.

Control returns from the adapter to DFHEIP, and the application program in the normal fashion.

Figure 51 shows this processing. Note that the details are for illustration only.

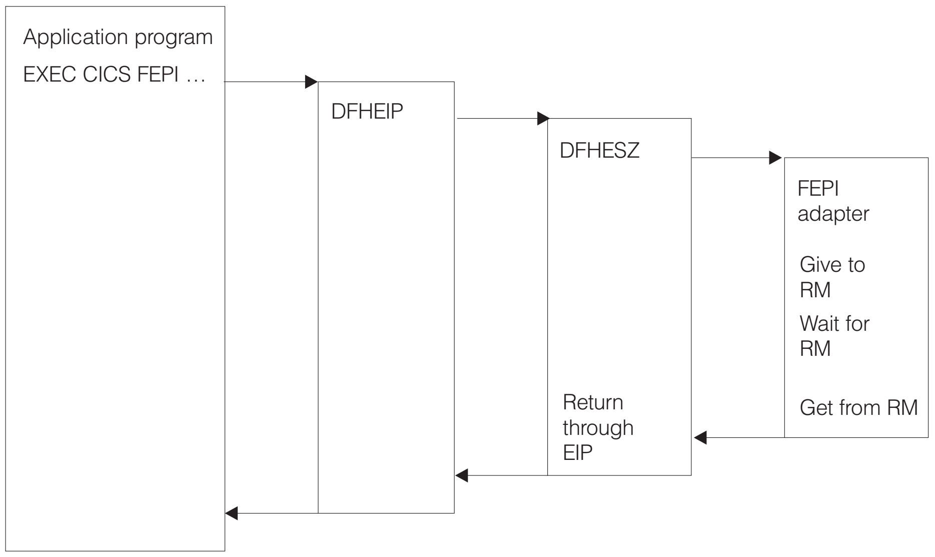


Figure 51. FEPI application programming command flows

System programming command flows

The FEPI system programming commands flow through DFHEIQSZ rather than DFHESZ, but the overall picture is the same as for FEPI application programming requests.

However, some system commands can flow directly to the FEPI Resource Manager, bypassing the EXEC stub. These commands are mainly concerned with FEPI processing to be done at “special” events, such as task termination and CICS shutdown.

Figure 52 on page 291 shows this processing. The details are for illustration only.

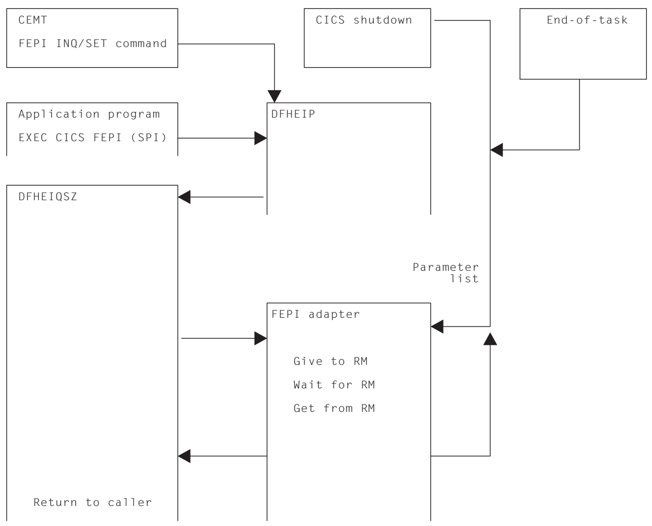


Figure 52. FEPI system programming command flows

Logic flow within the FEPI adapter

Figure 53 shows the logic flow within the FEPI adapter in more detail. In particular, it shows the points at which the FEPI global user exits, XSZBRQ and XSZARQ, and the FEPI journaling function, are invoked.

Journaling of data occurs after the Resource Manager has processed the request, but before XSZARQ is called (if active). Data is not journaled if your XSZBRQ exit program rejects the request.

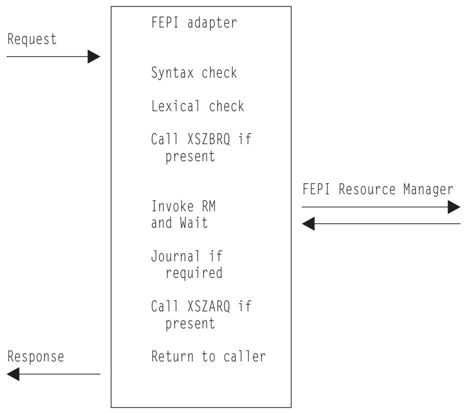


Figure 53. Logic flow within the FEPI adapter

The FEPI adapter and Resource Manager

The FEPI adapter runs as part of the invoking CICS task, and so runs under the **QR** task control block (TCB). The FEPI Resource Manager, running as CSZI, runs under the **SZ** TCB (reserved for use by the Resource Manager).

Consequently, the interface between the adapter and the Resource Manager uses waits and queues to synchronize access. The control block used to pass information between the adapter and the Resource Manager is called the **DQE**.

Figure 54 shows this interaction. The details are for illustration only.

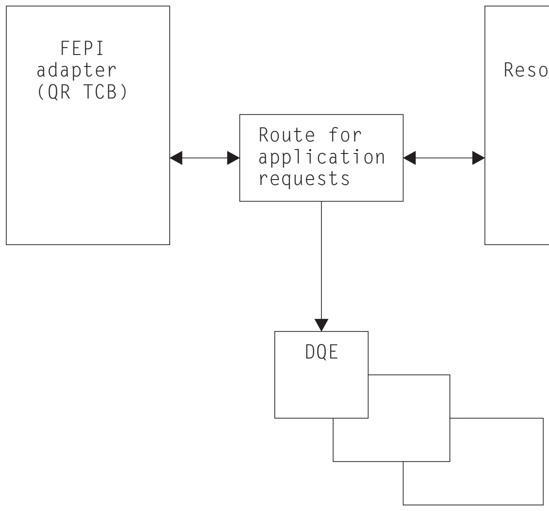

FEPI adapter (QR TCB)
FEPI Resource Manager (SZ TCB)
Route for application requests
DQE

Figure 54. Interaction of the FEPI adapter and Resource Manager

The FEPI Resource Manager work queues

When organizing its work, the FEPI Resource Manager uses a mechanism that is optimized for the FEPI environment. Each DQE is chained to a queue representing the work to be done next.

The most common mechanism used for this movement between queues is the connection on which the original FEPI command is operating.

Summary of Resource Manager work queues

In addition to the application queue, there are other queues used only by the Resource Manager. They are:

API/Norm
: Used for FEPI application requests

API/Expd
: Used for FEPI high-priority application requests

PRB
: Used for Resource Manager internal work

PRB/Time
: Used for Resource Manager internal time-dependent work

IRB
: Used to control work done in VTAM exits

IRB/Time
: Used to control time-dependent work done in VTAM exits

TPEND8
: Used to process VTAM TPEND8 conditions

Timer
: Used to control timer-related work

Free
: Used to hold VTAM RBs that have to be freed

Discard
: Used to control requests initiated by FEPI DISCARD commands.

CICS work
: Used to schedule work that has to run under the CICS QR TCB.

Control blocks

This section lists *some* of the FEPI control blocks and their resident storage subpools, where applicable. For details of the subpools, see Chapter 105, “Storage Manager Domain (SM),” on page 1677.

DFHSZSDS (Static area)
Used to anchor all FEPI storage

DFHSZDCM (Common area)
Used to anchor all FEPI Resource Manager storage (*SZSPFCCM*)

DFHSZDND (Node)
Represents a node (*SZSPFCND*)

DFHSZDPD (Pool)
Represents a pool (*SZSPFCPD*)

DFHSZDTD (Target)
Represents a target (*SZSPFCTD*)

DFHSZDPS (Propertyset)
Represents a property set (*SZSPFCPS*)

DFHSZDCD (Connection)
Represents a connection (a node-target pair) (*SZSPFCCD*)

DFHSZDCV (Conversation)
Represents a FEPI conversation (*SZSPFCCV*)

DFHSZDSR (Surrogate)
Used to associate nodes, pools, and targets with other control blocks—*not* to be confused with a CICS surrogate terminal (*SZSPFCSR*)

DFHSZDQE (Queue element)
Used to schedule Resource Manager work (*SZSPFCWE*).

Some of the relations between FEPI control blocks are shown in Figure 55.

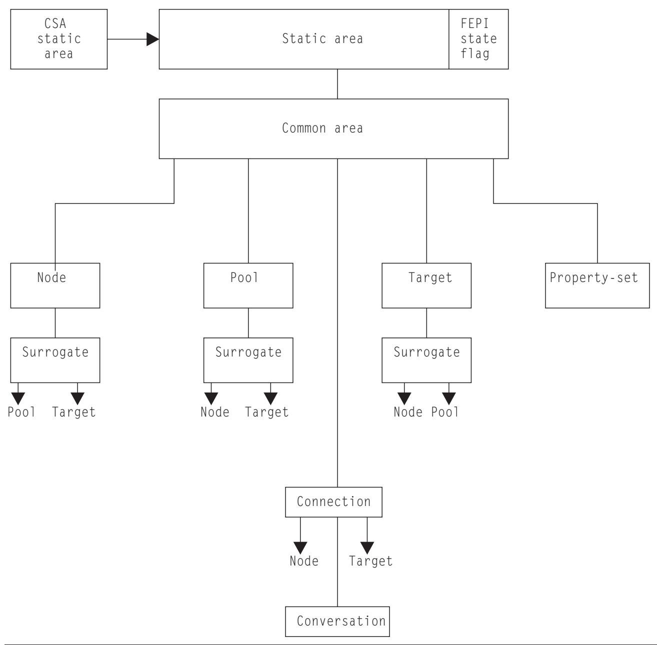


Figure 55. FEPI control block relationships

Dump

This section documents the areas that can be listed by the FEPI dump routines. For information about how to use these facilities for problem determination, see the *CICS Problem Determination Guide*.

Here is a list all the FEPI areas that can be interpreted. If an area does not exist in your system, it does not appear in the dump—no error message is produced.

- The static area
- The common area:
  - The temporary ACB.
- Property sets
- Pools:
  - Connections within the pool
  - Node surrogates chained to the pool
  - Target surrogates chained to the pool
  - Queued allocate DQEs waiting within the pool
- Nodes:
  - Connections used by the node
  - Pool surrogates chained to the node
  - Node's ACB
  - Node's RPL
  - Unsolicited BINDs queued to the node
- Targets:
  - Connections used by the target
  - Connections queueing on the target
  - Pool surrogates chained to the target
- Connections:
  - Current API request
  - Connection's RPL
  - Connection's RESP data
  - Formatted data extension:
    - Graphics plane
    - Attributes
    - Highlights
    - Color
    - Selection
    - Validation
- Active conversations
- Browse conversations
- Inactive conversations
- CICS work queues
- PRB DQEs
- PRB time DQEs
- IRB DQEs
- IRB time DQEs

- TPend8 DQEs
- Discard DQEs
- API normal DQEs
- API expd DQEs
- Timer DQEs
- Free RBs
- The stacks (level 2 only).

A DQE is interpreted further, as follows:
- The DRP representing the DQE
- The DQE associated storage
- Any horizontal DQE extension (chained) DQEs.

FEPI and VTAM

This section outlines how FEPI interacts with VTAM, and discusses VTAM control blocks and exits.

You should refer to *OS/390 eNetwork Communications Server: SNA Programming* for all information relating to VTAM programming.

VTAM control blocks

FEPI uses standard VTAM programming facilities for its communication. The way in which VTAM control blocks interact with FEPI control blocks is as follows:

ACBs Each FEPI node represents a terminal connected to the partner system. Consequently, each node has an **access control block** (ACB). This ACB is opened when the node is acquired, and closed when the node is released.

NIBs Each FEPI target contains the applid of the back-end system. This is used to build a **node initialization block** (NIB), when a connection is acquired by issuing a VTAM REQSESS request. In common with CICS data communication, the “confidential” flag is set off.

RPLs There are two types of **request parameter list** (RPL) used by FEPI:
- Each FEPI outbound request causes the generation of an RPL. This RPL lasts only for the duration of the FEPI request.
- Each FEPI node has a “Receive-Any” RPL. When an inbound flow occurs, this RPL is attached to the FEPI connection, and turned into a “Receive-Specific” RPL. When the flow has been received, a new “Receive-Any” RPL is generated and attached to the node.

VTAM exits

FEPI communicates with VTAM as asynchronously as possible. Therefore, VTAM exits are extensively used for FEPI communication. The following VTAM exits receive control at specific stages of the communication process:

DFASY
Processes the receipt of expedited-data-flow control indicators.

LOGON
Processes the receipt of a CINIT in which FEPI is acting as the primary logical unit (PLU).

LOSTERM
Processes the loss of a session.

NSEXIT
Processes:
- The failure of a process that was responded to positively

- A session outage
- The receipt of network service RUs.

SCIP Processes the receipt of session-control requests.

TPEND
Processes the termination of VTAM.

Modules

Module	Function
DFHSZATC	adaptor command tables
DFHSZATR	adaptor program
DFHSZBCL	cleanup API requests at error routine
DFHSZBCS	RM collect statistics
DFHSZBFT	FREE transaction requests scheduler
DFHSZBLO	lost session reporter
DFHSZBRS	RM collect resource ID statistics
DFHSZBSI	signon exit scheduler
DFHSZBST	STSN transaction scheduler
DFHSZBUN	unsolicited data transaction scheduler
DFHSZBUS	RM unsolicited statistics recording
DFHSZDUF	dump formatting routine
DFHSZFRD	formatted 3270 RECEIVE support
DFHSZFSD	formatted 3270 SEND support
DFHSZIDX	SLU P queue install/discard exit
DFHSZPCP	SLU P flow controller
DFHSZPDX	SLU P drain completion exit
DFHSZPID	SLU P send data processor
DFHSZPIX	SLU P send completion exit
DFHSZPOA	SLU P send response processor
DFHSZPOD	SLU P receive data processor
DFHSZPOR	SLU P response processor
DFHSZPOX	SLU P receive specific response exit
DFHSZPOY	SLU P receive specific response processor
DFHSZPQS	SLU P REQSESS (request session) issuer
DFHSZPQX	SLU P REQSESS exit
DFHSZPSB	SLU P bind processor
DFHSZPSC	SLU P session controller
DFHSZPSD	SLU P SDT processor
DFHSZPSH	SLU P SHUTC processor
DFHSZPSQ	SLU P quiesce complete (QC) processor
DFHSZPSR	RESETSR processor CSECT
DFHSZPSS	SLU P STSN processor
DFHSZPSX	SLU P OPNSEC completion exit
DFHSZPTE	SLU P TERMSESS processor

Module	Function
DFHSZRCA	node control processor
DFHSZRCT	issue processor
DFHSZRDC	delete connection processor
DFHSZRDG	discard node processor
DFHSZRDN	delete node processor
DFHSZRDP	dispatcher
DFHSZRDS	discard property set processor
DFHSZRDT	discard target procsssor
DFHSZREQ	request passticket module
DFHSZRFC	FREE completion processor
DFHSZRGR	Dispatcher work queue processor
DFHSZRIA	allocate processor
DFHSZRIC	define connection processor
DFHSZRID	discard processor
DFHSZRIF	install free processor
DFHSZRII	install processor
DFHSZRIN	install node processor
DFHSZRIO	ACB open processor
DFHSZRIP	install pool processor
DFHSZRIQ	inquire processor
DFHSZRIS	install processor
DFHSZRIT	install target processor
DFHSZRIW	SET processor
DFHSZRNC	NODE processor
DFHSZRNO	NOOP processor
DFHSZRPM	timer services
DFHSZRPW	request preparation
DFHSZRQR	queue for REQSESS processing
DFHSZRQW	request queue processor
DFHSZRRD	RECEIVE request processor
DFHSZRRT	request release processor
DFHSZRSC	connection processor
DFHSZRSE	SEND request processor
DFHSZRST	START request processor
DFHSZRTM	recovery services
DFHSZRXD	EXTRACT processor
DFHSZRZZ	TERMINATE processor
DFHSZSIP	initialization processor
DFHSZVBN	copy NIB mask to real NIB
DFHSZVGF	get queue element FIFO
DFHSZVQS	REQSESS dispatcher

Module	Function
DFHSZVRA	VTAM receive_any processor
DFHSZVRI	VTAM receive_any issuer
DFHSZVSC	delayed bind processor
DFHSZVSL	SETLOGON request issuer
DFHSZVSQ	VTAM feedback interpreter
DFHSZVSR	VTAM feedback interpreter
DFHSZVSY	VTAM feedback interpreter
DFHSZWSL	RPL exit after SETLOGON
DFHSZXDA	VTAM DFASY exit
DFHSZXFR	RPL exit to free request block
DFHSZXLG	VTAM logon exit
DFHSZXLT	VTAM LOSTERM (lost terminal) exit
DFHSZXNS	VTAM NSEXIT (network services) exit
DFHSZXPM	STIMER IRB exit routine
DFHSZXRA	VTAM RECEIVE_ANY exit
DFHSZXSC	VTAM SCIP (session control) exit
DFHSZXTP	VTAM TPEND exit
DFHSZYLG	RPL exit following logon reject
DFHSZYQR	post for REQSESS processing
DFHSZYRI	VTAM RECEIVE_ANY issuer
DFHSZYSC	VTAM SCIP exit extension
DFHSZYSR	VTAM feedback interpreter
DFHSZYSY	VTAM feedback interpreter
DFHSZZAG	get RECEIVE_ANY request block
DFHSZZFR	free RECEIVE_ANY request block
DFHSZZNG	get session control request block
DFHSZZRG	get RPL request block
DFHSZ2CP	SLU2 flow controller
DFHSZ2DX	SLU2 drain completion exit
DFHSZ2ID	SLU2 send data processor
DFHSZ2IX	SLU2 send completion exit
DFHSZ2OA	SLU2 send response processor
DFHSZ2OD	SLU2 receive data processor
DFHSZ2OR	SLU2 response processor
DFHSZ2OX	SLU2 receive specific completion exit
DFHSZ2OY	SLU2 receive specific action module
DFHSZ2QS	SLU2 REQSESS issuer
DFHSZ2QX	SLU2 REQSESS exit
DFHSZ2SB	SLU2 bind processor
DFHSZ2SC	SLU2 session controller
DFHSZ2SD	SLU2 SDT processor

Module	Function
DFHSZ2SH	SLU2 SHUTC processor
DFHSZ2SQ	SLU2 QC processor
DFHSZ2SR	SLU2 RESETSR processor
DFHSZ2SX	SLU2 OPNSEC processor
DFHSZ2TE	SLU2 TERMSESS processor

Chapter 26. Function shipping

Function shipping allows a transaction from one CICS system to access a resource owned by another CICS system.

The CICS function shipping facility enables separate CICS systems to be connected so that a transaction in one system is able to retrieve data from, send data to, or initiate a transaction in, another CICS system. The facility is available to application programs that use the command-level interface of CICS.

Design overview

Figure 56 gives an overview of the function shipping component of CICS.

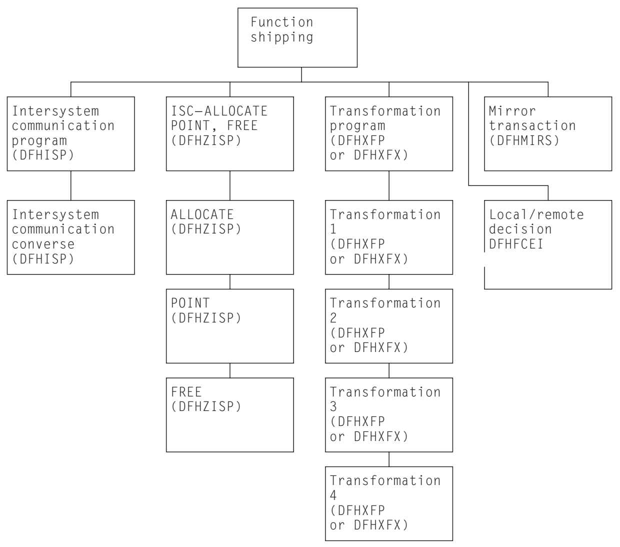

Function shipping
Intersystem communication program (DFHISP)
ISC—ALLOCATE POINT, FREE (DFHZISP)
Transformation program (DFHXFP or DFHXFX)
Mirror transaction (DFHMIRS)
Intersystem communication converse (DFHISP)
ALLOCATE (DFHZISP)
Transformation 1 (DFHXFP or DFHXFX)
Local/remote decision DFHFCEI
POINT (DFHZISP)
Transformation 2 (DFHXFP or DFHXFX)
FREE (DFHZISP)
Transformation 3 (DFHXFP or DFHXFX)
Transformation 4 (DFHXFP or DFHXFX)

Figure 56. CICS function shipping

This section provides an overview of the operation of CICS when it is being used to communicate with other connected CICS systems for CICS function shipping.

Note: The *CICS Intercommunication Guide* gives a full description of the reasons for CICS function shipping and how the user can take advantage of the facility.

Application programming functions with CICS function shipping

The functions provided by CICS are extended for CICS function shipping so that an application program can issue the following types of command and have them executed on another system:

- Temporary-storage commands
- Transient data commands
- Interval control commands
- File control commands
- DL/I calls

- Program link commands (DPL).

Application programs can use these extended functions without having to know where the resources are located; information about where resources are located is contained in the appropriate tables prepared by the system programmer. Alternatively, provision is made for an application program to name a remote system explicitly for a particular request.

Support for syncpoints, whether explicit (through EXEC CICS SYNCPOINT commands) or implicit (through DL/I TERM calls), allows updates to be made in several systems as part of a single logical unit of work.

Error handling routines may need to be extended to handle additional error codes that may be returned from a remote system. See the *CICS Intercommunication Guide* for the relevant conditions.

Local and remote names

For a transaction to access a resource (such as a file or transient data destination) in a remote system, it is usually necessary for the local resource table to contain an entry for the remote resource. The name of this entry (that is, the name by which the resource is known in the local system) must be unique within the local system. The entry also contains the identity (SYSIDNT) of the remote system and, optionally, a name by which the resource is known in the remote system. (If this latter value is omitted, it is assumed that the name of the resource in the remote system is the same as the name by which it is known in the local system.)

Mirror transactions

When a transaction issues a command for a function to run on a remote system, the local CICS system encodes the request and sends it to the system identified in the appropriate CICS table, or on the command itself. The receipt of this request at the remote system results in the attachment of one of the CICS-supplied mirror transactions, namely, CSMI, CSM1, CSM2, CSM3, and CSM5, or transactions CVMI and CPMI. All these transactions use the mirror program, DFHMIRS.

For distributed program link (DPL) requests shipped from a CICS application region to a CICS resource region, the name of the mirror transaction to be attached may be specified by the user. If you specify your own mirror transaction, you must define the transaction in the resource region and associate it with the CICS-supplied mirror program, DFHMIRS.

The CVMI and CPMI transactions service requests sent as part of an LU6.2 synclevel 1 conversation, unlike the other transactions that service requests sent as part of an LU6.2 synclevel 2 conversation or an MRO or LU6.1 conversation.

A mirror transaction runs the initiating transaction’s request and reflects back to the local system the response code and any control fields and data that are associated with the request. If the execution of the request causes the mirror transaction to abend, this information is also reflected back to the initiating transaction.

If a resource has browse place holders or is recoverable, or the lock has been acquired, the mirror transaction becomes a **long-running mirror** and does not end until the issuing transaction ends the logical unit of work (that is, a SYCNPOINT or RETURN). Any resources the mirror has acquired are freed when the initiating transaction issues the appropriate command to free those resources.

Initialization of CICS for CICS function shipping

If CICS has been generated with the appropriate options for intercommunication, the initialization of CICS with the ISC=YES system initialization parameter specified causes the following modules to be loaded:

- DFHISP (intersystem communication program)
- DFHXFP (data transformation program)
- DFHXFX (optimized data transformation program).

The entry point addresses of these modules are contained in the optional features list, which is addressed by CSAOPFLA in the CSA.

The mirror program, DFHMIRS, is not loaded until a request is received from a remote system. (This program can only be loaded if there is an associated PPT entry ***and*** PCT entries for mirror transactions CSMI, CSM1, CSM2, CSM3, and CSM5 or for transactions CVMI and CPMI; sample entries are created by the CSD group DFHISC.)

Note: The ISC=YES system initialization parameter causes other modules besides those specified earlier to be loaded; the ones mentioned here are those specifically required for CICS function shipping.

Communication with a remote system

| For multiregion operation, communication between CICS systems can be
| implemented:

- | Through support in CICS terminal control management modules and by use of a CICS-supplied interregion program (DFHIRP) loaded in the link pack area (LPA) of MVS. DFHIRP is invoked by a type 3 supervisory call (SVC). The SVC moves the data to an intermediate area in key 0 MVS CSA storage, and schedules an SRB to move the data from the intermediate area to the target.
- | By the cross-system coupling facility (XCF) of MVS. XCF is required for MRO links between CICS regions in different MVS images of an MVS sysplex. It is selected dynamically by CICS for such links, if available.

For ISC, communication between CICS systems takes place via ACF/VTAM links. CICS and the CICS application programmer are independent of, and unaware of, the type of physical connection used by ACF/VTAM to connect the two systems.

Protocols

Requests and replies exchanged between systems for CICS interval control, CICS transient data, CICS temporary storage, and DL/I functions are shipped using the standard protocol as defined for SNA logical unit type 6.1.

Requests and replies for CICS file control functions are shipped using a private protocol (with function management headers of type 43).

Symmetrical bracket protocol

Logical unit type 6.1 (LU6.1) sessions between two CICS systems require most protocols to be symmetrical; therefore, CICS receives (as well as sends) end bracket.

Shutdown protocol

The LU6.1 shutdown protocol does not use the SHUTDOWN command; it uses the data flow control commands SBI (stop bracket initiation) and BIS (bracket initial stopped). Shutdown is executed as part of session termination (by DFHZCLS) and ensures that, when a session is terminated normally (as a result of a master terminal release command or a normal CICS shutdown), there are no unfinished syncpoint requests on the session. This means that when the session is initiated, no resynchronization sequence is required.

Sender error recovery protocol (ERP)

CICS support for LU6.1 uses a symmetrical SNA protocol called **Sender ERP**. In addition, when CICS wants to send a negative response to a remote system, it sends a special negative response (0846), which indicates that an ERP message is to follow. This ERP message contains the real system and user sense values, together with a text message. The negative response and ERP message are built by DFHZEMW, and are received and processed by DFHZRAC, DFHZRVX, and DFHZNAC.

Resynchronization protocol

CICS support for LU6.1 sessions that use the syncpoint protocol has associated resynchronization logic, which is used during the initiation of a session after a previous session has terminated abnormally. This logic is used to generate messages concerning the outcome of any logical units of work that were **in doubt** when the previous session failed. The modules involved are DFHZRSY, DFHZSCX, and DFHZNAC.

CICS function shipping environment

This section describes the system entries for function shipping in the terminal control table, and how function shipping requests or replies are transformed between the format suitable for transmission and the internal parameter list format.

System entries in the terminal control table

All remote systems with which a given system is able to communicate are identified and described in terminal control table system entries (TCTSEs). The name of the system entry is the name specified in the SYSIDNT field of the CICS table entry describing a remote resource.

CICS uses the TCTSE as an anchor point to queue requests made by CICS transactions for connection to the remote system.

Figure 57 on page 305 shows three TCTTEs. If a transaction fails and you get a transaction dump, this figure shows you how to find the relevant TCTTEs from the TCA.

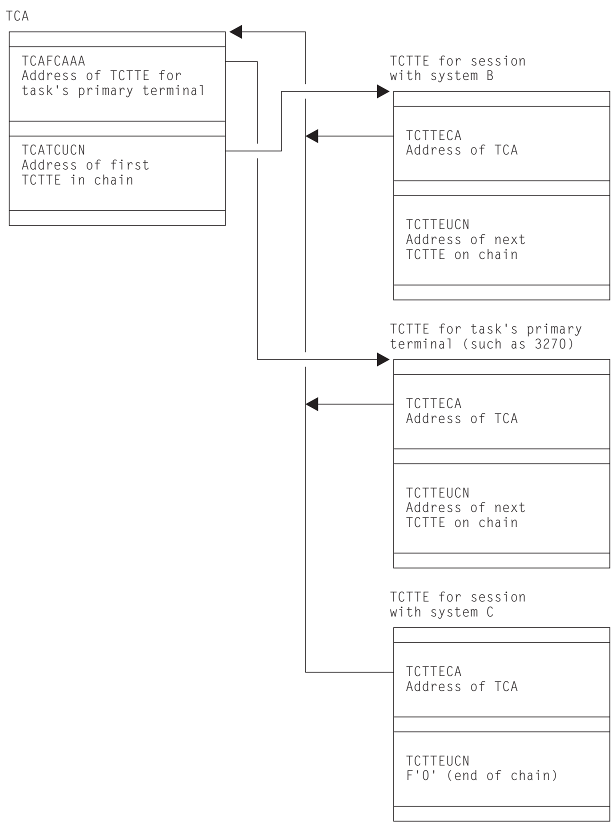


Figure 57. Task's view of CICS function shipping TCTTEs

Transformation of requests and replies for transmission between systems

Before a request or reply can be transmitted, it must be transformed from its internal, parameter list (EXEC interface) format to a format suitable for transmission; when received after transmission, the request must be transformed back into a parameter list format.

There are four such transformations (numbered 1 through 4), which are performed by DFHXFP, or by DFHXFX if optimized data transformations are possible. The latter only applies to data transformations for function shipping in an MRO environment, excluding those relating to DL/I requests.

Transformation 1
For a request to be sent by the originating system; transforms from parameter list format to transmission format.

Transformation 2
For a request received by the mirror transaction; transforms from transmission format to parameter list format.

Transformation 3
For a reply to be sent by the mirror transaction; transforms from parameter list format to transmission format.

Transformation 4
For a reply received by the originating system; transforms from transmission format to parameter list format.

The parameter list format above refers to the parameter list that is normally passed to DFHEIP (for CICS requests) or to DFHDLI (for DL/I requests).

The transmission formats of these requests and replies (excluding those for syncpoint protocol) are described in the DFHFMHDS DSECT.

Information that DFHXFP and DFHXFX need to retain between transformations 1 and 4 (in the originating system) or between transformations 2 and 3 (in the mirror system) is stored in a transformer storage area called XFRDS; See for a detailed description of this control block.

CICS function shipping—handling of EXEC CICS commands

This topic describes the sending and receiving of requests and replies (other than DL/I or syncpoint requests) between two connected systems at the **application-layer** level; see Figure 58 on page 307. (The **function management** and **data flow control** layers, implemented by CICS terminal control, work in the same way, regardless of the type of request being transmitted.)

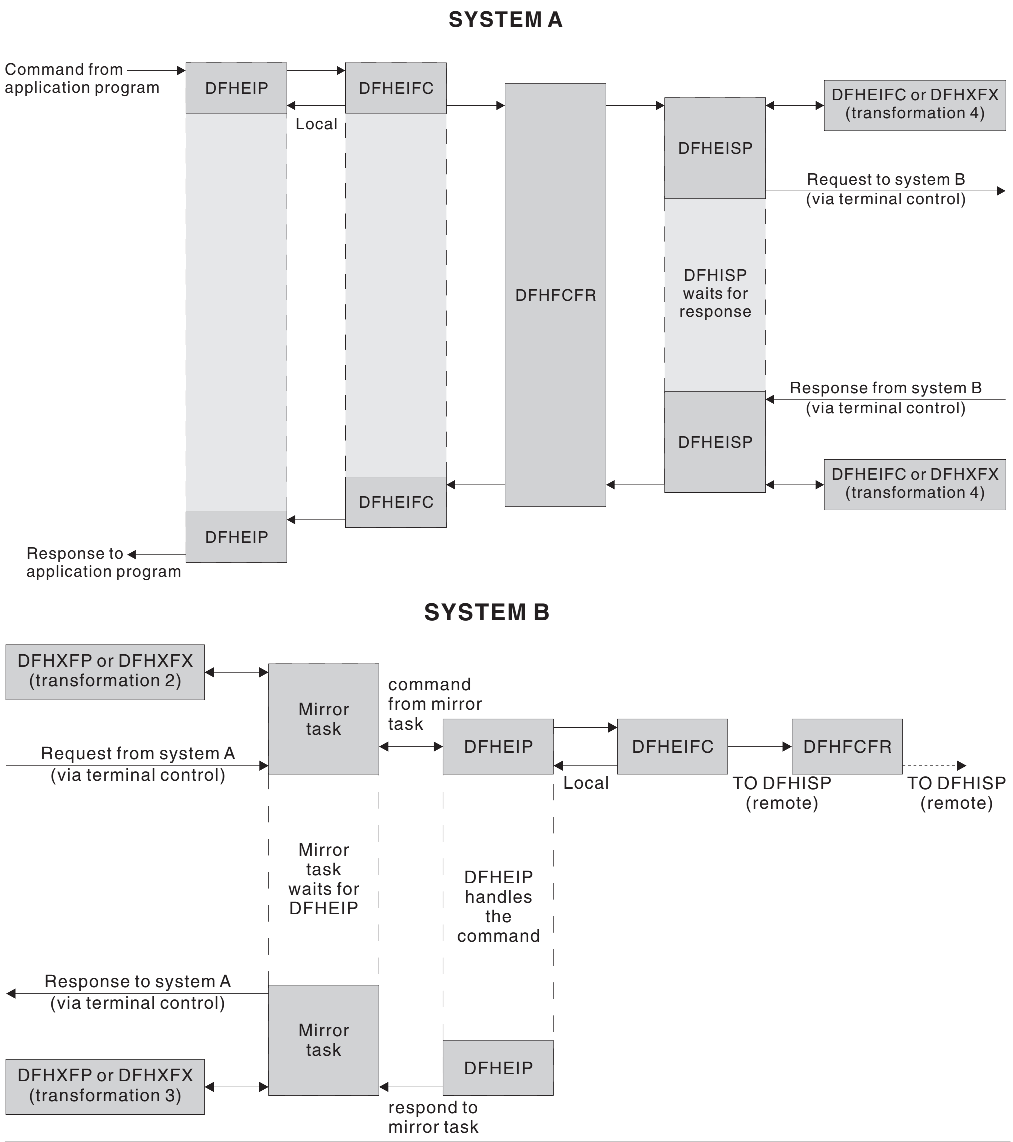

SYSTEM A
Command from application program
DFHEIP
DFHEIFC
Local
DFHCFCR
DFHEISP
DFHEIFC or DFHXFX (transformation 4)
Request to system B (via terminal control)
DFHISP waits for response
Response from system B (via terminal control)
DFHEISP
DFHEIFC or DFHXFX (transformation 4)
DFHEIFC
DFHEIP
Response to application program
SYSTEM B
DFHXFP or DFHXFX (transformation 2)
Mirror task
command from mirror task
Request from system A (via terminal control)
DFHEIP
DFHEIFC
DFHFCFR
Local
TO DFHISP (remote)
TO DFHISP (remote)
Mirror task waits for DFHEIP
DFHEIP handles the command
Response to system A (via terminal control)
Mirror task
DFHEIP
DFHXFP or DFHXFX (transformation 3)
respond to mirror task

Figure 58. Overview of CICS function shipping

Sending a request to a remote system

A CICS command is handled for an application program by the EXEC interface program, DFHEIP. DFHEIP analyzes the arguments of each statement to determine the requested function and to assign values into the appropriate CICS control blocks; DFHEIP also performs storage control and error checking on behalf of the application programmer.

If the system has been initialized with the ISC=YES system initialization parameter, and if the request is for one of the functions that could be executed on a remote system (see “Application programming functions with CICS function shipping” on page 301), DFHEIP invokes a local/remote decision routine, which inspects the appropriate CICS table to determine whether the request is for a local or a remote resource (unless a remote system has specifically been requested). For all requests except file control, this local/remote decision is taken in DFHEIP. For file control requests, the decision is taken in the file control function shipping interface module, DFHFCRF (see Chapter 24, “File control,” on page 181).

If the resource is local:
- DFHEIP invokes the appropriate EXEC interface processor module to process the request locally.
- DFHEIFC calls the file control file request handler, DFHFCFR, to process the request locally, and finally returns control to DFHEIP.

Note: A SYSID value that names the local system also causes the request to be processed locally.

If the resource is remote, DFHEIP or DFHFCRF:
1. Allocates a transformer storage area (XFRDS) chained off the EXEC interface storage EIS. XFRDS provides a central area in which all information about processing of the request can be accessed.
2. Places the following data in XFRDS:
   - Name of remote system, for subsequent use by DFHISP (in XFRDS field XFRSYSNM)
   - Address of the application’s list of parameters (EXEC parameter list) associated with the command being executed (in XFRDS field XFRPLIST)
   - Address of the table (FCT, if DFHFCRF; DCT, and so on, otherwise) for the requested resource (in XFRDS field XFRATABN).
3. Issues a DFHIS TYPE=CONVERSE macro, which passes control to the CICS function shipping program DFHISP.

DFHISP obtains the address of the TCTSE for the remote system and places it in XFRDS field XFRATCSE. DFHISP obtains the address of the TCTTE that controls the session with the remote system and places it in XFRDS field XFRATCTE. (DFHISP obtains the address by issuing a DFHTC TYPE=POINT macro. If no session is established, there is no TCTTE; in this case DFHISP issues a DFHTC TYPE=ALLOCATE macro to establish the session TCTTE.)

If no session can be allocated because, for example, all sessions are out of service, DFHISP determines whether or not the function request can be queued for shipping at a later time. If it the request can be queued, then XFRATCTE is set to zero.

Optionally (if a TIOA already exists from an earlier CICS function shipping request from the same application), DFHISP also places the address of the TIOA in XFRDS field XFRATIOA.

DFHISP then invokes DFHXFP, or DFHXFX for optimized transformations, to transform the requested command and parameter list into a form suitable for transmission. This is known as **transformation 1**, which:
1. Transforms the original **command** into an appropriate type of request for transmission.
2. Converts the EXEC parameter list into a **data unit** having a standardized character-string format (together with a function control header) suitable for transmission. The data unit is built in the TIOA and contains a copy of each of the parameters that are addressed by the EXEC parameter list. (For economy of transmission, certain types of data are compressed before being placed in the TIOA.)

3. Returns control to DFHISP.

Note: If local queuing is in effect, the data unit is built in user storage.

DFHISP then invokes terminal control to transmit the contents of the TIOA to the remote system and waits for the reply from the remote system, if necessary.

If local queuing is in effect, DFHISP issues a DFHIC TYPE=PUT macro specifying transaction CMPX, which sends the data unit at a later time.

Receiving a request at a remote system

Terminal control receives the request transmission and attaches one of the mirror transactions.

The mirror program allocates space for XFRDS in its LIFO storage area. As in the requesting system, XFRDS is a central area in which all information about the processing of the received request can be accessed. The mirror program places the following data in XFRDS:

- Address of the session TCTTE (in XFRDS field XFRATCTE)
- Address of the TIOA (in XFRDS field XFRATIOA).

The mirror program also allocates scratch pad storage in the LIFO storage area for use by DFHXFP (or DFHXFX) in building argument lists. The address of this storage is placed in XFRPLIST.

The mirror program then invokes DFHXFP, or DFHXFX for optimized transformations, to transform the received request into a form suitable for execution by DFHEIP. This is known as **transformation 2**, which:

1. Transforms the received request (as coded in the function management header of the data unit) into an appropriate CICS command.
2. Decodes the TIOA and builds (in the ***first*** part of the STORAGE area) an EXEC parameter list that basically consists of addresses that point to fields in the TIOA. (Those fields that were compressed for transmission are expanded and placed in the ***second*** part of the STORAGE area; for these fields, the EXEC parameter list points to the expanded versions, not the compressed versions in the TIOA.)

   Note: The NOHANDLE option is specified on each EXEC CICS command that is created; this has the effect of suppressing DFHEIP's branching to an error routine.
3. Returns control to the mirror program.

The mirror program then invokes DFHEIP (in the same way as for an application program), passing to it (in register 1) the address of the EXEC parameter list just built.

DFHEIP or DFHFCRF determines whether the request is for a remote resource on yet another system or for a local resource. If the resource is remote, DFHEIP or DFHFCRF allocates a new and separate transfer storage area XFRDS and invokes DFHISP (as described under "Sending a request to a remote system" on page 307).

If the resource is local, the reply is processed for the mirror program in the usual way.

Sending a reply at a remote system

The process of sending a reply in response to a request from another system is similar to that for sending a request; see "Sending a request to a remote system" on page 307.

When DFHEIP has successfully completed execution of the command, control is returned to the mirror program with the results of the execution in the EXEC interface block (EIB). The mirror program then invokes DFHXFP, or DFHXFX for optimized transformations, to transform the command response into a suitable form for the transmission of the reply. This is known as **transformation 3**, which:

1. Checks whether the existing TIOA is long enough to take the reply; if not, DFHXFP (or DFHXFX) frees the existing TIOA and creates a new one.
2. Converts the EXEC parameter list (kept in the scratch pad area STORAGE) into a **data unit** having the standardized character-string format suitable for transmission. The data unit is built in the TIOA. If the request is received by the mirror program without CD (that is, the requesting system did not expect a reply), the mirror program issues a DFHTC TYPE=READ or TYPE=FREE macro. If an error is detected, the mirror program is forced to abend, so that at least a record of the request failure is written.
3. Returns control to the mirror program.

The mirror program then invokes terminal control to transmit the TIOA. (The mirror program does this by issuing a DFHTC TYPE=(WRITE,WAIT,READ) macro if the mirror program holds any state information that must be held for a further request or until a syncpoint. Otherwise, a DFHTC TYPE=(WRITE,LAST) macro is issued.

Receiving a reply from a remote system

Terminal control receives the reply and returns control to the initiating task; in particular, control is passed to DFHISP, which has been waiting for the reply.

DFHISP invokes DFHXFP, or DFHXFX for optimized transformations, (passing to it the address of the XFRDS area) in order to transform the reply into the form expected by the application program. This is known as **transformation 4**, which:

1. Obtains the addresses of the TIOA and of the original EXEC parameter list from XFRATIOA and XFRPLIST in the XFRDS area.
2. Uses data in the reply to complete the execution of the original command. For example:
   - Sets return codes in the EIB from status bits in the reply
   - Stores other received data (if any) in locations specified in the original EXEC parameter list.
3. Frees the TIOA.
4. Returns control to DFHISP.

DFHISP returns control to DFHEIP (if appropriate through DFHEIFC), which raises any error conditions associated with return codes set in the EIB. DFHEIP then returns control to the application program.

CICS function shipping—handling of DL/I requests

DL/I requests are handled in a similar manner to that for CICS commands; see Figure 59 on page 311.

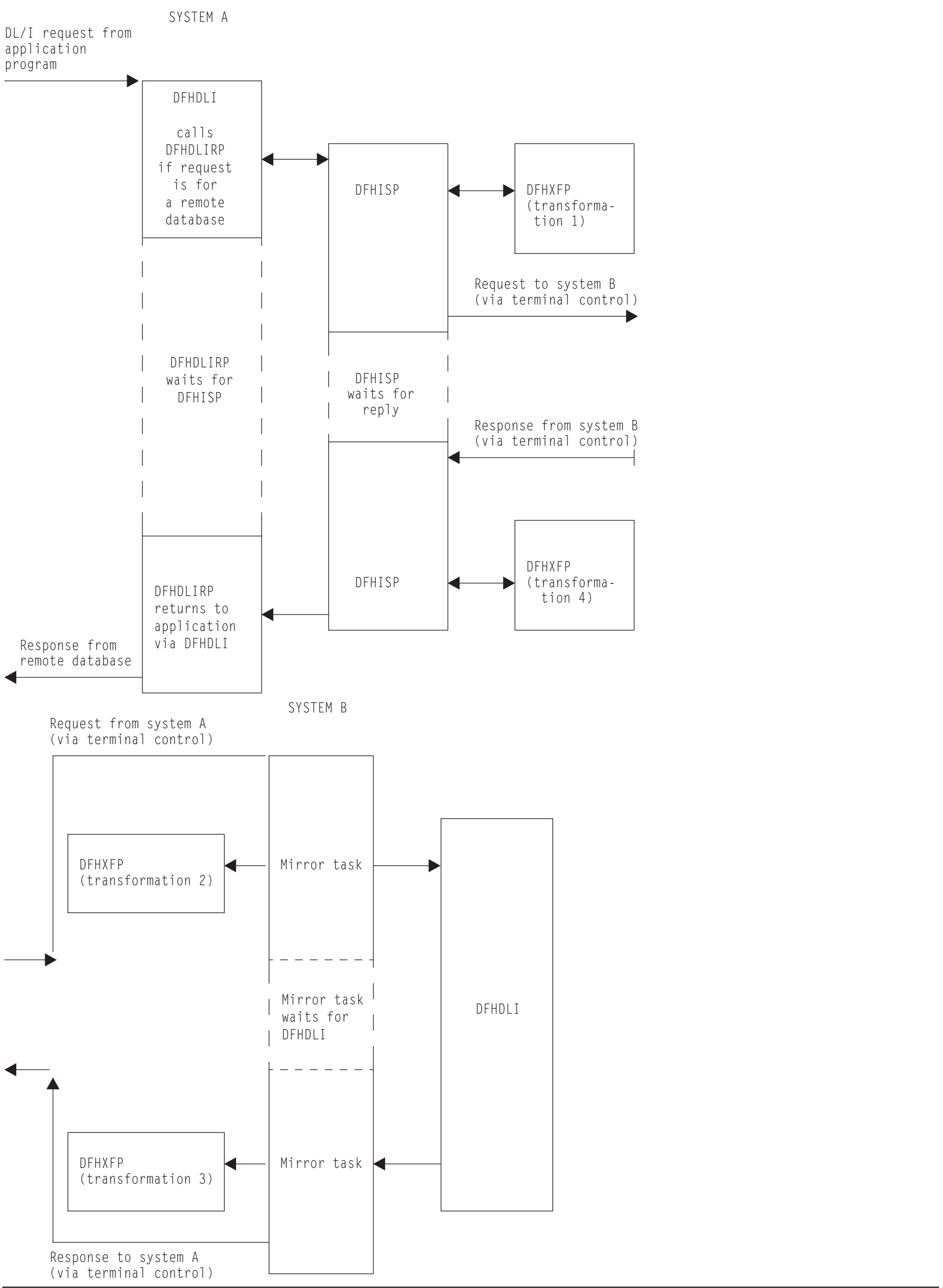

SYSTEM A
DL/I request from application program
DFHDLI calls DFHDLIRP if request is for a remote database
DFHISP
DFHXFP (transformation 1)
Request to system B (via terminal control)
DFHDLIRP waits for DFHISP
DFHISP waits for reply
Response from system B (via terminal control)
DFHISP
DFHXFP (transformation 4)
DFHDLIRP returns to application via DFHDLI
Response from remote database
SYSTEM B
Request from system A (via terminal control)
DFHXFP (transformation 2)
Mirror task
Mirror task waits for DFHDLI
DFHDLI
DFHXFP (transformation 3)
Mirror task
Response to system A (via terminal control)

Figure 59. Overview of CICS function shipping of DL/I requests

Sending a DL/I request to a remote system

All DL/I requests are handled by DFHDLI.

DFHDLI determines whether the request is for a remote, or DBCTL database, and routes the request to the appropriate DL/I call processor. If the request is for a remote database, DFHDLI invokes DFHDLIRP, which passes control to DFHISP by issuing a DFHIS TYPE=CONVERSE macro.

DFHISP then:

1. Invokes DFHXFP to transform the request into a form suitable for transmission
2. Invokes terminal control to transmit the request.

Receiving a DL/I request at a remote system

As for a CICS request, the appropriate mirror transaction (in this case, CSM5) is attached.

The mirror program invokes DFHXFP to transform the received request into a form suitable for execution by DFHDLI.

The mirror program then passes the request to DFHDLI in the same way as any other application program would. DFHDLI determines what type of DL/I request is being made and then routes the request to the appropriate DL/I call processor: DFHDLIRP (remote, that is, daisy-chained to yet another system), or DFHDLIDP (DBCTL).

Sending a DL/I reply at a remote system

When DFHDLI has successfully completed the request, control is returned to the mirror program with the results in the user interface block (UIB). The mirror program then:

1. Invokes DFHXFP to transform the results into a form suitable for transmission
2. Invokes terminal control to transmit the reply.

Receiving a DL/I reply from a remote system

On receipt of the reply, terminal control returns control to DFHISP, which has been waiting for the reply; DFHISP then invokes DFHXFP to transform the reply into a form that can be used by DFHDLI. DFHXFP sets the return codes in an intermediate control block, DFHDRX, so that they can ultimately be copied to the UIB or the TCA for the application program. Control is then returned from DFHISP through DFHDLIRP to DFHDLI, and finally back to the application program.

Terminal control support for CICS function shipping

Terminal control support for CICS function shipping falls into the following three main areas:

1. TCTTE allocation functions, ALLOCATE, POINT, and FREE. These functions are used mainly by DFHISP to allow a CICS transaction to own additional TCTTEs. These are session TCTTEs to remote systems; these functions are supported by DFHZISP.
2. Syncpoint functions, SPR, COMMIT, ABORT, and PREPARE. These functions are used by the recovery manager connectors to implement the syncpoint protocol; these functions are supported by DFHZIS1.
3. LU6.1 functions. These functions are used by users of terminal control to support the data flow control protocols used in a LU6.1 session.

The functions described in areas 1 and 2 above are extensions to the DFHTC macro that are intended for internal use by CICS control programs only; they are not documented in the user manuals.

TCTTE allocation functions

Terminal control provides the following TCTTE-related functions:

ALLOCATE function
This allocates to the requesting transaction a session TCTTE for communication

with a remote system. The name of the remote system is passed as a parameter. The address of the allocated TCTTE or a return code is returned to the requester. DFHZISP uses the DFHZCP automatic transaction initiation (ATI) mechanism to allocate the session.

If the allocation request cannot be satisfied immediately, an automatic initiate descriptor (AID) is created, and is chained off the system entry; the AID is used to remember, and subsequently to process, the outstanding allocation request.

Parallel sessions can be allocated explicitly, or implicitly by reference to a remote resource; sessions are automatically initiated at allocation time, if necessary. They can also be initiated by a master terminal ACQUIRE command, or automatically during CICS initialization if CONNECT=AUTO is specified in the TCTTE.

POINT function
This causes terminal control to supply the requesting task with the address of a session TCTTE for a named remote system. The TCTTE must have been previously allocated to the requesting task.

FREE function
This detaches a TCTTE from the owning task and makes it available for allocation to another transaction. (The FREE function is the opposite of the ALLOCATE function.)

TERM=YES operand
This operand enables the issuer of a terminal control macro to select explicitly the TCTTE to which the requested function is to be applied. The address of the TCTTE to be processed is passed as a parameter of the request; the TCTTE must have been previously allocated to the requesting task.

FREE TCTTE indicator
This indicator is set as a result of the remote system issuing a (WRITE,LAST) or FREE request to show that the current conversation has finished and that the session should be freed by the current owner of the TCTTE. The receiver of the FREE indicator (usually DFHISP) must issue a FREE request.

Syncpoint functions

For ISC, terminal control provides the following syncpoint functions (the equivalent functions for IRC are provided by DFHZIS1):

SPR (syncpoint request) function
This request is issued by the recovery manager connector during syncpoint processing, and causes terminal control (DFHZSDR) to send a request that has a definite DR2 response requested. This tells the other side of the session that a syncpoint is required.

COMMIT function
This request is issued by the recovery manager connector when syncpoint has been completed. It causes a positive DR2 response to be sent, signaling the successful completion of syncpoint protocol.

ABORT function
This request causes either a negative DR2 response or an LUSTATUS command to be sent, indicating that a requested syncpoint operation could not be completed successfully, or that there has been an abnormal end of the current logical unit of work.

`PREPARE function`
This request causes an LUSTATUS command to be sent to the mirror in the remote system and indicates that a syncpoint should be taken.

VTAM secondary half-session support

CICS acts as both the primary and the secondary halves of an LUTYPE6 session. To implement secondary half-session support, CICS VTAM terminal control has to do two things:

1. Implement the secondary half of the data flow control and session control protocols that CICS already uses as a primary.
2. Use the secondary API provided by VTAM.

The terminal control functions provided by CICS are independent of primary/secondary considerations. Differences between the primary and secondary VTAM interfaces are contained within the CICS modules that issue the appropriate VTAM request. The secondary support functions appear principally in the DFHZCP modules shown in Table 9.

Table 9. VTAM secondary support functions

Modules	Function	Secondary function
DFHZSIM	Request LOGON	Use REQSESS macro
DFHZOPN	OPNDST	Use OPNSEC macro
DFHZSCX	SCIP exit	Receive and process BIND, STSN, SDT, CLEAR, and UNBIND commands
DFHZCLS	CLSDST	Use TERMSESS macro
DFHZRSY	Resynchronization	Build STSN responses
DFHZSKR	Respond to	Send responses to BIND, SDT, and STSN commands
DFHZRAC, DFHZRVX	Receive	Receive and process BID commands
DFHZATI, DFHZRVX, DFHZRAC	Bracket protocol	Implement secondary contention resolution using bracket protocol
DFHZNSP	Network services error exit	Handle secondary LOSTERM type of errors

NOCHECK option function handling

The transmission of a START NOCHECK command and associated data is handled in a slightly different manner from that for other CICS function shipping commands. Compared with the process described in Chapter 26, “Function shipping,” on page 301, the major differences are:

- After DFHISP has allocated the session TCTTE to the requesting task, the transformation program DFHXFP (or DFHXFX) performs **transformation 1**. In addition, the transformation program detects that a START NOCHECK command is being processed and passes this fact to DFHISP in its return code. Accordingly, DFHISP issues a DFHTC TYPE=WRITE macro, which is deferred until syncpoint, return, or another function-shipped request on that ISC session.
- DFHISP returns to its caller.
- On the receiving system, DFHEIP handles the START NOCHECK command in the usual way and then terminates when the command has been executed; no response is sent back to the first system.

Exits

DFHISP has two global user exit points, XISCONA and XISLCLQ.

For further information about using these exit points, see the *CICS Customization Guide*.

Trace

The following point ID is provided for the intersystem program:
- AP 00DF, for which the trace level is IS 1.

The following point IDs are provided for function shipping data transformation:
- AP D9xx, for which the trace level is IS 1.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 27. Good morning message program

The CICS good morning program issues a good morning message for VTAM logical units.

Design overview

This module is invoked by running the CSGM system transaction.

If a satisfactory OPNDST has occurred (detected in the OPNDST exit, DFHZOPX) and if a “good morning” message has been requested on the TCT TYPE=TERMINAL entry, an NACP request is queued. NACP issues a DFHIC TYPE=INITIATE for this transaction.

This module determines the terminal type, sets up the appropriate control characters, gets a TIOA, and writes the message.

For a 3270 terminal, if the operator has entered data before the message has been received, NACP may be invoked to handle intervention required. In this case the transaction is abended and the write operation terminated.

A default message text is generated by DFHTCTPX and can be overridden by an option on the TCT TYPE=INITIAL statement. The text is stored in the TCT prefix.

Modules

DFHGMM

Exits

The XGMTEXT global user exit point is provided in DFHGMM. For further information about this, see the *CICS Customization Guide*.

Trace

No trace points are provided for this function.

Chapter 28. Interregion communication (IRC)

CICS multiregion operation (MRO) enables CICS regions that are running in the same MVS image, or in the same MVS sysplex, to communicate with each other. MRO does not support communication between a CICS system and a non-CICS system such as IMS. [1]

ACF/VTAM and SNA networking facilities are not required for MRO. The support within CICS that enables region-to-region communication is called **interregion communication** (**IRC**). IRC can be implemented in three ways:

- Through support in CICS terminal control management modules and by use of a CICS-supplied interregion program, DFHIRP, loaded in the MVS link pack area. DFHIRP is invoked by a type 3 supervisory call (SVC).
- By MVS cross-memory services, which you can select as an alternative to the CICS type 3 SVC mechanism. Here, DFHIRP is used only to open and close the interregion links.
- By the cross-system coupling facility (XCF) of MVS. XCF is required for MRO links between CICS regions in different MVS images of an MVS sysplex. It is selected dynamically by CICS for such links, if available.

This section describes the communication part of MRO. Chapter 35, "Multiregion operation (MRO)," on page 355 gives a brief description of multiregion operation.

Design overview

For information about the design and implementation of interregion communication facilities, and about the benefits of cross-system MRO, see the *CICS Intercommunication Guide*.

Control blocks

IRC uses two levels of control blocks:

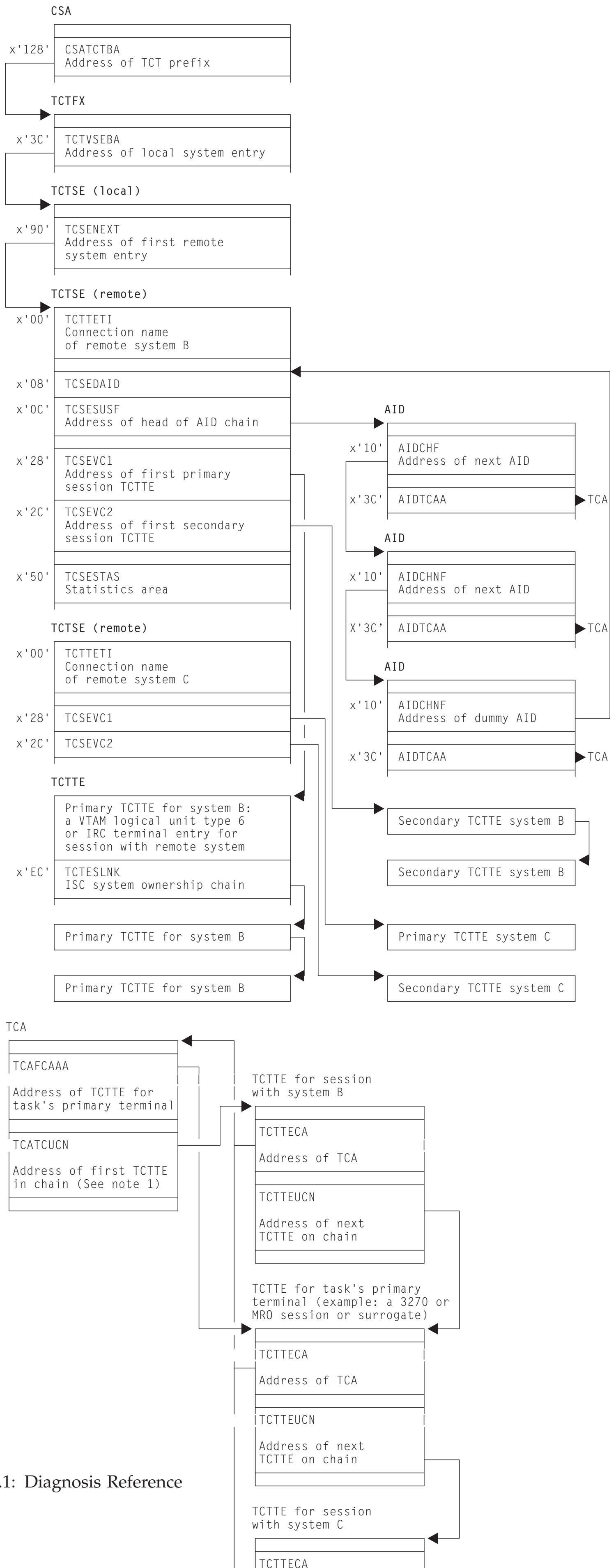
1. A CICS/MRO terminal control layer
2. An interregion SVC layer interfaced by the DFHIR macro.

Terminal control layer

The CICS/MRO terminal control layer is shown in Figure 60 on page 320.

This layer uses the cross-region block (CRB). This is a global (that is, one per CICS system) block that is created in the CICS dynamic storage area above the 16MB line (the ECDSA) when IRC is initialized, and provides information to communicate with the IRC SVC. See Figure 61 on page 321.

1. The external CICS interface (EXCI) uses a specialized form of MRO link to support: communication between MVS batch programs and CICS; DCE remote procedure calls to CICS programs.



CSA
x'128'
CSATCTBA
Address of TCT prefix
TCTFX
x'3C'
TCTVSEBA
Address of local system entry
TCTSE (local)
x'90'
TCSENEXT
Address of first remote system entry
TCTSE (remote)
x'00'
TCTTETI
Connection name of remote system B
x'08'
TCSEDAID
x'0C'
TCSESUSF
Address of head of AID chain
x'28'
TCSEVC1
Address of first primary session TCTTE
x'2C'
TCSEVC2
Address of first secondary session TCTTE
x'50'
TCSESTAS
Statistics area
TCTSE (remote)
x'00'
TCTTETI
Connection name of remote system C
x'28'
TCSEVC1
x'2C'
TCSEVC2
TCTTE
Primary TCTTE for system B: a VTAM logical unit type 6 or IRC terminal entry for session with remote system
x'EC'
TCTESLNK
ISC system ownership chain
Primary TCTTE for system B
Primary TCTTE for system B
AID
x'10'
AIDCHF
Address of next AID
x'3C'
AIDTCAA
TCA
AID
x'10'
AIDCHNF
Address of next AID
X'3C'
AIDTCAA
TCA
AID
x'10'
AIDCHNF
Address of dummy AID
x'3C'
AIDTCAA
TCA
Secondary TCTTE system B
Secondary TCTTE system B
Primary TCTTE system C
Secondary TCTTE system C
TCA
TCAFCAAA
Address of TCTTE for task's primary terminal
TCATCUCN
Address of first TCTTE in chain (See note 1)
TCTTE for session with system B
TCTTECA
Address of TCA
TCTTEUCN
Address of next TCTTE on chain
TCTTE for task's primary terminal (example: a 3270 or MRO session or surrogate)
TCTTECA
Address of TCA
TCTTEUCN
Address of next TCTTE on chain
TCTTE for session with system C
TCTTECA

Notes:

1. The first TCTTE on the chain is not necessarily the TCTTE for the task's primary terminal.
2. A task has allocated MRO sessions to other systems.
3. TCTTEs are described more fully in Chapter 56, "Terminal control," on page 441.
4. Primary TCTTEs relate to Receive sessions, and secondary TCTTEs relate to Send sessions.
5. TCSEVC1 is the label on the address of the TCTTE of the first primary session. TCSEVC2 is that of the first secondary session.
6. The primary and secondary sessions each have sets of TCTTEs. These are found by using the DFHTC CTYPE=LOCATE macro.
7. A TCTTE is allocated for a surrogate session in transaction routing.

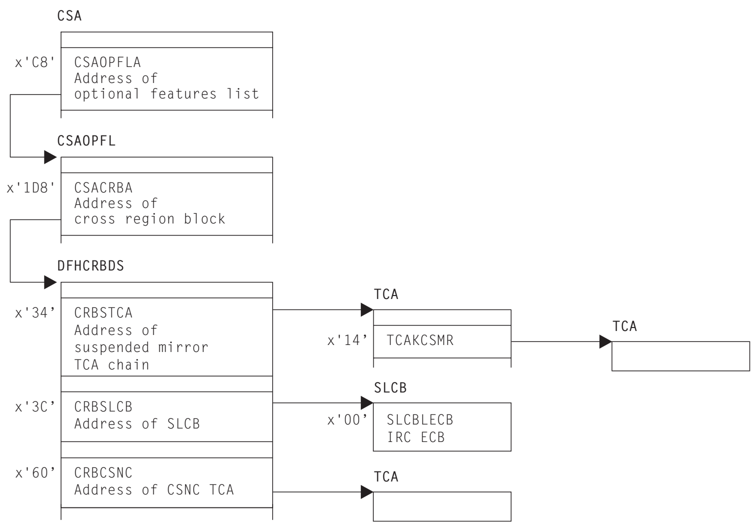


Figure 61. Cross-region block (CRB)

DFHIR layer

The interregion SVC layer interfaced by the DFHIR macro is shown in Figure 62 on page 322.

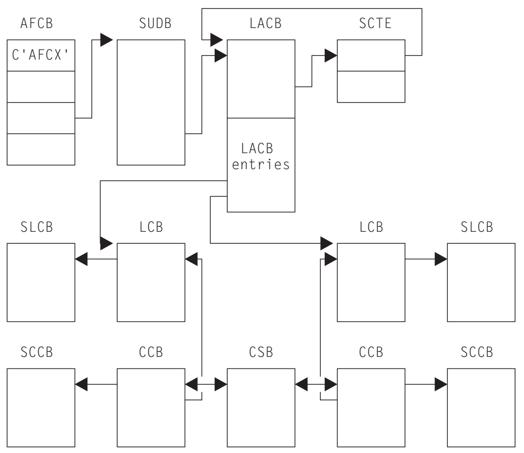


Figure 62. Interregion SVC layer of control blocks interfaced by the DFHIR macro

This layer uses the following control blocks, which, unless otherwise stated, reside in subpool 241 in MVS storage:

- Global (that is, one per MVS system) housekeeping (used by DFHIRP)

  Subsystem control table extension (SCTE)
  : The SCTE is dynamically created, and contains information about the number of regions logged on to DFHIRP. It is used to locate the LACB. See also Figure 74 on page 392, which shows the subsystem interface control blocks, including a pointer to the SCTE in the CICS subsystem anchor block (SAB).

  Logon address control block (LACB)
  : The LACB contains entries to identify the regions that have logged on, and contains the address of the region's logon control block (LCB).

- Local housekeeping (used by DFHIRP)

  Logon control block (LCB)
  : The LCB is created for each successful log on.

  Logon control block entry (LCBE)
  : The LCBE contains the basic control information for each IRC system with which this system communicates. It addresses the connection control blocks (CCBs).

  Subsystem user definition block (SUDB)
  : A SUDB provides access to IRC control blocks. There is one SUDB for each TCB that is currently logged on (so each SUDB may have multiple LCBs associated with it). The SUDB contains TCB-related data and working storage.

  Connection control block (CCB)
  : A CCB is created for each IRC send-receive session, and contains information controlling the connection to the other region. When the connection is in use, it addresses the CSB.

  Connection status block (CSB)
  : The CSB provides status information about the connection between two regions.

  MVS transfer buffers (MVS SRB mode)
  : The MVS transfer buffers are used to transfer IRC data between regions, and reside in subpool 231 in MVS storage.

Terminal control layer and DFHIR layer

Figure 63 shows the control blocks that are accessed by both the terminal control layer and the DFHIR layer. Figure 64 on page 324 shows the location of these control blocks in MVS virtual storage.

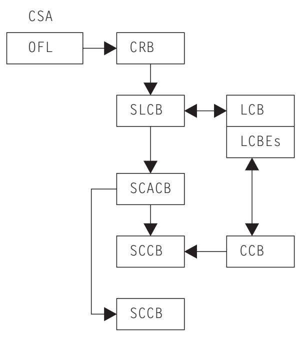


Figure 63. Control blocks accessed by CICS/MRO terminal-control layer of control blocks and by interregion SVC layer of control blocks

The following blocks are used by both the terminal control layer and the DFHIR layer. These blocks are allocated at logon time within a single MVS GETMAIN, and, unless otherwise stated, reside in subpool 251 of MVS storage.

Subsystem logon control block (SLCB)
: The SLCB is used by the IRC SVC and region and contains the master ECB, posted when the region has IRC activity. It is pointed to by the CRB and LCB.

Subsystem connection address control block (SCACB)
: The SCACB contains entries allowing the addressing of SCCBs from the SLCB.

Subsystem connection control block (SCCB)
: The SCCB is created for each IRC send-receive session, and is allocated at logon. It contains the ECB, posted when input for the session is available.

  Note: There is a one-to-one relationship between TCTTEs and SCCBs when they are in use.

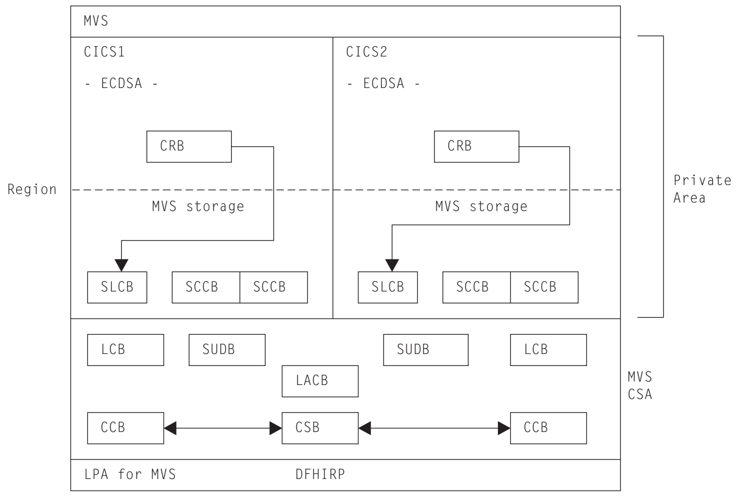


Figure 64. Location of control blocks in MVS virtual storage

MRO ECB summary

The following is a summary of the MRO event control blocks (ECBs):

Name	Location	Who waits	Who posts
Dependent ECB	SCCB	Application (TC WAIT)	DFHIRP
LOGON ECB	SLCB	CICS (KCP, Op sys WAIT list)	DFHIRP
Link ECB	LCB	DFHIRP (Op sys WAIT)	DFHIRP
Work queue ECB	QUEUE	CSNC transaction	DFHIRP DFHZIS2 DFHZLOC

See*CICS Data Areas* for a detailed description of the CICS control blocks.

Modules

Figure 65 gives an overview of the modules involved with interregion communication.

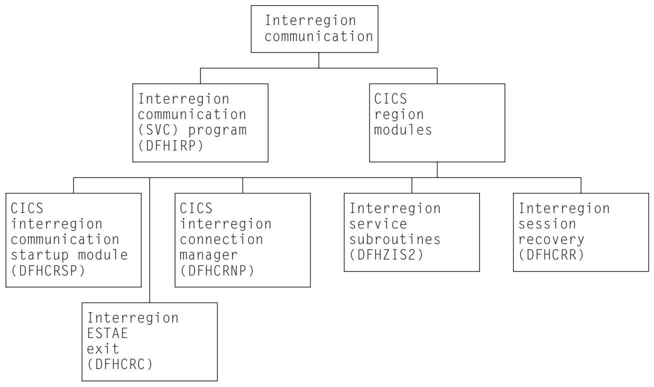

Interregion communication
Interregion communication (SVC) program (DFHIRP)
CICS region modules
CICS interregion communication startup module (DFHCRSP)
CICS interregion connection manager (DFHCRNP)
Interregion service subroutines (DFHZIS2)
Interregion session recovery (DFHCRR)
Interregion ESTAE exit (DFHCRC)

Figure 65. Interregion communication

The modules for IRC are of two types:

1. The interregion communication program: DFHIRP.

2. CICS address space modules: DFHCRC (interregion ESTAE exit), DFHCRNP (CICS interregion connection manager), DFHCRR (interregion session recovery), DFHCRSP (CICS interregion communication startup module), DFHZCP (CICS terminal management program), and DFHZCX (which includes DFHZIS2, the interregion service subroutines).

DFHIRP (interregion communication (SVC) program)

The interregion communication program (DFHIRP) is used to pass data from one region to another in the same processing unit. The programs running in the regions usually are CICS programs, but DFHIRP does not assume that to be the case.

Each user of this program must first issue a LOGON request specifying an 8-character name. This user identifier is added to a table maintained in key 0 storage. If cross-memory is being used, acquire and initialize the cross-memory resources (authorization index (AX), linkage index (LX), and entry table (ET)), unless this has already been done by a previous logon in this address space.

After the user has logged on, CONNECT requests can be issued to establish data paths to other users who have also logged on. The users must cooperate in this process by specifying, when they log on, to whom and from whom they are to be connected and by how many data paths. If cross-memory is being used, update the authority tables (ATs) of both address spaces to allow each one to establish addressability to the other, unless this was done when a previous connection was established between them.

After a connection has been established, either end of the connection can issue a SWITCH request to send data to the other end of the connection. The receiver of the data must provide a buffer into which the data is to be written. If the buffer is too small, the receiver is notified of the actual data length and, possibly having obtained a larger buffer, can issue a PULL request to retrieve as much data as is required. After the first data has been sent, the link must be used by each end alternately.

A connection can be broken by either end by issuing a DISCONNECT request. If cross-memory is being used and if the last cross-memory connection between a pair of address spaces is being removed, update the caller's AT so that the other system is no longer permitted to access the caller's address space.

When all links have been disconnected, a user can log off using a LOGOFF request. If cross-memory is being used, free the cross-memory resources acquired by logon if they are no longer required by the caller's address space.

When MVS cross-memory services are requested (ACCESSMETHOD(XM) in the RDO CONNECTION definition), communication is performed by DFHIRP running as an SVC. In this case, it is invoked by an SVC call to a startup program (DFHCSVC), which calls the required DFHIRP routine.

CICS address space modules

The CICS address space modules control the handling of requests between this address space and other address spaces. They include several MRO management modules such as DFHCRSP (see “DFHCRSP (CICS IRC startup module)” on page 326) and DFHCRNP (see “DFHCRNP (connection manager—CSNC transaction)” on page 326), and several terminal-control modules (see “DFHZCX (CICS terminal control routines)” on page 327).

These modules provide the CICS address space with a DFHTC-level interface to interregion communication (in the same way as DFHZCP provides a DFHTC-level interface to VTAM). This enables other CICS modules (such as DFHISP) to allocate and execute input/output operations on IRC sessions. The IRC sessions are used for all forms of IRC communication, and the macro-level services available for IRC are broadly the same. Thus DFHISP works for both IRC and intersystem communication (ISC) function shipping.

The functions of each module are as follows:

DFHCRSP (CICS IRC startup module)

Execution of this module makes interregion communication possible between this address space and other address spaces. DFHCRSP, which can be invoked either at system initialization or by the master terminal, allocates the cross-region block (CRB), issues a LOGON request to the SVC routine, and attaches the CSNC transaction (connection manager program, DFHCRNP).

DFHCRNP (connection manager—CSNC transaction)

Interregion communication is controlled by the interregion control program, DFHCRNP, which runs as transaction CSNC. This is attached when CICS first logs on to the interregion program, and it remains attached until interregion communication is closed.

The main purpose of CSNC is to perform housekeeping and control on IRC sessions, and to simulate the access method. Its functions include the following:

1. Establish connections to other address spaces (by issuing CONNECT requests)
2. Detect unsolicited input data on connections and attach requested tasks to process such data
3. Disconnect unallocated (**between-bracket**) sessions during QUIESCE
4. Issue DFHKC AVAIL for any secondary sessions which have become available for reallocation, and are in demand
5. Issue PC RETURN when QUIESCE is complete.

CSNC is attached by DFHCRSP (IRC startup), and waits when it is not processing work. It is resumed by the dispatcher when the MRO work queue ECB has been posted, or the delay interval (if set) has expired and there is delayed work to be retried.

Whenever CSNC is posted, it checks first whether it has been invoked because quiescing of the interregion facility is complete.

- If CSNC has no been resumed to complete interregion quiesce processing, it checks each of the following:
  1. If the “delay-queue” is not empty, CSNC attempts to process any work it finds there. (An element is added to the queue whenever a transaction cannot be attached by CSNC. The system could, for example, have been at maximum tasks or short on storage when the previous attempt was made. It is also possible that a remote system tried to start a new conversation before the local system had freed the required session from an earlier conversation.)
  2. If a new conversation has been received:
     - If this is the first conversation on a new connection, and the connecting region is not a batch region, session recovery is performed. This means that if the name of the secondary connecting matches the name of the secondary connected in the previous session, the old session is bound once again.

    - If there is no match, or if a batch region is connecting, the first available session is allocated.
    - CSNC attempts to attach the required transaction, identified in the attach header included in the data stream. It is possible for a request to arrive for this session before the session has been freed from the transaction that last used it. In such a case, the transaction to be attached is added to the delay-queue.
    - The input data stream is built into a TIOA for the session.
  3. If this region is a secondary, and there is no task associated with the connection, and the connection is in quiesce, CSNC disconnects the session.
  4. If this region is a primary, and it has received a “disconnect” request from the connected secondary, CSNC disconnects the session if:
    - There is no associated TCTTE
    - There is no task associated with the link.
- If CSNC has been resumed to complete interregion quiesce processing, it:
  1. Sends message DFHIR3762 to the CSMT log.
  2. Resumes any suspended mirror tasks with a facility address of zero, so they can detach themselves.
  3. Disable immediate and delay queues. Any remaining work on those queues (for example, old retry work which has not been serviced yet) is automatically discarded.
  4. Logs off from the interregion SVC.
  5. Detaches, using a DFHLFM TYPE=RETURN request.

DFHCRR (CICS session recovery module)

Whenever a new connection is established (via a successful CONNECT request), DFHCRNP links to DFHCRR at the secondary end of the connection (that is, at the source of the connection). DFHCRNP sends a data stream down to the other end of the connection (the primary end) which causes DFHCRNP to link to DFHCRR at the primary end. The two DFHCRRs exchange information in order to determine whether either end of the connection was in doubt when the previous use of the connection was terminated, and, if so, whether the two ends were in sync or out of sync. In the case of an indoubt connection, the sequence numbers are compared, diagnostics are issued, and the session is freed.

DFHCRC (interregion abnormal exit module)

This module contains the ESTAE exit routine corresponding to the ESTAE macro issued by DFHKESIP. It is invoked if the ESTAE exit, DFHKESTX, decides to continue the abend, or if an X22 abend (which can’t be handled by DFHKESTX) occurs.

The purpose of the exit is to free links with other subsystems to which connection has been made by the interregion SVC, and to free links with the SVC itself. This is done by issuing to the SVC a CLEAR request (to break links with other subsystems).

DFHZCX (CICS terminal control routines)

DFHZCX is a load module consisting of a set of object modules, including DFHZIS1 (ISC or IRC syncpoint) and DFHZIS2 (IRC internal functions).

DFHZIS2 provides the following routines:

`I/O request routine (IORENT)`
: Provides a WRITE/WAIT/READ interface to interregion connections.

GETDATA routine (GDAENT)
Retrieves input data from an IRC connection and puts it into a TIOA.

RECEIVE routine (RECENT)
Receives unsolicited data (**begin-bracket** in SNA terms) and checks validity.

DISCONNECT routine (DSCENT)
Cleans up this end of a connection, and issues DISCONNECT request to DFHIRP.

OPRENT routine (OPRENT)
Issues an INSRV request to DFHIRP, in order to allow future connections between this subsystem and a specified subsystem.

RECABRT routine (RCAENT)
Is invoked when an ABORT FMH (FMH07) is received (indicating that the connected transaction has abended). The routine issues a message describing the failure.

STOP routine (STPENT)
Is invoked when communication with other address spaces is to be terminated. The routine issues a QUIESCE request to DFHIRP.

LOGOFF routine (LGFENT)
Is invoked when quiesce is complete (and during system termination and abend processing). The routine issues a LOGOFF request to the SVC routine.

DFHZIS1 also contains routines representing terminal control services which are supported by IRC (in common with VTAM). These routines include PREPARE, SPR, COMMIT, and ABORT.

DFHZCP (CICS terminal management program)

DFHZCP is a load module consisting of a set of object modules, including DFHZARQ (application request handler), DFHZISP (intersystem program allocation routines), and DFHZSUP (startup task).

DFHZARQ is used (in common with all other telecommunication access methods) to handle WRITE/WAIT/READ-level requests against IRC connections (sessions). Routine ZARQIRC in DFHZARQ specifically handles IRC requests by performing SNA request header processing and invoking IORENT (see DFHZCX) in order to perform the I/O on the session.

DFHZISP includes routines such as ALLOCATE and FREE.

Exits

No global user exit points are provided for this function.

Trace

The following point IDs are provided for this function:
- AP DDxx, for which the trace levels are IS 1 and IS 2.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 29. Intersystem communication (ISC)

CICS intersystem communication (ISC) allows the following:
- CICS-to-CICS communication
- CICS-to-IMS communication
- CICS-to-LUTYPE6.2 terminal or application communication.

These can be execute simultaneously within the same or a different CEC. ISC can use VTAM LU6.1 or LU6.2 (LU6.2 is preferred for CICS operation). For information about these methods of communication, see the *CICS Intercommunication Guide*

The facilities provided by ISC include:
- Transaction routing
- Distributed transaction processing
- Function shipping
- Asynchronous processing
- Distributed program link
- SAA Communications interface.

For information about the design and operation of intersystem communication, see Chapter 66, “VTAM LU6.2,” on page 523. For descriptions of the facilities provided by ISC, see Chapter 62, “Transaction routing,” on page 481, Chapter 14, “Distributed transaction processing,” on page 123, Chapter 26, “Function shipping,” on page 301, and Chapter 43, “SAA Communications and Resource Recovery interfaces,” on page 377.

Chapter 30. Interval control

Interval control provides various optional task-related functions based on specified intervals of time, or specified time of day.

Design overview

The following services are performed by interval control in response to a specific request from either an application program or another CICS function:

Time of day

The EXEC CICS ASKTIME command retrieves the current time-of-day in either binary or packed decimal format.

Time-dependent task synchronization

Time-dependent task synchronization provides the user with three optional services:

1. The EXEC CICS DELAY command allows a task to temporarily suspend itself for a specified period of time. When the time has elapsed, the task resumes execution.
2. The EXEC CICS POST command allows a task to be notified when the specified interval of time has elapsed or the specified time of day occurs. The task proceeds to execute while the time interval is elapsing.
3. The EXEC CICS CANCEL command allows a task to terminate its own or another task's request for a DELAY, POST or START service.

Automatic time-ordered transaction initiation

Automatic time-ordered transaction initiation provides for the automatic initiation of a transaction at a specified time of day (or after a specified interval of time has elapsed) and for the sending of data that is to be accessed by the transaction. The user can also cancel a pending request for automatic time-ordered transaction initiation.

Optional user exits are provided as follows:

- Before determining what type of request for time services was issued
- Upon expiration of a previously requested time-dependent event
- If a START request names an unknown terminal.

Time-of-day control

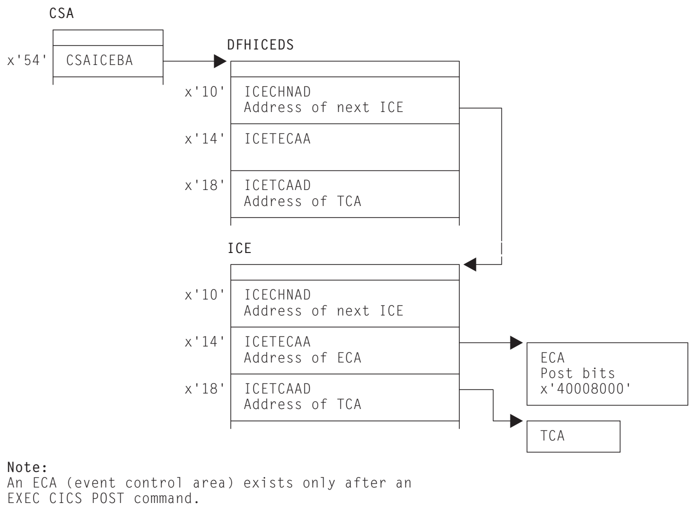
The **EXEC CICS PERFORM RESETTIME** command causes CICS to reset its internal date and time of day information in accordance with that of the operating system.

The **EXEC CICS PERFORM RESETTIME** command calls DFHICP with a DFHIC TYPE=RESET macro. This macro is also issued by DFHAPTIM - the program run by the "midnight task" attached by interval control initialization - whenever it is resumed by the TI domain, i.e. at midnight.

DFHICP issues a KETI RESET_LOCAL_TIME call to the TI domain if the reason for the reset was a time of day change. This allows the TI domain to readjust its clocks to the operating system time. DFHICP then calls DFHTAJP to readjust other CICS clocks to match the operating system time and to make any necessary changes to the ICE chain resulting from possible changes in the time-to-expiry of time controlled ICEs. Finally DFHICP scans the ICE chain in order to process any that may have become expired as a result of the time change, and to reset the time interval for which the expiry task, DFHAPTIX, will wait, until the next ICE expires.

Control blocks

An interval control element (ICE—see Figure 66) is created for each time-dependent request received by interval control. These ICEs are chained from the CSA in expiration time-of-day sequence.



Note: An ECA (event control area) exists only after an EXEC CICS POST command.

Figure 66. Interval control element (ICE)

Expired time-ordered requests are processed by Interval Control when called from the DFHAPTIX module, which runs under a system task that has been resumed by the timer domain. The type of service represented by the expired ICE is initiated, if all resources required for the service are available, and the ICE is removed from the chain. If the resources are not available, the ICE remains on the chain and another attempt to initiate the requested service is made later.

See*CICS Data Areas* for a detailed description of this control block.

Modules

DFHAPTIM, DFHAPTIX, DFHICP, DFHICRC, and DFHTAJP

Exits

There are three global user exit points in DFHICP: XICEXP, XICREQ, and XICTENF. See the *CICS Customization Guide* for further information.

Trace

The following point ID is provided for DFHICP:

- AP 00F3, for which the trace level is IC 1.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 31. Language Environment interface

This section describes the run-time interface between CICS and Language Environment®.

Design overview

Communication between CICS and Language Environment is made by calling a special Language Environment interface module (CEECCICS) and passing to it a parameter list (addressed by register 1), which consists of an indication of the function to be performed and a set of address pointers to data values or areas.

Module CEECCICS is distributed in the Language Environment library, but must be copied to an authorized library defined in the STEPLIB concatenation of the CICS startup job stream.

All calls to Language Environment are made directly from the CICS language interface module DFHAPLI. This module is called by several components of CICS to perform specific functions. Table 10 lists those functions, and shows the name of the CICS module initiating each function call and the Language Environment call made by DFHAPLI to support the function. The format of each call parameter list is given in "External interfaces" on page 339.

Table 10. Language Environment interface calls

Function	Module	Language Environment call
Terminate Languages	DFHSTP	Partition Termination
Establish Language		Establish Ownership Type
	DFHPGLK	
	DFHPGLU	
	DFHPGPG	
Start Program		
	DFHPGLK	Thread Initialization
	DFHPGLU	Run Unit Initialization
		Run Unit Begin Invocation
		Run Unit End Invocation
		Run Unit Termination
		Thread Termination
Goto	DFHEIP	Perform Goto
Find Program Attributes	DFHEDFX	Determine Working Storage
Initialize Languages	DFHSIJ1	Partition Initialization

The logical relationship between the different calls is shown in Figure 67 on page 336.

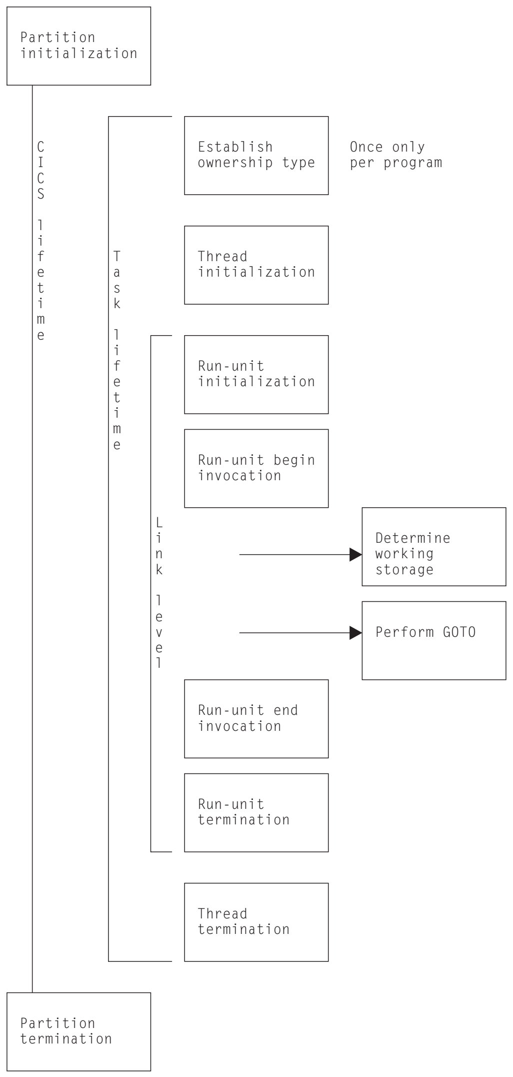


Figure 67. Language Environment interface components

Note: The actual passing of control to CEECCICS is made from the CICS language interface program (DFHAPLI), which provides a single point of contact between CICS and Language Environment. Other modules call DFHAPLI to initiate the desired function.

All calls to DFHAPLI use either the DFHAPLIM macro (for calls from outside the CICS application domain), or the DFHLILIM macro (for calls made from within the application domain).

Establishing the connection

The procedure for establishing the initial connection with Language Environment is as follows:

1. **Load CEECCICS.** At CICS startup, DFHSIJ1 invokes DFHAPLI to “initialize languages”. DFHAPLI issues a BLDL for CEECCICS, followed by an MVS LOAD macro.
2. **Initialize contact with Language Environment.** Contact is first made with Language Environment by having CICS drive the partition initialization

function. DFHAPLI attempts partition initialization only if the earlier load of CEECCICS was successful; otherwise, the logic is bypassed.

If the Language Environment partition initialization is successful, and Language Environment indicates that it can support the running of programs in languages supported by CICS, a flag is set and no further processing takes place.

If the partition initialization function fails, CICS issues error message DFHAP1200.

Application program contact with Language Environment. Whenever a program written in a supported language is run, the application's attempt to make contact with Language Environment fails if the "Language Environment initialization bits" flag is not set. CICS then tries to run the program itself using the basic support for the language. If this fails, CICS then abends the transaction and sets the associated installed resource definition as disabled.

Storage for the transaction

A set of work areas is required during the lifetime of any task that includes one or more programs supported by Language Environment. This set is known as the "language interface work area".

The language interface work area contains storage for the following:

- The largest possible Language Environment interface parameter list (currently 15 parameter elements, but with space allowed for a further three elements)
- A general-purpose register save area for use by DFHAPLI
- A general-purpose register save area for use by Language Environment
- A 240-byte special work area for use by Language Environment as the equivalent of DFHEISTG for CICS
- A 4-byte Language Environment reason code field
- The IOINFO area (see "IOINFO" on page 343)
- The PGMINFO1 area (see "PGMINFO1" on page 344)
- The program termination block (see "Program termination block" on page 345).

Also, a thread work area is required if Language Environment is involved in the running of the task. The length of a thread work area is a constant value that is notified to CICS by Language Environment during the partition initialization processing. This additional work area is built contiguous with the language interface work area if the transaction is known to contain one or more programs that use Language Environment. When such a program is first encountered, DFHAPLI:

1. Gets from the transaction manager the address of the transaction-related instance data.
2. Flags the data to tell the transaction manager that the transaction runs Language Environment application programs.
3. Adds the length of the language interface work area to the total user storage length for that transaction.

This forces the transaction manager to acquire extra storage, during task initialization, as an extension to the language interface work area. For the first occurrence only, DFHAPLI acquires the thread work area.

Further areas known as run-unit work areas (RUWAs) are required at run time if the transaction includes one or more programs that use Language Environment.

The length of an RUWA varies for each program. The lengths required for work areas above and below the 16MB line by Language Environment are notified to CICS during the processing to establish ownership type for that program; thereafter they can be found in the program's installed resource definition. CICS adds to the length for the RUWA above the 16MB line a fixed amount for its own purposes before acquiring the storage.

Storage acquisition

During task initialization, the transaction manager acquires an area of storage, the language interface work area, which is large enough to hold all required data for calls to Language Environment. This area is contiguous with the EXEC interface storage (EIS), and its address is saved in TCACEEPT in the TCA.

The thread work area is usually contiguous with the language interface work area. Its address is always held in CEE_TWA in the language interface work area.

For every link level entered during the execution of the application, a run-unit work area must be acquired by CICS and its address passed to Language Environment during run-unit initialization. Its address is placed in EIORUSTG in the EXEC interface storage (EIS).

Control blocks

The main control block is the language interface work area. It is addressed by TCACEEPT in the TCA. For programs supported by Language Environment, the work area is mapped by the Language_Interface_Workarea DSECT.

Modules

The Language Environment interface is accessed in the language interface program (DFHAPLI) in response to calls from the following modules:

`DFHSIJ1, DFHEIP, DFHEDFX, and DFHSTP.`

Exits

No global user exit points are provided for this interface.

Trace

Trace entries are made on entry to and exit from DFHAPLI.

Point IDs AP 1940 to AP 1945, with a trace level of PC 1, correspond to these trace entries.

The function information is always interpreted.

For entry trace records, the program name and link level are also interpreted where applicable.

For exit trace records, the returned reason code is interpreted.

Also, all calls into and out of the language environments are traced at level 1. The point IDs are: AP1948 to AP 1952.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

The ERTLI function named in the DFHAPLI entry trace is the function requested on the call, while that named in the DFHAPLI exit trace is the ERTLI function most recently processed. There are some situations in which a trace record made on entry to DFHAPLI is not matched by a corresponding exit trace for the same ERTLI function. In particular, after making a call to Language Environment for thread initialization, DFHAPLI does ***not*** return to the caller, but proceeds with "run-unit initialization" and "run-unit begin invocation" before finally returning. Another example is the successful execution of a "perform GOTO" function, which results in DFHAPLI not returning to the caller.

Note: ERTLI refers to the Extended Run-Time Language Interface. This is an extension of the Run-Time Language Interface (RTLI) protocols that were defined to assist communication between CICS and both VS COBOL II and C/370. ERTLI includes communication between CICS and Language Environment.

External interfaces

This section describes the parameter lists and work areas used for the functions provided by the Language Environment interface.

Language Environment interface parameter lists

The following tables show the layout and contents of the parameter lists for the functions provided by the Language Environment interface module CEECCICS.

Table 11. Language Environment PARTITION_INITIALIZATION parameter list

No.	Parameter name	Description	Receiver field	Data length
1	FUNCTION	F"10" (= Partition initialization)		F'word
2	RSNCODE	Reason code	Yes	F'word
3	SYSEIB	Address of system EIB		4
4	PREASA	Preallocated save area		240
5	PTOKEN	Language Environment partition token	Yes	8
6	EIBLEN	Length of CICS EIB		F'word
7	TWALEN	Thread work area length	Yes	F'word
8	CELLEVEL	Language Environment-CICS interface level	Yes	F'word
9	GETCAA	Get-CAA routine address		4
10	SETCAA	Set-CAA routine address		4
11	LANGDEF	Language modules defined		32
12	LANGBITS	Language availability bits	Yes	F'word

Table 12. Language Environment ESTABLISH_OWNERSHIP_TYPE parameter list

No.	Parameter name	Description	Receiver field	Data length
1	FUNCTION	F"50" (= Establish ownership type)		F'word
2	RSNCODE	Reason code	Yes	F'word

Table 12. Language Environment ESTABLISH_OWNERSHIP_TYPE parameter list (continued)

No.	Parameter name	Description	Receiver field	Data length
3	SYSEIB	Address of system EIB		4
4	PREASA	Preallocated save area		240
5	PTOKEN	Language Environment partition token		8
6	reserved			
7	reserved			
8	PGMINFO1	CICS-Language Environment program information		48
9	PGMINFO2	Language Environment-CICS program information	Yes	20

Table 13. Language Environment THREAD_INITIALIZATION parameter list

No.	Parameter name	Description	Receiver field	Data length
1	FUNCTION	F"20" (= Thread initialization)		F'word
2	RSNCODE	Reason code	Yes	F'word
3	SYSEIB	Address of system EIB		4
4	PREASA	Preallocated save area		240
5	PTOKEN	Language Environment partition token		8
6	TTOKEN	Thread token	Yes	8
7	PREATWA	Address of preallocated thread work area		4
8	PGMINFO1	CICS-Language Environment program information		48
9	PGMINFO2	Language Environment-CICS program information		20

Table 14. Language Environment RUNUNIT_INITIALIZATION parameter list

No.	Parameter name	Description	Receiver field	Data length
1	FUNCTION	F"30" (= Run-unit initialization)		F'word
2	RSNCODE	Reason code	Yes	F'word
3	SYSEIB	Address of system EIB		4
4	PREASA	Preallocated save area		240
5	PTOKEN	Language Environment partition token		8
6	TTOKEN	Thread token		8
7	RTOKEN	Run-unit token	Yes	8
8	PGMINFO1	CICS-Language Environment program information		48
9	PGMINFO2	Language Environment-CICS program information		20

Table 15. Language Environment RUNUNIT_BEGIN_INVOCATION parameter list

No.	Parameter name	Description	Receiver field	Data length
1	FUNCTION	F"32" (= Run-unit begin invocation)		F'word
2	RSNCODE	Reason code	Yes	F'word
3	SYSEIB	Address of system EIB		4
4	PREASA	Preallocated save area		240
5	PTOKEN	Language Environment partition token		8
6	TTOKEN	Thread token		8
7	RTOKEN	Run-unit token		8
8	PGMINFO1	CICS-Language Environment program information		48
9	PGMINFO2	Language Environment-CICS program information		20
10	IOINFO	Input/output queue details		18
11	RSA	RSA at last EXEC CICS command		F'word

Table 16. Language Environment DETERMINE_WORKING_STORAGE parameter list

No.	Parameter name	Description	Receiver field	Data length
1	FUNCTION	F"60" (= Determine working storage)		F'word
2	RSNCODE	Reason code	Yes	F'word
3	SYSEIB	Address of system EIB		4
4	PREASA	Preallocated save area		240
5	PTOKEN	Language Environment partition token		8
6	TTOKEN	Thread token		8
7	RTOKEN	Run-unit token		8
8	LANG	Program language bits		F'word
9	PGMRSA	Register save area address		4
10	WSA	Working storage address	Yes	4
11	WSL	Working storage length	Yes	F'word
12	SSA	Static storage address (reserved)	Yes	4
13	SSL	Static storage length (reserved)	Yes	F'word
14	EP	Program entry point	Yes	4

Table 17. Language Environment PERFORM_GOTO parameter list

No.	Parameter name	Description	Receiver field	Data length
1	FUNCTION	F"70" (= Perform GOTO)		F'word
2	RSNCODE	Reason code	Yes	F'word
3	SYSEIB	Address of system EIB		4
4	PREASA	Preallocated save area		240
5	PTOKEN	Language Environment partition token		8
6	TTOKEN	Thread token		8

Table 17. Language Environment PERFORM_GOTO parameter list (continued)

No.	Parameter name	Description	Receiver field	Data length
7	RTOKEN	Run-unit token		8
8	LANG	Program language bits		F'word
9	LABEL	Label argument at Handle		F'word
10	RSA	RSA at last EXEC CICS command		F'word
11	CALLERR	Cross call error flag	Yes	F'word
12	ABCODE	Address of TACB abend code		F'word
13	R13	Register 13 value at abend		F'word

Table 18. Language Environment RUNUNIT_END_INVOCATION parameter list

No.	Parameter name	Description	Receiver field	Data length
1	FUNCTION	F"33" (= Run-unit end invocation)		F'word
2	RSNCODE	Reason code	Yes	F'word
3	SYSEIB	Address of system EIB		4
4	PREASA	Preallocated save area		240
5	PTOKEN	Language Environment partition token		8
6	TTOKEN	Thread token		8
7	RTOKEN	Run-unit token		8
8	PGMINFO1	CICS-Language Environment program information		48
9	PGMINFO2	Language Environment-CICS program information		20
10	PTB	Program termination block		64
11	RSA	RSA at last EXEC CICS command		F'word

Table 19. Language Environment RUNUNIT_TERMINATION parameter list

No.	Parameter name	Description	Receiver field	Data length
1	FUNCTION	F"31" (= Run-unit termination)		F'word
2	RSNCODE	Reason code	Yes	F'word
3	SYSEIB	Address of system EIB		4
4	PREASA	Preallocated save area		240
5	PTOKEN	Language Environment partition token		8
6	TTOKEN	Thread token		8
7	RTOKEN	Run-unit token	Yes	8

Table 20. Language Environment THREAD_TERMINATION parameter list

No.	Parameter name	Description	Receiver field	Data length
1	FUNCTION	F"21" (= Thread termination)		F'word
2	RSNCODE	Reason code	Yes	F'word

Table 20. Language Environment THREAD_TERMINATION parameter list (continued)

No.	Parameter name	Description	Receiver field	Data length
3	SYSEIB	Address of system EIB		4
4	PREASA	Preallocated save area		240
5	PTOKEN	Language Environment partition token		8
6	TTOKEN	Thread token	Yes	8

Table 21. Language Environment PARTITION_TERMINATION parameter list

No.	Parameter name	Description	Receiver field	Data length
1	FUNCTION	F"11" (= Partition termination)		F'word
2	RSNCODE	Reason code	Yes	F'word
3	SYSEIB	Address of system EIB		4
4	PREASA	Preallocated save area		240
5	PTOKEN	Language Environment partition token		8

Work areas

The following sections describe the work areas required during the lifetime of any task that includes one or more programs that use the Language Environment interface.

IOINFO

The IOINFO area, which is built by DFHAPLI in the CICS-Language Environment work area, is passed to Language Environment on a RUNUNIT_BEGIN_INVOCATION call.

CICS applications cannot use the SYSIN and SYSPRINT data streams because such usage would conflict with the way CICS handles I/O. However, an application may require a general input or output data stream in some situations, for example, where it is necessary to output a message to a program and the program has not been written to expect such output under normal operation.

Three such data streams are architected for this purpose: input, output (normal), and error output. The destinations must be either spools or queues. CICS uses queues, so the file type is always set to "Q". Table 22 shows the transient data queue names that are passed to Language Environment.

Table 22. Transient data queues for use by Language Environment

File type	Language Environment queue name
Input	CESI
Output	CESO
Error output	CESE

Each data stream is identified by a 6-byte control block, and the three control blocks are concatenated to form the IOINFO area, which CICS passes to Language Environment.

IOINFO has this format (in assembler-language code):

```
IOINFO   DS    0CL18    Input/output queue details

STD_IN   DS    0CL6     Standard input file
QORS_IN  DS    CL1      ..file type - "Q" = transient data
TDQ_IN   DS    CL4      ..queue name
SPO_IN   DS    CL1      ..spool class - not used

STD_OUT  DS    0CL6     Standard output file
QORS_OUT DS    CL1      ..file type - "Q" = transient data
TDQ_OUT  DS    CL4      ..queue name
SPO_OUT  DS    CL1      ..spool class - not used

STD_ERR  DS    0CL6     Standard error output file
QORS_ERR DS    CL1      ..file type - "Q" = transient data
TDQ_ERR  DS    CL4      ..queue name
SPO_ERR  DS    CL1      ..spool class - not used
```

PGMINFO1

The PGMINFO1 area, which is built by DFHAPLI in the CICS-Language Environment work area, is passed to Language Environment during these interface calls:

ESTABLISH_OWNERSHIP_TYPE
THREAD_INITIALIZATION
RUNUNIT_INITIALIZATION
RUNUNIT_BEGIN_INVOCATION
RUNUNIT_END_INVOCATION

When both CICS and Language Environment are capable of supporting it, the separate calls to Language Environment for Rununit Initialisation and Rununit Begin Invocation are combined into a single call. This single call is a Rununit Initialisation call with additional parameters indicating

1. make the combined call
2. whether CICS believes the RUWA being passed has already been passed to Language Environment, and so need not be completely initialised by LE.

PGMINFO1 has this format (in assembler-language code):

```
PGMINFO1      DS    0F
P1_LENGTH     DS    F        Length of PGMINFO1
RULANG        DS    XL4      Language as defined by user
ASSEMBLER     EQU   X'80'    ..Assembler
C             EQU   X'40'    ..C
COBOL         EQU   X'20'    ..COBOL
PLI           EQU   X'10'    ..PL/I
LE370         EQU   X'04'    ..Language Environment

RULOADMOD     DS    0F
RULOADA       DS    A        Run-unit load module address
RULOADL       DS    F        Run-unit load module length

ENTRY_STATIC  DS    0F
RUENTRY       DS    A        Run-unit entry point address
RUSTATIC      DS    A        Modified entry address
RWA_31        DS    A        Address of run-unit storage
                               above 16MB
RWA_24        DS    A        Address of run-unit storage
                               below 16MB
APAL          DS    A        Application argument list
                               address
RTOPTS        DS    A        Run-time options
RTOPTSL       DS    F        Length of run-time options
RUNAMEP       DS    A        Pointer to the program name
PGMINFO1L     EQU   *-PGMINFO1
```

PGMINFO2

The PGMINFO2 area, which forms part of the PPT entry for the running program, is filled in by Language Environment on successful completion of an ESTABLISH_OWNERSHIP_TYPE call; and is subsequently passed by CICS to Language Environment during these interface calls:

THREAD_INITIALIZATION
RUNUNIT INITIALIZATION
RUNUNIT_BEGIN_INVOCATION
RUNUNIT_END_INVOCATION

PGMINFO2 has this format (in assembler-language code):

```
PGMINFO2   DS    0F
PRGINLEN   DS    FL4       Length of PGMINFO2 extension
PLBRWA31   DS    F         Length of 31-bit RUWA
PLBRWAA    EQU   X'80'     ..31-bit storage required (C/370)
PLBRWAL    DS    FL3       ..Length of 31-bit RUWA
PLBRWA24   DS    F         Length of 24-bit RUWA

PLBLANG    DS    0CL4      Language availability byte
PLBLANG1   DS    X
PLBCEEEN   EQU   X'80'     ..Language Environment
                               enabled
PLBCEELA   EQU   X'40'     ..Language Environment
                               language known
PLBMIXED   EQU   X'20'     ..Mixed/single language
PLBCOMPT   EQU   X'10'     ..Compatibility
PLBEXECU   EQU   X'08'     ..Language Environment
                               executable
PLBASSEM   EQU   X'04'     ..Assembler language program
PLBC370    EQU   X'02'     ..C program
PLBCOBL2   EQU   X'01'     ..Enterprise COBOL or VS COBOL II program
PLBLANG2   DS    X
PLBOSCOB   EQU   X'80'     ..OS/VS COBOL program
PLBPLI     EQU   X'40'     ..PL/I program
PLBTYPE3   DS    X         Reserved
PLBTYPE4   DS    X         Reserved
PLBMEMID   DS    FL4       Language member ID
PLBED      EQU   *-PGMINFO2
```

Program termination block

The program termination block (PTB), which is built by DFHAPLI in the CICS-Language Environment work area, is passed to Language Environment on a RUNUNIT_END_INVOCATION call.

It has this format (in Assembler-language code):

```
CELINFO    DS    0F
PCHK       DS    0CL32     Abend information
           DS    CL8
PCHK_PSW   DS    CL8       ..PSW
PCHKINTS   DS    0CL8      ..Interrupt data
PCHK_LEN   DS    XL2       ../..Instruction length
PCHK_INT   DS    XL2       ../..Interrupt code
PCHK_ADR   DS    FL4       ..Exception address
PCHK_GR    DS    AL4       ..A(GP registers at abend)
PCHK_FR    DS    AL4       ..A(FP registers at abend)
PCHK_AR    DS    AL4       ..A(AX registers at abend)
PCHK_EX    DS    AL4       ..A(Registers at the last time
                               a CICS command was issued)
CNTCODE    DS    0CL4      Continuation code
CONT1      EQU   X'40'    ..retry using registers
CONT2      EQU   X'20'    ..retry using PSW
           DS    BL3      Reserved
```

```
RTRY       DS    0CL20
RTRY_AD    DS    FL4       ..Retry address
RTRY_PM    DS    AL4       ..A(Program mask)
RTRY_GR    DS    AL4       ..A(GP registers)
RTRY_FR    DS    AL4       ..A(FP registers)
RTRY_AR    DS    AL4       ..A(AX registers)
```

Chapter 32. Master terminal program

The master terminal program enables dynamic control of the system. Using this function an operator can change the values of parameters used by CICS, alter the status of system resources, terminate tasks, and shut down the CICS system.

Design overview

The master terminal program is invoked by the CEMT transaction. The user enters a command to INQUIRE about or SET the status of a set of resources, and the command outputs a display that shows the resultant status of the resources. For a CEMT SET command, this display can be overtyped to alter the status of most of the resources displayed.

Commands are analyzed using the same techniques as the command interpreter described in Chapter 9, “Command interpreter,” on page 101. A language table is used to define the syntax of commands and the contents of parameter lists which must be passed to DFHEIP to allow execution. In effect, each CEMT command results in the execution of a series of EXEC CICS INQUIRE and SET commands.

The master terminal program is also used by the CEST and CEOT transactions, which provide subsets of the functions available with CEMT. CEST is for supervisory operators and allows access to a limited set of resources. CEOT only allows changes to the status of the operator’s own terminal.

Modules

Module	Function
DFHEMTP	Invoked by CEMT. Checks that the terminal is suitable. Obtains and initializes working storage. Loads the language table DFHEITMT. Links to DFHEMTD.
DFHEOTP	Same as DFHEMTP but invoked by CEOT and loads the language table DFHEITOT.
DFHESTP	Same as DFHEMTP but invoked by CEST and loads the language table DFHEITST.
DFHEMTD	Receives data from the terminal and sends back a display. Analyzes commands and overtypes. Constructs parameter lists for DFHEIP, which it calls. Deals with PF keys.
DFHEITMT	Command language table for CEMT.
DFHEITOT	Command language table for CEOT.
DFHEITST	Command language table for CEST.

Exits

No global user exit points are provided for this function.

Trace

No trace points are provided for this function.

Chapter 33. Message generation program

The message generation program provides an interface for sending CICS messages to the terminal user only.

Design overview

The input to the message generation program (DFHMGP) consists of the binary number of the message to be produced, the identifier of the component issuing the message, and any information to be inserted in the message. DFHMGP builds the complete message using a prototype held in the message prototype control table, also known as the message generation table (DFHMGT). The message text itself is held not in DFHMGT but in the message domain, from which it is retrieved by the DFHMGPME routine (a component of the DFHMGP load module) when required. DFHMGP finally sends the message to the appropriate terminal.

The prototype statements are invocations of the DFHMGM TYPE=TEXT macro, and are contained in copybooks held in DFHMGT.

The message prototype control table consists of a series of copybooks, DFHMGTnn, each of which contains 1 through 100 messages. They are arranged in such a way that each DFHMGTnn copybook contains prototypes for messages that have identifiers of the form DFHccnnxx, where cc is the 2-character identifier of the component issuing the message, nn is the numerical part of the copybook name, and xx is in the range 00 through 99. For example, the prototype for message DFHAC2214 (belonging to the AC component) is in copybook DFHMGT22.

Within each copybook are invocations of DFHMGM in ascending message number order. All messages sent to the terminal end user have both OPTION=NLS and COMPID specified on their DFHMGM invocations.

The main operands of the DFHMGM TYPE=TEXT macro are:

- MSGNO = actual message number
- COMPID = 2-character identifier of component issuing the message (this forms part of the message identifier)
- OPTION = any special options, for example, (NLS) for messages that require NLS enabling.

Other operands are provided on the DFHMGM invocations, but in general these are no longer used.

Modules

DFHMGP, DFHMGT

Exits

No global user exit points are provided for this function.

Trace

The following point ID is provided for this function:

- AP 00E0, for which the trace level is AP 1.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 34. Message switching

This function provides the user with a general-purpose message-switching capability while CICS is running.

The facility, which can route messages to one or more destinations, is initiated by the CMSG transaction, or a user-chosen replacement, read from the terminal. For further information about this transaction, see *CICS Supplied Transactions*.

Design overview

Message switching runs as a task under CICS. A terminal operator requests activation of this task by entry of the CMSG transaction identifier (or another installation-defined 4-character transaction identifier), followed by appropriate parameters. After it has been initiated, message switching interfaces with CICS basic mapping support (BMS) and CICS control functions.

Although message switching appears conversational to the terminal operator, the message switching task is terminated with each terminal response. Conversation is forced, if continuation is possible, by effectively terminating the transaction with an EXEC CICS RETURN TRANSID(xxxx) command, where xxxx is the transaction identifier taken from the task's PCT entry.

Figure 68 shows the message-switching interfaces.

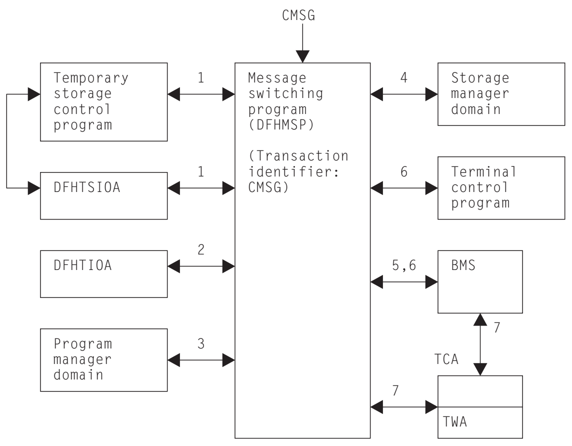


Figure 68. Message-switching interfaces

Note:

1. If the first 4 characters of the terminal input/output area (TIOA) (not including a possible set buffer address (SBA) sequence from an IBM 3270 Information Display System) do not match the transaction identifier in the task's PCT entry, this task must have started as part of a conversation in which a previous task has set up the next transaction identifier. A "C" immediately following the transaction identifier is also a forced continuation. In such a case, information has been stored in, and has to be retrieved from, temporary storage (using a record key of 1-byte X'FC', 4-byte terminal identifier, and 3-byte C"MSG") to allow the task to resume where it left off.

2. The operands in the input TIOA are processed and their values and status are stored in the TWA.
3. If a ROUTE operand specifies terminal list tables (TLTs) for a standard routing list, the program manager domain is called to load the requested TLTs.
4. Message switching requests storage areas for:
   - Building route lists (one or more segments, each of which has room for the number of destinations specified by MSRTELNG, an EQU within the program).
   - Constructing a record to be placed in temporary storage.
   - Providing the message text to BMS in any of the following situations:
     - Message parts from previous inputs exceed the current TIOA size
     - A message is completed in the current TIOA but has parts from previous inputs
     - A heading has been requested but the message in the current TIOA is too close to TIOADBA to allow the header to be inserted.
5. Message switching requests BMS routing functions by means of the DFHBMS TYPE=ROUTE macro. The message text is sent using DFHBMS TYPE=TEXTBLD, and completion of the message is indicated by DFHBMS TYPE=PAGEOUT. BMS returns the status of destinations and any error indications in response to the DFHBMS TYPE=CHECK macro.
6. Message switching interfaces with BMS using DFHBMS TYPE=(EDIT,OUT) and with CICS terminal control using DFHTC TYPE=WRITE for the IBM 3270 Information Display System only, in providing responses to terminals. These can indicate normal completion, signal that input is to continue, or provide notification of input error.
7. Like any other task, message switching has a task control area (TCA) in which values may be placed before issuing CICS macros, and from which any returned values can be retrieved after an operation. All values for the DFHBMS TYPE=ROUTE macro are placed in the TCA because they are created at execution time. The TWA is used for storing status information (partly saved in temporary storage across conversations) and space for work. The DFHMSP module is reentrant.

Control blocks

See the list of control blocks in Chapter 5, “Basic mapping support,” on page 35.

Modules

DFHMSP (the message switching program) is invoked by the CMSG transaction. DFHMSP’s purpose is to route a message entered at the terminal to one or more operator-defined terminals or to other operators.

Exits

No global user exit points are provided for this function.

Trace

No trace points are provided for this function.

External interfaces

See Figure 68 on page 351 for external calls made to other areas or domains.

Chapter 35. Multiregion operation (MRO)

CICS multiregion operation (MRO) enables CICS regions that are running in the same MVS image, or in the same MVS sysplex, to communicate with each other. MRO does not support communication between a CICS system and a non-CICS system such as IMS.[2]

ACF/VTAM and SNA networking facilities are not required for MRO. The support within CICS that enables region-to-region communication is called **interregion communication**

The facilities provided by MRO include:
- Transaction routing
- Distributed transaction processing
- Function shipping
- Asynchronous processing
- Distributed program link.

For more information about the design and implementation of interregion communication facilities, see Chapter 28, “Interregion communication (IRC),” on page 319. For descriptions of the facilities provided by MRO, see:
- Chapter 13, “Distributed program link,” on page 121
- Chapter 14, “Distributed transaction processing,” on page 123
- Chapter 26, “Function shipping,” on page 301
- Chapter 62, “Transaction routing,” on page 481.

2. The external CICS interface (EXCI) uses a specialized form of MRO link to support: communication between MVS batch programs and CICS; DCE remote procedure calls to CICS programs.

Chapter 36. Node abnormal condition program

DFHZNAC is a CICS program used by terminal control to analyze abnormal terminal conditions that are logical unit or node errors detected by VTAM. VTAM notifies the CICS terminal control program that there is a terminal error, and the terminal control program places the terminal out of service. The terminal control program then invokes DFHZNAC, which writes any error messages to the CSNE transient data destination.

Design overview

The node abnormal condition program (DFHZNAC) can be called for any of several reasons:

- As a central point of control for most VTAM-related error situations, error actions can be standardized in table form, allowing for easy addition and alteration to the way conditions are processed.
- Some exception conditions that are not errors are also processed by DFHZNAC, but some exception conditions that are errors are not processed by DFHZNAC.
- It provides a single point of user interface to those who want to change the default actions for an error requiring at most one user program (NEP)—see Chapter 37, "Node error program," on page 361.

To process conditions that are not associated with a known terminal, the dummy TCTTE is used. It is invoked by placing a TCTTE on the system error queue with a 1-byte code relating to the condition. Placing it on the queue makes the TCTTE 'temporary OUTSERV' (TCTTESOS); that is, the decision is pending the outcome of DFHZNAC.

The activate scan routine (DFHZACT) is responsible for attaching the CSNE transaction to run DFHZNAC; this is done during CICS initialization. The CSNE transaction remains in the system until CICS or VTAM is quiesced. If DFHZNAC itself abends, or VTAM is closed and then restarted, DFHZACT attaches a new CSNE transaction when there is more work for DFHZNAC to do.

There is only ever one CSNE transaction in the system at any one time. (This should not be confused with the CSNE transaction that is attached by the remote delete processing of autoinstall.)

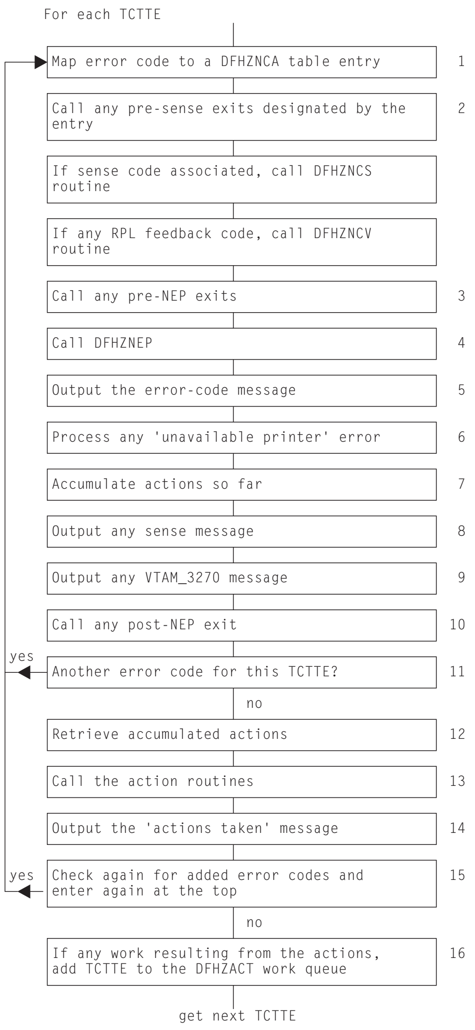
Once DFHZNAC has been called, it runs down the system error queue, processing each error for each TCTTE on the queue. When there is no more work to be done, DFHZNAC suspends itself, to be resumed by DFHZACT when further processing is required.

Note that the system error queue need not be empty before DFHZNAC terminates; errors can be left on the queue to be processed later. For example, in an XRF environment, some error codes cannot be handled until the alternate CICS system has taken over; that is, it has passed the 'initialization complete' stage. If DFHZNAC is passed a TCTTE indicating such an error, it leaves that entry on the queue.

Node abnormal condition program (NACP) processing involves mapping the error code (placed into the TCTTE by a DFHZERRM macro call) to a set of actions, performing any specific processing for that error code, accumulating the actions for all the error codes in that TCTTE, and then performing the actions.

Figure 69 shows the NACP error code processing. The numbers in Figure 69 refer to the following notes, which use the table entry for DFHZC3424 as the example:

```
DFHZNCM MSGNO=3424,
        E1=S88,
        E2=NULL,
        E3=NULL,
        E4=NULL,
        ACT=(ABSEND,ABRECV,ABTASK,CLSDST,SIMLOG),
        CODE=NSP02,
        TYPE=ENTRY
```



For each TCTTE
Map error code to a DFHZNCA table entry 1
Call any pre-sense exits designated by the entry 2
If sense code associated, call DFHZNCS routine
If any RPL feedback code, call DFHZNCV routine
Call any pre-NEP exits 3
Call DFHZNEP 4
Output the error-code message 5
Process any 'unavailable printer' error 6
Accumulate actions so far 7
Output any sense message 8
Output any VTAM_3270 message 9
Call any post-NEP exit 10
yes
Another error code for this TCTTE? 11
no
Retrieve accumulated actions 12
Call the action routines 13
Output the 'actions taken' message 14
yes
Check again for added error codes and enter again at the top 15
no
If any work resulting from the actions, add TCTTE to the DFHZACT work queue 16
get next TCTTE

Figure 69. NACP error code processing

Note:

1. The error codes in TCTEVRC* and default actions are defined in the VTAM-associated errors section of *CICS Trace Entries*.

   In the example, TCTVRC5 contains X'5C', which equates to TCZNSP02 (ref CODE=NSP02).

2. Errors that involve SNA sense have it saved in TCTEVNSS. It is processed by code in copy book DFHZNCS.
3. Call any pre-NEP exits specified by the table entry; for example, E1=S88 references routine NAPES88.
4. Call the node error program (NEP), passing a parameter list via a COMMAREA. This call may or may not change the default actions. The operation of the NEP is described in the *CICS Customization Guide* and Chapter 37, "Node error program," on page 361.
5. Output error-code message associated with the table entry (DFHZC3424 from MSGNO=3424) to the CSNE log.
6. Check for 'unavailable printer error'—this caters for a screen copy request that is unable to find an eligible printer if the first choice is unavailable.
7. Because there can be multiple error codes, the actions are accumulated now and performed together later.
8. Output any sense message resulting from the DFHZNCS call, to the CSNE log.
9. Output any VTAM_3270 message resulting from the DFHZNCS call (if it was non-SNA) to the CSNE log.
10. Call the post-NEP exit, if any (E4=NULL, no routine).
11. Loop for each error code in TCTEVRC*.
12. When all the error codes for this TCTTE that can be processed at this time have been processed, retrieve the actions that have been accumulated, such as ACT=(ABSEND, ABRECV, ABTASK, CLSDST, SIMLOG).
13. Call the action routine to process each of the actions.
14. Output the 'actions taken' message DFHZC3437 to the CSNE log.
15. Check again for any error codes added asynchronously while the CSNE transaction was running.
16. Queue any work resulting from the actions to the activate scan routine.

Control blocks

DFHZNAC references CSA, its own TCA, JCA, TCT prefix, TIOA, NIB, PCT, SIT, TCTWE, VTAM RPL, VTAM ACB, and the NACP/NEP communication area.

As would be expected, however, the processing mainly concerns access to the TCTTE, and to the NACP/NEP communication area (COMMAREA), which is mapped by the DFHNEPCA DSECT.

See*CICS Data Areas* or the the *CICS Customization Guide* for a detailed description of the NEP communication area.

Modules

Module	Function
DFHZNAC	Processes the system error queue of TCTTEs and contains the central structure of NACP, outlined in Figure 69 on page 358. It contains the following copy books:
DFHZNCA	This copy book contains the exit routines for each error code and the error code table itself built by DFHZNCM macros.
DFHZNCE	Links to the user node error program (DFHZNEP) and responds to the action flag settings in the NACP/NEP COMMAREA.

Module	Function
DFHZNCS	Processes the SNA sense codes and contains the sense code tables built using a combination of DFHZMJM and DFHZNCM macros.
DFHZNCV	Contains the VTAM return code table.
DFHZNCM	The macro to build the error code table.
DFHZMJM	The macro to build the sense code table.

Exits

No global user exit points are provided for this function.

Trace

The following point IDs are provided for the node abnormal condition program, as part of terminal control:

- AP FCxx, for which the trace levels are TC 1, TC 2, and Exc
- AP FD7E, for which the trace level is TC 1.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Statistics

The only statistical field that DFHZNAC updates is TCTTETE. Because DFHZNAC is the main module for terminal errors, it has primary responsibility for updating the node error count.

Chapter 37. Node error program

CICS provides a user-replaceable node error program, DFHZNEP, which assists the user in the following ways:
- It provides a general environment within which it is easy for users to add their own error processors.
- It provides the fundamental error recovery actions for a VTAM 3270 network.
- It serves as the default node error program (NEP), where the user selects a NEP at system initialization.

The DFHZNEP program can be one of the following:
- The CICS-supplied default NEP
- A skeleton sample NEP generated using the DFHSNEP macro
- A user-written NEP generated using the DFHSNEP macro.

Design overview

The purpose of the NEP is to allow user-dependent processing whenever a communication system event is reported to CICS. An example of the processing that can be done is to analyze the event and override the default action set by DFHZNAC. When NEP processing is complete, control returns to DFHZNAC.

The default node error program sets the 'print TCTTE' action flag (TWAOTCTE in the user option byte TWAOPT1, defined in DFHNEPCA) if a VTAM storage problem has been detected; otherwise, it performs no processing, and leaves the action flags set by DFHZNAC unchanged.

The skeleton sample NEP provided by CICS can provide extended error handling for VTAM terminals, and is generated by means of the DFHSNEP macro. This procedure is described in the *CICS Customization Guide*.

The DFHSNEP macro can also be used to generate a user-written NEP. Interactions between the applications and VTAM depend on characteristics of the transactions and the installation. Each system has different characteristics. The CICS-provided skeleton NEP is a framework for a user-written NEP to handle network error conditions that may be unique to a particular installation.

Guidance information about NEP coding is given in the *CICS Recovery and Restart Guide*. Reference information about NEP coding is given in the *CICS Customization Guide*.

Modules

DFHZNEP

Exits

No global user exit points are provided for this function.

Trace

No trace points are provided specifically for this function; however, trace entries are made from DFHZNAC immediately before and after calling the node error program.

Point IDs AP FC71 and AP FC72, with a trace level of TC 1, correspond to these trace entries.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 38. Program control

The program control program, DFHPCP, is an interface routine which supports DFHPC LINK, ABEND, SETXIT and RESETXIT calls issued in other CICS modules and invokes the appropriate program manager domain function.

In previous releases DFHPCP provided the functions that are now provided by the Program Manager Domain, and other domains.

Design overview

Services in response to requests

The following services are performed by DFHPCP in response to DFHPC requests from other CICS functions, where those functions have not been converted to use domain interfaces :

Link (LINK)
: Builds a parameter list and issues DFHPGLK FUNCTION(LINK) domain call.

Handle Abend (SETXIT)
: If SETXIT macro specifies an abend routine address, then DFHPCP builds a parameter list and issues a DFHPGHM FUNCTION(SET_ABEND) OPERATION(HANDLE) call. If SETXIT macro does not specify an abend routine address, then DFHPCP builds a parameter list and issues a DFHPGHM FUNCTION(SET_ABEND) OPERATION(CANCEL) call.

RESETXIT
: DFHPCP builds a parameter list and issues a DFHPGHM FUNCTION(SET_ABEND) OPERATION(RESET) call. If SETXIT macro does not specify an abend routine address, then DFHPCP builds a parameter list and issues a DFHPGHM CANCEL call.

Abend (ABEND)
: If it is an ABEND request without an existing TACB, then the parameter list is built for this abend. A DFHABAB(CREATE_ABEND_RECORD) is issued to build the TACB. Else a DFHABAB(UPDATE_ABEND_RECORD) is issued with the name of the failing program is issued. A DFHABAB(START_ABEND) call is then made to issue the abend. If the DFHABAB(START_ABEND) call returns control to this module, it is because the exit XPCTA has been invoked and modified the return address. Control is passed to the modified address in the requested execution key.

Modules

DFHEPC

Call mechanism

Branched to from DFHEIP.

Entry address

DFHEPCNA. Stored in the CSA in a field named CSAEPC.

Purpose

DFHEPC is DFHEIP's program control interface. It supports the following EXEC CICS requests

- LINK
- XCTL
- RETURN
- LOAD
- RELEASE
- ABEND
- HANDLE ABEND

It routes a local request to the PG domain, or to DFHABAB (EXEC CICS ABEND) It routes a remote EXEC CICS LINK request to the intersystem module, DFHISP.

Called by

DFHEPC is called exclusively by DFHEIP.

Inputs

The application parameter list.

Outputs

Updated EIB.

Operation

LINK If SYSID is remote, ships the link request through the DFHISP module.

If SYSID is local:
- Builds parameter list and calls DFHPGLE FUNCTION(LINK_EXEC)
- Checks the response.
- If response indicates the program is remote, ships the link request through the DFHISP module.
- Sets up EIBRESP (and, if needed, EIBRESP2).
- Returns control to DFHEIP.

XCTL Builds parameter list and calls DFHPGXE FUNCTION(PREPARE_XCTL_EXEC)

Checks the response

Sets up EIBRESP (and, if needed, EIBRESP2).

If the PGXE request failed, then returns control to DFHEIP

If the PGXE request was successful, then return control to DFHAPLI as for EXEC CICS RETURN. (DFHAPLI will then invoke the program specified on EXEC CICS XCTL).

RETURN

Builds parameter list and calls DFHPGRE FUNCTION(PREPARE_RETURN_EXEC) (this call is bypassed if there are no options (COMMAREA, TRANSID, INPUTMSG) specified on EXEC CICS RETURN

. Checks the response

. Sets up EIBRESP (and, if needed, EIBRESP2).

. If the PGRE request failed, then returns control to DFHEIP

. If the PGRE request was successful (or was bypassed), then return control to DFHAPLI which completes the return to the calling program or to Transaction Manager.

LOAD

Builds parameter list and calls DFHPGLD FUNCTION(LOAD_EXEC)

Checks the response

Sets up EIBRESP (and, if needed, EIBRESP2).

If the PGLD request was successful, then set the return parameters in the application parameter list.

Returns control to DFHEIP.

RELEASE

Builds parameter list and calls DFHPGLD FUNCTION(RELEASE_EXEC)

Checks the response

Sets up EIBRESP (and, if needed, EIBRESP2).

Returns control to DFHEIP.

HANDLE ABEND

For HANDLE ABEND PROGRAM, perform resource security check and check whether program name is known.

Builds parameter list and calls DFHPGHM FUNCTION(SET_ABEND)

- OPERATION(HANDLE) for HANDLE ABEND PROGRAM or LABEL
- OPERATION(CANCEL) for HANDLE ABEND CANCEL
- OPERATION(RESET) for HANDLE ABEND

Checks the response

Sets up EIBRESP (and, if needed, EIBRESP2).

Returns control to DFHEIP.

ABEND

Builds parameter list and calls DFHABAB FUNCTION(CREATE_ABEND_RECORD) and FUNCTION(START_ABEND).

DFHABAB START_ABEND does not normally return, as control is passed to a program or label specified on a HANDLE ABEND, or the program is terminated abnormally.

The XPCTA user exit can request retry. In this case DFHABAB START_ABEND returns to DFHEPC passing back the retry parameters. DFHEPC sets the registers and other values and branches to the specified retry address.

How loaded

At CICS startup, as part of the building of the CICS nucleus. The nucleus is built by DFHSIB1, which uses its nucleus build list to determine the content and characteristics of the CICS nucleus.

Exits

Program	Global user exit points
DFHEPC	XPCERES XPCREQ XPCREQC
DFHABAB	XPCABND XPCTA

Program	Global user exit points
DFHAPLI1	XPCFTCH XPCHAIR
DFHERM	XPCHAIR
DFHUEH	XPCHAIR

For further information, see the *CICS Customization Guide*.

Trace

The following point IDs are provided for entry to and exit from DFHPCPG:

- AP 2000, for which the trace level is PC 1
- AP 2001, for which the trace level is PC 1.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 39. Program error program

CICS provides a dummy program error program (DFHPEP) that does nothing except give control back to the abnormal condition program (DFHACP), which is invoked during transaction abend processing.

You can provide some additional routines to handle programming errors. For instance, it is possible to disable the transaction code associated with the program in error, thus preventing the recurrence of the error until it can be corrected; send messages to the end-user terminal; initiate a new transaction; or record abend information in transient data.

Design overview

To provide corrective action in response to a programming error, you can code a program error program (DFHPEP). This program can then be assembled and link-edited to replace the dummy DFHPEP.

If provided, this program is invoked by the abnormal condition program (DFHACP) whenever a task terminates due to a task abnormal condition. However, it will **NOT** be called if a task is terminated due to an attach failure (for example the transaction is not defined) or when CICS deliberately terminates a task to alleviate a stall.

The user can perform any kind of corrective action within a program error program.

Guidance information about PEP coding is given in the *CICS Recovery and Restart Guide*. Reference information about PEP coding is given in the *CICS Customization Guide*.

Control blocks

The control block associated with the program error program is: DFHPEP_COMMAREA, the commarea passed to DFHPEP.

See*CICS Data Areas* for a detailed description of this control block.

Modules

DFHPEP

Exits

No global user exit points are provided for this function.

Trace

No trace points are provided for this function.

Chapter 40. Program preparation utilities

The program preparation utilities consist of the command-language translators, which are utility programs that run offline to translate CICS application programs using command-level CICS requests. They convert the EXEC commands into call statements in the language in which the EXEC commands are embedded. Versions of the translator program are available for:

- COBOL (DFHECP1$)
- PL/I (DFHEPP1$)
- C (DFHEDP1$)
- Assembler language (DFHEAP1$).

Design overview

The command-language translators manage storage by creating a stack from a single area allocated at the start of the program.

Because the input is free-format, the translators move it into a buffer area that can hold data spanning two or more source records. The analysis of the source is mainly table driven.

The translators build the replacement source code for each EXEC command in a form appropriate to the language:

- For COBOL, the replacement code contains a series of MOVE statements, followed by a CALL statement.
- For PL/I, the replacement code contains a declaration of an entry variable followed by a CALL statement. These statements are contained within a DO group.
- For C, the replacement code contains a function call (dfhexec) and may also contain assignment statements.
- For assembler language, the replacement code is an invocation of the DFHECALL macro.

Errors in the source can be detected. Spelling corrections are made to the source, and any unrecognizable or duplicate keywords and options are ignored. For COBOL, PL/I, and C, the translator produces error diagnostics that are collected together on the output listing. The assembler language translator, however, produces error diagnostics in the translated output following the EXEC command in which the error occurred.

Modules

DFHECP1$, DFHEPP1$, DFHEDP1$, DFHEAP1$

Exits

Global user exit points are not applicable to offline utilities.

Trace

Trace points are not applicable to offline utilities.

Chapter 41. Remote DL/I

An overall description of DL/I database support is given in Chapter 15, “DL/I database support,” on page 135. This section gives information that is specific to remote DL/I.

Design overview

This section outlines what you must do to define remote DL/I support, and describes the functions of remote DL/I.

System definition

For a CICS system that supports only remote databases you must, in addition to providing the usual definitions that are required for function shipping, code a PSB directory (PDIR) using the DFHDLPSB macro. Every PDIR entry must have SYSIDNT specified. The PDIR system initialization parameter must be coded specifying the suffix of the PDIR.

DL/I PSB scheduling

When a CICS task requests the scheduling of a DL/I PSB by means of an EXEC DLI SCHEDULE request or DL/I PCB call, and the request is for a remote PSB, control is passed to DFHDLIRP. DFHDLIRP allocates a remote scheduling block (RSB) and issues a DFHIS TYPE=CONVERSE macro to ship the scheduling request to the owning system.

Database calls

For a remote DL/I database call, a DFHIS TYPE=CONVERSE macro is issued to ship the request to the owning system. The return codes are passed back to the user in the user interface block (UIB).

DL/I PSB termination

If a remote PSB is terminated, the actions performed are:

1. Free the RSB and local program communication block (PCB) storage.
2. If the DL/I PSB termination was not caused by a CICS syncpoint, request one now.

Control blocks

Figure 70 on page 372 illustrates some of the control blocks used to support remote DL/I.

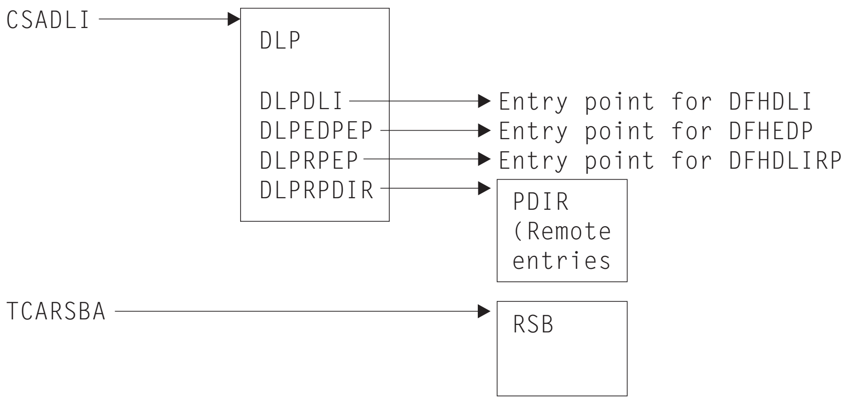


Figure 70. Some control blocks used for remote DL/I support

The DL/I interface parameter list (DLP) is described in “DL/I interface parameter list (DLP)” on page 137.

The remote PSB directory (PDIR) contains an entry for each remote PSB that can be used from an application program.

The remote scheduling block (RSB) is acquired when a CICS task issues a PSB schedule request for a remote PSB. The RSB is freed when the task issues a SYNCPOINT or a DLI TERM request.

See for a detailed description of these control blocks.

Chapter 42. Resource definition online (RDO)

The CEDA transaction creates and alters the definitions of system resources in the CICS system definition (CSD) data set.

RDO provides:

- Online transactions that can be used to **inspect**, **change**, and **install** resource definitions:
  - CEDA (inspect, change, and install)
  - CEDB (inspect and change)
  - CEDC (inspect only).
- A programmable interface to the CEDA transaction, using an EXEC CICS LINK command in the application program to invoke DFHEDAP directly. (For further information, see the *CICS Customization Guide*.)
- A set of system programmer API command (the EXEC CICS CREATE commands) for creating CICS resources dynamically.
- An offline utility, DFHCSDUP, to inspect or change resource definitions. (For a description of this utility, see Chapter 10, "CSD utility program (DFHCSDUP)," on page 103.)

Design overview

Resource definitions are maintained on the CICS system definition (CSD) data set. The resource definitions in the CSD data set can be viewed and changed using either the online CEDx transactions, or the offline utility DFHCSDUP.

Installation of resource definitions makes the definitions available to the running CICS system. Resource definitions can be installed at these times:

- When CICS is cold started, using the GRPLIST system initialization parameter.
- During a run of CICS, using the CEDA transaction.

When resource definitions are installed, they are made available through the appropriate resource managers.

Modules

The relationships between the components of RDO, and the components of some of the services it uses, are shown in Figure 71 on page 374.

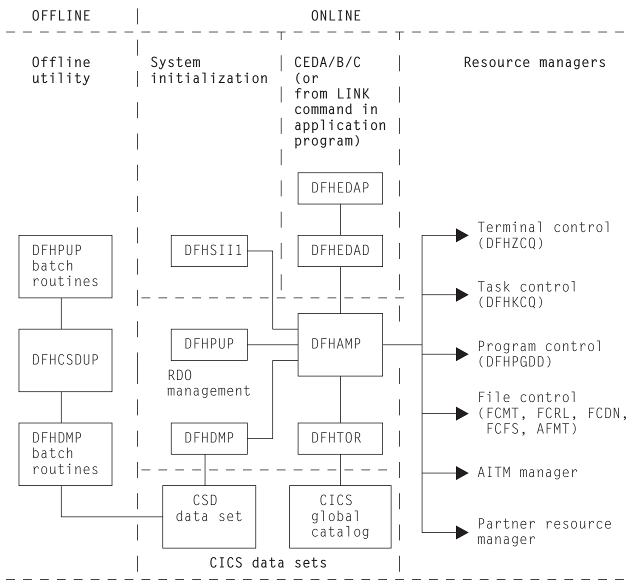


Figure 71. RDO interfaces

DFHEDAP and **DFHEDAD** control the CEDA, CEDB, and CEDC transactions. They provide screen management for the transactions, and invoke DFHAMP to implement any actions that are required.

DFHSII1 invokes DFHAMP when CICS is cold started, to install resource definitions for the current run. These resource definitions are specified by the GRPLIST system initialization parameter. DFHSII1 passes the GRPLIST system initialization parameter to DFHAMP.

DFHAMP, the allocation management program, manages all requests to view, change, and install resources. It uses the services provided by other parts of RDO, and by the resource managers:

- DFHAMP invokes **DFHPUP** and **DFHDMP** to read, write, and update resource definitions on the CSD data set:
  - DFHPUP, the parameter utility program, converts resource definition data between the parameter list format provided by DFHAMP and the record format needed by the CSD.
  - DFHDMP, the CSD management program, manages I/O of resource definition data to and from the CSD data set.
- DFHAMP invokes **DFHTOR**, the terminal object resolution program, to merge TERMINAL, TYPETERM, CONNECTION, and SESSION definitions:
  - When requests are made to install TERMINALs, TYPETERMs, CONNECTIONs, and SESSIONs, DFHTOR merges TYPETERM and TERMINAL information, and also CONNECTION and SESSION information, and passes this merged information back to DFHAMP.
  - DFHAMP passes the merged definitions to DFHZCQ to install in the running CICS system. Any merged TERMINAL definitions that are to be used as autoinstall terminal models are passed to the autoinstall terminal model (AITM) manager.
  - When TYPETERM definitions are installed, DFHTOR records the information about the CICS global catalog for subsequent use.

  – When the CHECK command is issued, DFHTOR checks the appropriate TERMINAL, TYPETERM, CONNECTION, and SESSION definitions for consistency.
- DFHAMP calls the appropriate resource managers to install resources in the running CICS system:
  – **DFHZCQ** is invoked to install CONNECTION, SESSION, and TERMINAL definitions.
  – **DFHAMXM** is invoked to install TRANSACTION and PROFILE definitions.
  – **DFHPGDD** is invoked to install PROGRAM, MAPSET, and PARTITIONSET definitions.
  – These subroutine “gates” are called to install resources related to file control:
    - **FCMT**, for FCT entries
    - **FCRL**, for LSR pools
    - **FCDN**, for DSN blocks
    - **FCFS**, to open and close files
    - **AFMT**, for AFCT entries for files.
  – The **AITM manager** is invoked, using an AITM ADD_REPL_TERM_MODEL subroutine call (see Chapter 4, “Autoinstall terminal model manager,” on page 29), to install autoinstall terminal models.
  – The **partner resource manager** is invoked to install partner resources for the SAA communications interface.

DFHEICRE processes all the EXEC CICS CREATE commands. It builds an internal DEFINE command for the resource to be created, and passes it to DFHCAP for interpretation. The encoded command is then passed directly to DFHAMP to install the resource in the running system. The CSD file is not accessed at all during this processing.

DFHCSDUP, the offline CICS system definition utility program, uses batch versions of routines from DFHPUP and DFHDMP to read, write, and update resource definitions on the CSD data set (see Chapter 10, “CSD utility program (DFHCSDUP),” on page 103).

For a detailed description of how the CEDA transaction handles terminal resources, see Chapter 56, “Terminal control,” on page 441.

Exits

The XRSINDI global user exit is invoked at each install or EXEC CICS CREATE.

Trace

The following point IDs are provided, with a trace level of AP 1:
- AP 00EB (DFHAMP)
- AP 00EC (DFHDMP)
- AP 00EF (DFHTOR)
- AP 00E2 (DFHPUP).

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 43. SAA Communications and Resource Recovery interfaces

This section describes the CICS implementation of the Communications and Resource Recovery elements of the Systems Application Architecture® Common Programming Interface (also known as the SAA Communications and SAA Resource Recovery interfaces respectively).

The SAA Communications and Resource Recovery interfaces are both call-based application programming interfaces that are common across all programming languages and across hardware systems.

The common programming interface (CPI) component of CICS, also sometimes known as the CP component, provides application programming interfaces that conform to SAA specifications for Communications and Resource Recovery interfaces.

Note: This CICS component does **not** currently handle any other SAA interface elements.

The CPI component is part of the AP domain, and is shipped as object code only (OCO).

The **SAA Communications interface** allows CICS applications to communicate via APPC (LU6.2) links to partner applications on any system that conforms to SAA standards. This interface consists of a set of defined verbs as program calls that are adapted for the language being used. For further information about the general call-based API, see the *SAA CPI Communications Reference* manual, SC26-4399.

The SAA Communications interface in CICS provides an alternative to the existing application interface for distributed transaction processing (see Chapter 14, "Distributed transaction processing," on page 123). A single transaction can use EXEC CICS commands for one conversation while using SAA Communications calls for another (separate) conversation. Also, one end of a conversation can use EXEC CICS commands while the other end uses SAA Communications calls. However, it is not possible to use a mixture of EXEC CICS commands and SAA Communications calls on the same end of a conversation.

The **SAA Resource Recovery interface** provides an SAA application programming interface for commit and backout of recoverable resources. This interface consists of two defined verbs as program calls that are adapted for the language being used:

SRRCMIT
Commit

SRRBACK
Backout

For further information, see the *SAA CPI Resource Recovery Reference* manual, SC31-6821.

The SAA Resource Recovery interface in CICS provides an alternative to the use of EXEC CICS SYNCPOINT and EXEC CICS SYNCPOINT ROLLBACK commands. The SRRCMIT call is equivalent to the EXEC CICS SYNCPOINT command, and the SRRBACK call is equivalent to the EXEC CICS SYNCPOINT ROLLBACK command. A single application can use SAA Resource Recovery calls, EXEC CICS commands, or a mixture of both.

Design overview

This section describes the SAA Communications and Resource Recovery interfaces.

The SAA Communications interface

When an application issues an SAA Communications call, control passes via the DFHCPLC application link-edit stub to the common programming interface program (DFHCPI), which in turn passes the request to the DFHCPIC program load module. DFHCPIC verifies the parameters, checks the conversation state, and (if required) issues a DFHLUC macro call to invoke the LU6.2 application request logic module (DFHZARL). For details of DFHZARL, see Chapter 14, “Distributed transaction processing,” on page 123.

Figure 72 shows how the SAA Communications interface support relates to CICS intersystem communication (ISC) using VTAM LU6.2. The numbers in Figure 72 refer to the notes that follow it. CMxxxx represents a program call defined in the SAA Communications interface.

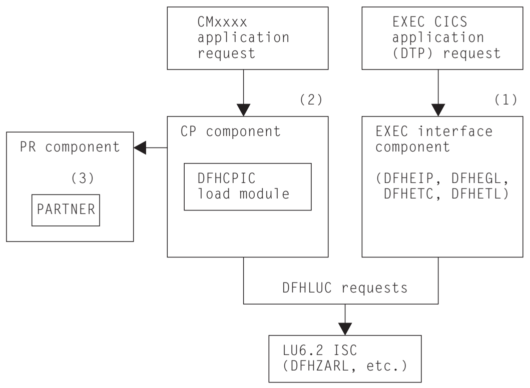

CMxxxx application request
EXEC CICS application (DTP) request
(2)
(1)
PR component
(3)
PARTNER
CP component
DFHCPIC load module
EXEC interface component
(DFHEIP, DFHEGL, DFHETC, DFHETL)
DFHLUC requests
LU6.2 ISC (DFHZARL, etc.)

Figure 72. SAA Communications application request processing

Note:

1. Distributed transaction processing (DTP) allows a transaction using EXEC CICS commands to communicate with a transaction running in another system. This is carried out by DFHEIP and related EXEC interface processor modules. For a VTAM LU6.2 intersystem link, each request is converted into DFHLUC macro requests that call DFHZARL.
2. The SAA Communications interface is implemented by the DFHCPIC load module within the CP (or CPI) component. DFHCPIC maps the CMxxxx application requests into DFHLUC macro calls.
3. To begin a conversation, the SAA Communications interface requires specific information (side information) about the partner program, including its name and system details. This is implemented within CICS as an RDO object called the PARTNER, which is encapsulated by the partner resource manager (PR) component.

Using the SAA Communications interface on recoverable conversations

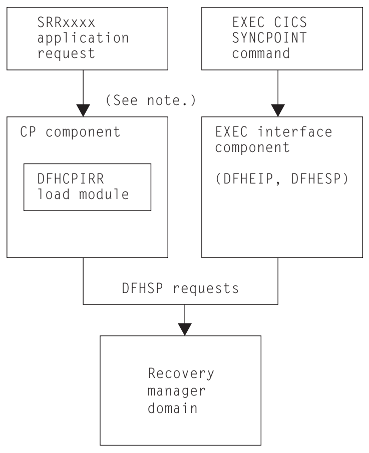
When using the SAA Communications interface on recoverable conversations (that is, conversations with the synclevel set to CM_SYNC_POINT), DFHLUC syncpoint requests are routed to DFHZARL via the SAA Communications interface syncpoint request handler (DFHCPSRH) in the DFHCPIC load module. This allows the conversation state to be tracked.

For the equivalent EXEC CICS synclevel 2 conversations, DFHLUC syncpoint requests pass directly to DFHZARL.

The SAA Resource Recovery interface

When an application issues an SAA Resource Recovery call, control passes via the DFHCPLRR application link-edit stub to the common programming interface program (DFHCPI), which in turn passes the request to the DFHCPIRR program load module. DFHCPIRR verifies the parameters, and (if required) issues an appropriate DFHSP macro call: DFHSP TYPE=USER for SRRCMIT, or DFHSP TYPE=ROLLBACK for SRRBACK.

Figure 73 shows how the SAA Resource Recovery interface support relates to the processing of EXEC CICS SYNCPOINT commands. The number in the figure refers to the accompanying note. SRRxxxx represents a program call defined in the SAA Resource Recovery interface, namely, SRRBACK or SRRCMIT.



Note: The SAA Resource Recovery interface is implemented by the DFHCPIRR load module within the CP (or CPI) component. DFHCPIRR maps SRRxxxx application requests into DFHSP macro calls.

Figure 73. SAA Resource Recovery application request processing

Functions provided by the CPI component

Table 23 on page 380 summarizes the external subroutine interfaces provided by the CPI component. It shows the subroutine call formats, the level-1 trace point IDs of the modules providing the functions for these formats, and the functions provided.

Table 23. CPI component's subroutine interfaces

Format	Trace	Function
CPIN	AP 0C01 AP 0C02	START_INIT COMPLETE_INIT
CPSP	AP 0CD0 AP 0CD1	SYNCPOINT_REQUEST

CPIN format, START_INIT function

The START_INIT function of the CPIN format is used to attach a CICS task to perform initialization of the CPI component.

Input parameters

None.

Output parameters

RESPONSE
is the subroutine's response to the call. It can have any of these values:

`OK|DISASTER|KERNERROR`

[REASON]
is returned when RESPONSE is DISASTER. Possible values are:

RESPONSE	Possible REASON values
DISASTER	GETMAIN_FAILED ADD_SUSPEND_FAILED

CPIN format, COMPLETE_INIT function

The COMPLETE_INIT function of the CPIN format is used to wait for the initialization task attached by the START_INIT function to complete processing.

Input parameters

None.

Output parameters

RESPONSE
is the subroutine's response to the call. It can have any of these values:

`OK|DISASTER|KERNERROR`

[REASON]
is returned when RESPONSE is DISASTER. It has this value:

`INIT_TASK_FAILED`

CPSP format, SYNCPOINT_REQUEST function

The SYNCPOINT_REQUEST function of the CPSP format is used to send LU6.2 syncpoint flows on recoverable conversations using the SAA Communications interface, and to update the conversation state as required.

Input parameters

`CPC_ADDRESS`
is the address of the SAA Communications conversation control block (CPC).

`LUC_ADDRESS`
is the address of the DFHLUC parameter list.

Output parameters

RESPONSE

is the subroutine's response to the call. It can have either of these values:

`OK|KERNERROR`

Modules

Module	Function
DFHAPTRF	Trace interpreter for the SAA Communications and Resource Recovery interfaces
DFHCPARH	SAA Communications application request handler (entry processor for all application calls to the DFHCPIC load module, routing them to the appropriate DFHCPCxx module)
DFHCPCxx	Components of the DFHCPIC load module, each object module typically handling a different CMxxxx application request
DFHCPDUF	Offline system dump formatter for CP keyword
DFHCPI	Common programming interface program (link-edited with DFHEIP and DFHAICBP to form the DFHAIP load module)
DFHCPIN1	Initialization management program for the SAA Communications and Resource Recovery interfaces
DFHCPIN2	Runs as a CICS task to perform initialization for the SAA Communications and Resource Recovery interfaces
DFHCPIR	SAA Resource Recovery entry processor, handling all calls to the DFHCPIRR load module
DFHCPLC	Link-edit stub for applications using the SAA Communications interface
DFHCPLRR	Link-edit stub for applications using the SAA Resource Recovery interface
DFHCPSRH	SAA Communications syncpoint request handler (part of the DFHCPIC load module)

Exits

No global user exit points are provided for this component.

Trace

The following point ID is provided for this component:

- AP 0Cxx, for which the trace levels are CP 1, CP 2, and Exc.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 44. Statistics utility program (DFHSTUP)

This section provides a general overview of the collection of CICS statistics as well as describing the operation of the offline statistics utility program (DFHSTUP). For more information about using the DFHSTUP utility program, see the *CICS Operations and Utilities Guide*.

An operator interface to all online statistics functions is provided by the CEMT transaction. The equivalent programmable interface is provided by the EXEC API.

Statistics may be collected at user-specified intervals from the startup to the shutdown of a CICS system. Statistics may also be requested, resulting in the collection of data for the period between the last time statistics were reset and the time the request was made.

Statistics are also collected at system quiesce or logical end of day; this data is written to the SMF data set as for a normal interval collection.

An option is provided by the statistics domain to allow the user to specify whether interval statistics are to be collected. The statistics domain calls each domain in turn to reset the statistics fields at every interval when statistics are collected. Statistics (particularly interval statistics) can be used for capacity planning and performance tuning. For further information, see the *CICS Performance Guide*.

There is a great similarity between CICS statistics data and CICS performance class monitoring data. Statistics data is collected on a resource basis, whereas performance class monitoring collects similar data on a transaction basis. Statistics can therefore be viewed as resource monitoring.

Design overview

CICS statistics support is divided into the following components:

1. The operator interface. This component is responsible for interfacing to the various CICS-supported terminals, analyzing the input string and then invoking the statistics domain to perform the appropriate management operation. This function is provided by the CEMT transaction, and also by the EXEC API.
2. The statistics domain. This component is responsible for managing statistics interfaces, for example, SMF and EXEC API.
3. The statistics update logic. This code is inline in the relevant resource manager. In this way the control function of statistics is centralized, but the management and updating of the statistics fields is given to the resource owner.
4. The statistics data collection and reset. For all collection types except unsolicited (see below), the collection mechanism is the same. The owning domain is invoked by statistics domain to supply a record that contains the domain's statistics. When this record has been formed, the domain then calls statistics domain to place the data on the SMF data set.

   There are five types of collections:

   a. Interval. The collection interval default is 3 hours. This may be changed by the user. The minimum value is 1 minute, the maximum 24 hours. On an interval collection, each called domain collects and resets its statistics counters. No action is taken if the statistics recording status is OFF.

   b. Requested. Statistics may be requested using the PERFORM STATISTICS function provided by the CEMT transaction or the EXEC API. The data recorded is for the period between the last time statistics were reset and the time the request was made. Statistics are reset on an interval, end-of-day, or requested-reset collection; they can also be reset, without a collection, when changing the statistics recording status from ON to OFF, or from OFF to ON.

      This type of collection can obtain statistics from some or all domains, as requested. Each called domain collects, but does not reset, its statistics counters.

      Requested statistics are collected even if the statistics recording status is OFF.

   c. Requested-reset. This collection is similar to requested statistics, except that it always obtains statistics for all domains, and each called domain resets its statistics counters after collection.

      Requested-reset statistics are collected even if the statistics recording status is OFF.

   d. End-of-day. This collection occurs when the system is quiescing. A logical end-of-day time may be specified. The default time is midnight. This is primarily for continually running systems. The collection is then made at this time, and the called domain collects and resets its statistics counters.

      End-of-day statistics are collected even if the statistics recording status is OFF.

      Daily systems that are taken down after midnight should change the logical end of day to a time when the system is not operational.

      If the user wants to simulate shutdown statistics, the interval can be set to 24 hours. An end-of-day report, which contains total figures for the CICS run up to the end of the day, can then be printed by DFHSTUP.

   e. Unsolicited. For dynamically allocated and deallocated resources, the resource records its statistics just before it is deleted; for example, an autoinstall terminal that logs off and is thereby deleted. USS statistics are written to SMF regardless of the statistics recording status (STATRCD).

   By default DFHSTUP formats the statistics for all types of collection, for all the specified APPLIDs. However, if you specify the EXTRACT control parameter but not COLLECTION TYPE, only the extract exit is invoked and no other statistics output is produced.

5. The statistics formatting control. The offline utility DFHSTUP opens the statistics data set, which is an unloaded SMF data set, and the I/O interfaces to that data set. This routine then browses the data set and formats the statistics.

   Reports may be produced for any or all of the five types of statistics collections.

   DFHSTUP also provides the option of producing a summary report for selected CICS applids. The summary report is constructed from all the statistics contained in the interval, requested-reset, end-of-day, and unsolicited collections. Requested statistics are not involved in the production of the summary report.

6. The extract statistics reporting function. This is a DFHSTUP exit that takes statistics data from the input SMF data set and passes it to a user program for processing in order to create tailored statistics reports. DFH0STXR is a sample program designed to exploit the extract reporting function. There are also two skeleton exits; an assembler extract exit called DFH£STXA, and a COBOL

extract exit called DFH0STXC. These show the format and structure of the interface between DFHSTUP and the extract exit.

Specifying the extract statistics reporting function changes the default DFHSTUP report settings. If you specify only the EXTRACT control statement, only the extract exit is driven; other DFHSTUP reports are suppressed. If EXTRACT is specified, other statistics report control statements, such as SUMMARY, must also be specified to ensure that the appropriate reports are produced.

DFHSTUP operation

DFHSTUP runs as a separate MVS job and extracts all or selected entries from the unloaded SMF data set. The types of entries to be processed by this program are specified in the SYSIN data set. Entries that can be selected for processing include:

- All entries—the default
- Entries written for specified applids
- Entries written for specified resource types
- Entries written for specified collection types, that is, interval, requested, requested-reset, end-of-day, or unsolicited
- Entries written during a specified period of time.

You can also select:

- The page size; the default is 60 lines per page.
- Whether output is to be printed in mixed case or all uppercase; the default is to print in mixed case.
- The summary report option; by default, it is not selected.

Further information about using DFHSTUP is given in the *CICS Operations and Utilities Guide*.

Modules

Module	Function
DFH£STXA	Skeleton assembler extract exit
DFH0STXC	Skeleton COBOL extract exit
DFH0STXR	DFHSTUP extract sample program
DFHST03X	VTAM statistics summary formatter
DFHST04X	Autoinstall terminals statistics summary formatter
DFHST06X	Terminal statistics summary formatter
DFHST08X	LSRPOOL resource statistics summary formatter
DFHST09X	LSRPOOL file statistics summary formatter
DFHST14X	ISC/IRC statistics summary formatter
DFHST16X	Table manager statistics summary formatter
DFHST17X	File control statistics summary formatter
DFHST21X	ISC/IRC attach-time statistics summary formatter
DFHST22X	FEPI statistics summary formatter
DFHSTD2X	CICS DB2 statistics summary formatter
DFHSTDBX	DBCTL statistics summary formatter
DFHSTDSX	Dispatcher domain statistics summary formatter
DFHSTDUX	Dump domain statistics summary formatter
DFHSTE15	DFSORT interface to E15 user exit
DFHSTE35	DFSORT interface to E35 user exit
DFHSTEJX	Enterprise Java domain statistics summary formatter

Module	Function
DFHSTIIX	IIOP domain statistics summary formatter
DFHSTIN	DFSORT E15 user exit input routine
DFHSTISX	IPCONN statistics summary formatter
DFHSTLDX	Loader domain statistics summary formatter
DFHSTLGX	Log manager domain summary statistics formatter
DFHSTMNX	Monitoring domain statistics summary formatter
DFHSTMQX	CICS-MQ statistics summary formatter
DFHSTOT	DFSORT E35 user exit output routine
DFHSTPGX	Program manager domain statistics summary formatter
DFHSTRD	Read interface subroutines
DFHSTRMX	Recovery manager domain statistics summary formatter
DFHSTSJX	JVM domain statistics summary formatter
DFHSTSMX	Storage manager domain statistics summary formatter
DFHSTSOX	Sockets domain statistics summary formatter
DFHSTSTX	Statistics domain statistics summary formatter
DFHSTTQX	Transient data statistics summary formatter
DFHSTTSX	Temporary storage domain statistics summary formatter
DFHSTU03	VTAM statistics formatter
DFHSTU04	Autoinstall terminals statistics formatter
DFHSTU06	Terminal statistics formatter
DFHSTU08	LSRPOOL resource statistics formatter
DFHSTU09	LSRPOOL file statistics formatter
DFHSTU14	ISC/IRC statistics formatter
DFHSTU16	Table manager statistics formatter
DFHSTU17	File control statistics formatter
DFHSTU21	ISC/IRC attach-time statistics formatter
DFHSTU22	FEPI statistics formatter
DFHSTUD2	CICS DB2 statistics formatter
DFHSTUDB	DBCTL statistics formatter
DFHSTUDS	Dispatcher domain statistics formatter
DFHSTUDU	Dump domain statistics formatter
DFHSTUEJ	Enterprise Java domain statistics formatter
DFHSTUII	IIOP domain statistics formatter
DFHSTUIS	IPCONN statistics formatter
DFHSTULD	Loader domain statistics formatter
DFHSTULG	Log manager domain statistics formatter
DFHSTUMN	Monitoring domain statistics formatter
DFHSTUMQ	CICS-MQ statistics formatter
DFHSTUP1	PRE_INITIALIZE
DFHSTUPG	Program manager domain statistics formatter
DFHSTURM	Recovery manager domain statistics formatter
DFHSTURS	User domain statistics formatter
DFHSTURX	User domain statistics summary formatter
DFHSTUSJ	JVM domain statistics formatter
DFHSTUSM	Storage manager domain statistics formatter
DFHSTUSO	Sockets domain statistics formatter
DFHSTUTQ	Transient data statistics formatter
DFHSTUST	Statistics domain statistics formatter
DFHSTUTS	Temporary storage domain statistics formatter
DFHSTUXM	Transaction manager domain statistics formatter
DFHSTWR	Write interface subroutines
DFHSTXMX	Transaction manager domain statistics summary formatter

Chapter 45. Storage control macro-compatibility interface

DFHSMSCP is responsible for handling all requests for storage services that are made by using the routine addressed by CSASCNAC in the CICS common system area (CSA). DFHSMSCP is called by some parts of the CICS AP domain containing DFHSC macros.

DFHSMSCP converts all requests into calls to the storage manager domain, and its main function is to get or free storage.

Design overview

The input to DFHSMSCP, set up by the macro used for the invocation, or directly by the calling program, consists of the following TCA fields:

- TCASCTR—the storage control request byte. This can contain one of the following values:
  - X'80' GETMAIN, in conjunction with:
    - X'40' Initialize storage
    - X'20' Conditional
    - Storage class in bits 3 through 7 (the resulting SMMC GETMAIN storage class name is given in parentheses where this differs from the first name):
      - X'00' 1WD, treated as SHARED
      - X'04' LINE
      - X'05' TERMINAL or TERM
      - X'0C' USER (becomes CICS24)
      - X'0D' TRANSDATA or TD
      - X'13' SHARED (becomes SHARED_CICS24)
      - X'14' CONTROL
  - X'40' FREEMAIN, in conjunction with:
    - X'01' TCTTE address supplied.
- TCASCIB—the 1-byte value to which storage is to be initialized.
- TCASCNB—the 2-byte field giving the number of bytes requested on the GETMAIN.
- TCASCSA—the 4-byte address of the storage that was obtained or the storage to be freed.

Modules

DFHSMSCP

Exits

No global user exit points are provided for this function.

Trace

The point IDs for this function are of the form AP F1xx; the corresponding trace levels are SC 1 and Exc.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 46. Subsystem interface

The subsystem interface is a mechanism by which the MVS operating system communicates with its underlying subsystems at certain critical points in its processing.

CICS is required to be defined as a formal MVS subsystem for the following purposes:
- Multiregion operation (MRO)
- Shared database support
- Console message handling.

Functional overview

An MVS subsystem consists of two control blocks and a set of functional routines, all resident in common memory. The control blocks are:

SSCT The subsystem communication table, which contains the 4-character name of the subsystem and a pointer to the SSVT.

SSVT The subsystem vector table, which contains a list of the subsystem function codes that the subsystem supports, and the addresses of the functional routines that support them.

The subsystem is **active** when the SSCT contains a nonzero pointer to the SSVT, and **inactive** when the pointer is zero.

Subsystem definition

Each subsystem is defined to MVS by an entry in an IEFSSNxx member of SYS1.PARMLIB. (See the *z/OS MVS Initialization and Tuning Guide*.) Each subsystem can be defined with an initialization routine and some initialization parameters. The CICS subsystem is defined with an initialization routine of DFHSSIN, and an initialization parameter that specifies the name of an additional member of SYS1.PARMLIB, which contains further CICS-specific subsystem parameters. These parameters specify whether the console message handling facility is required.

Design overview

When the recommended initialization routine DFHSSIN is specified, the CICS subsystem is initialized during the master scheduler initialization phase of the MVS IPL. The CICS-specific subsystem parameters are read from SYS1.PARMLIB, and the subsystem vector table is created. The supporting subsystem function routines are loaded into common memory and their addresses are stored into the subsystem vector table. If everything is successful, the CICS subsystem is made active by storing the address of the subsystem vector table in the subsystem communication table.

Console message handling

At startup, a CICS region that supports console message handling notifies the CICS subsystem of its existence, by using the CICS SVC to issue a subsystem interface call for the ‘generic connect’ function with a CONNECT subfunction. The subsystem notes the creation of the new region and, if this is the first such CICS region to become active, invokes a service of MVS console support called "subsystem console message broadcasting". The message broadcasting service causes all subsequent console messages to be broadcast to all subsystems that have expressed an interest in receiving them, including the CICS subsystem. This MVS service can also be activated by other products, for example, NetView®.

If the message broadcasting service has been activated, either by CICS or by another product, the CICS subsystem examines ***all*** messages issued by WTO macros in any address space, but it intercepts and modifies only the following:

- Messages beginning with "DFH" that are issued under any CICS TCB, including those CICS regions that do not have console message handling support.

  These messages are reformatted to contain the CICS applid for the region in a standard position in the message.

  Because the CICS subsystem receives control after JES has recorded a console message in the job's message log, messages in the job log do not appear to be reformatted. The messages are only reformatted on the operator consoles and in the MVS system log.

  If the original message is a long one, inserting the CICS applid can cause the message to exceed the maximum length for an MVS console message. In this case, the original message is suppressed (that is, does not appear on the console), and the reformatted message is issued using the MVS multiple-line console message service to split the message text over several lines. Both the original message and perhaps several instances of the reformatted multiple-line message appear in the job log, but only one copy of the reformatted message is displayed on the console.
- Messages that redisplay, on operator consoles or in the MVS system log, MODIFY commands that are directed towards CICS and contain signon passwords for the CESN transaction.

  These messages are reformatted with the passwords replaced by asterisks, so that the original passwords are not exposed.

As each TCB terminates, it issues an 'end of task' subsystem call, which is broadcast to all active subsystems. Likewise, as each address space terminates, it issues an 'end of memory' subsystem call, which is also broadcast to all active subsystems. When it receives either of these calls, the CICS subsystem first calls the end-of-memory routine in DFHIRP; then, if the terminating address space is known by the subsystem, it invokes the 'generic connect' function with a DISCONNECT subfunction.

The DISCONNECT subfunction notes the termination of the CICS address space and, if this is the last CICS containing console message handling support to terminate, notifies the "subsystem console message broadcasting" support that the CICS subsystem is no longer interested in receiving broadcast console messages. Nevertheless, if another product has kept console message broadcasting active, the CICS subsystem continues to reformat messages from CICS regions that do not have console message handling support.

Control Blocks

DSECT	Function
DFHSABDS	The CICS subsystem anchor block (SAB). This is used to contain global subsystem-related information that is common to all CICS regions in the MVS image. It is used to record the options specified in the DFHSSInn member of SYS1.PARMLIB. It contains a pointer to a bit map that records which MVS address spaces contain an active CICS. It also contains the address of the subsystem control table extension (SCTE) used by IRC, and the address of the CEC status tracking information used by XRF.
IEFJSCVT	The subsystem communication table (SSCT). This is an MVS control block. There is one SSCT for each subsystem, including the primary job entry subsystem (JES) as well as CICS.
IEFJSSVT	The subsystem vector table (SSVT). This is an MVS control block. There is one SSVT for each active subsystem. It contains a lookup table for determining which function codes are supported by the subsystem, and a list of the entry points for all the supporting function routines.

Figure 74 on page 392 shows these control blocks.

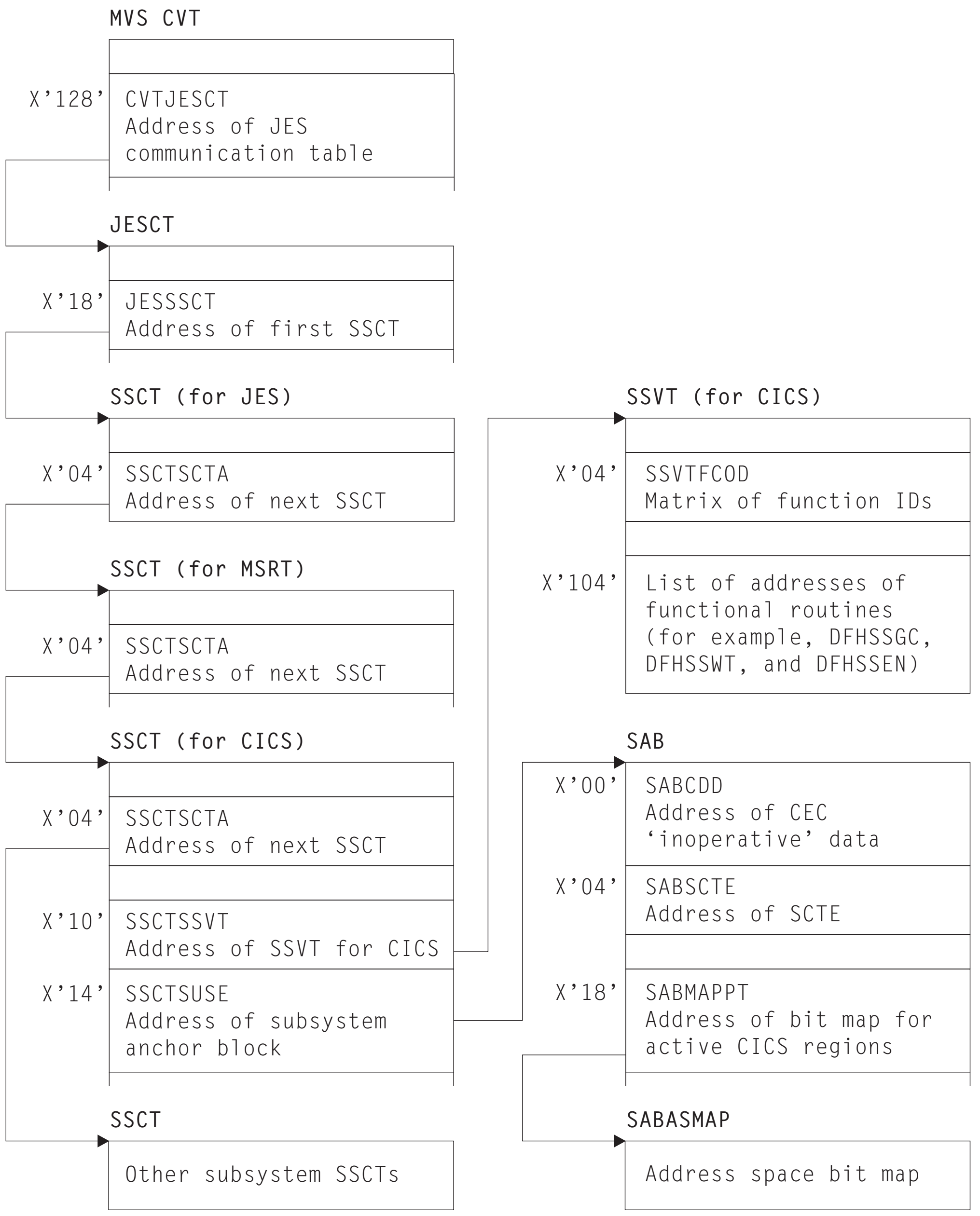


Figure 74. Control blocks associated with the subsystem interface

Modules

Module	Function
DFHSSIN	Subsystem initialization routine for the CICS subsystem. Reads in subsystem parameters from member DFHSSInn of SYS1.PARMLIB, creates SSVT, loads function modules into MVS common storage.
DFHSSEN	End-of-task and end-of-memory functional module. Calls DFHIRP's EOT/EOM routine. Issues 'generic connect' if terminating region or job-step task is in the CICS address space map.

Module	Function
DFHSSGC	The generic connect functional module. CONNECT subfunction sets the bit for the current address space in the address space map. If this is the first CICS region to start, it invokes IEAVG700 to initiate message broadcasting. DISCONNECT subfunction unsets the bit for the current address space in the address space map. If this is the last CICS region to finish, it invokes IEAVG700 to terminate message broadcasting.
DFHSSMGP	Message routine for DFHSSIN.
DFHSSMGT	Message table for DFHSSIN.
DFHSSWT	Router module for the console message handler. Calls DFHSSWTO for messages beginning with DFH. Calls DFHSSWTF for messages that echo MODIFY commands.
DFHSSWTF	Suppresses passwords from the echoed copies of MODIFY CICS commands that contain signon passwords.
DFHSSWTO	Inserts the applid into all DFH messages issued under a TCB with a valid AFCB.

Exits

There are no user exits in the subsystem interface support.

Trace

No tracing is performed by the subsystem interface support.

External interfaces

Module DFHSSIN invokes the MVS module IEEMB878 to read its initialization parameters from SYS1.PARMLIB.

Module DFHSSGC invokes the MVS module IEAVG700 to start and stop console message subsystem broadcasting.

Modules DFHCSVC and DFHSSEN use the IEFSSREQ interface to communicate with the CICS subsystem.

Chapter 47. Subtask control

Subtask control is the interface between a CICS task and a subtask. It avoids suspending CICS execution, and improves the response time.

This function is invoked by the DFHSK macro with the following calls:
- CTYPE=PERFORM activates an exit routine under a new TCB.
- CTYPE=WAIT waits for subtask to complete.
- CTYPE=RETURN returns control to the main CICS TCB.

Design overview

Some synchronous operating system requests issued by CICS modules could cause CICS to be suspended until the requests had completed. To avoid the resulting response-time degradation, certain requests are processed by the general-purpose subtask control program, DFHSKP. A CICS module calls DFHSKP to execute a routine within the module under a subtask of the operating system.

DFHSKP does the following:
- Schedules a subtask to execute a routine (called an SK exit routine)
- Allows an SK exit routine to wait on an event control block (ECB) of the operating system
- Manages subtask creation, execution, and termination
- Handles program checks or abends within the SK exit routine.

DFHSKP consists of the DFHSKM, DFHSKC, and DFHSKE programs.

DFHSKM (subtask manager program)

A DFHSK macro invokes DFHSKM to cause a routine to be executed under a subtask of the operating system. DFHSKM chooses a subtask to execute the request unless the caller has specified a particular subtask.

DFHSKM determines whether the subtask is inoperative, not started, or running. The subtask is called inoperative if it has terminated itself, or could not be attached. If the subtask is inoperative and the user coded SYNC=YES in the DFHSK macro, the request is processed synchronously; that is, DFHSKM executes the request under the CICS task control block (TCB).

If the subtask has not started, DFHSKM attaches a CICS task specifying the entry point of DFHSKC to execute. DFHSKM then waits on an ECB in the subtask control area (SKA) for the subtask and continues when the ECB is posted by DFHSKC, indicating that the subtask has been initialized.

DFHSKM then creates a work queue element (WQE) that represents the work to be performed under a subtask. The WQE is added to the work queue for the subtask. When the work ECB of the subtask is posted, signaling work to do, DFHSKM issues a wait on the work-complete ECB in the WQE. This ECB is posted when the WQE has been processed by the subtask. DFHSKM returns control to the caller, indicating the outcome of the processing.

If the subtask processing the WQE fails before completion, DFHSKM is informed and attempts to execute the request synchronously if the caller so specified.

When CICS terminates, it issues a DFHSK CTYPE=TERMINATE macro to terminate the subtasking mechanism. DFHSKM sets a flag in each subtask control area (in DFHSKP static storage) indicating that the subtask should terminate. DFHSKM then posts the subtask work ECB to signal the subtask to examine this flag.

DFHSKM is also invoked by deferred work element (DWE) processing.

When DFHSKM decides to process a WQE synchronously, control is passed to the routine specified by the caller. This routine may not complete normally and, so that DFHSKM does not lose the WQE because the task abended, it creates a DWE containing the address of the WQE. If the task abends, the DWE processor adds the WQE to the free queue.

DFHSKC (subtask control program)

DFHSKM invokes DFHSKC using the DFHKCP attach logic to start a subtask of the operating system, and wait for its completion. DFHSKM passes the address of the subtask control area in the facility control area address (TCAFCAAA) in the TCA.

DFHSKC issues an EXEC CICS GETMAIN for shared storage to pass to the subtask for use as its automatic storage. The length required is in a field in DFHSKE containing the automatic storage requirements. DFHSKC issues the ATTACH macro with the ECB option to attach the operating system subtask, and passes the address of the subtask control area.

DFHSKC issues the CICS SVC to authorize the TCB of the subtask to use the SVC.

DFHSKC issues a KC wait on the attach ECB. The module is suspended until subtask termination, when the ECB is posted. On termination, the subtask puts a return code in the subtask control area.

When the subtask completes, DFHSKC cleans up the subtask work queue. It then frees the automatic storage and terminates.

DFHSKC writes messages to CSMT from this module if it was unable to attach a subtask of the operating system subtask, or the subtask indicated that its termination was not normal.

DFHSKE (subtask exit program)

When the subtask manager DFHSKM, executing on behalf of a CICS task, decides that a subtask is to be started, it attaches a CICS task using the DFHKC ATTACH macro and specifying the entry point of DFHSKCNA. This CICS task attaches the subtask and waits for subtask completion by means of the ECB parameter coded in the ATTACH macro.

The ATTACH macro specifies an entry point in DFHSIP (known to MVS by an IDENTIFY macro issued in DFHSIP). DFHSIP then branches to the entry point of DFHSKE, whose address is in the subtask control area.

Note: DFHSIP remains in storage after initialization has completed.

The subtask reverses the order of the in-progress queue to service requests on a first-come, first-served basis. It then loops round the in-progress queue and, for each WQE, branches to the program specified in the WQE (the SK exit routine).

The exit routine returns control to DFHSKE, either indicating that the exit routine has completed by issuing a DFHSK CTYPE=RETURN macro or requesting that execution of the SK exit is suspended until an ECB specified by the exit is posted by some component of the operating system.

When a return is requested, the ECB in the WQE is posted, causing the dispatcher domain to resume the CICS task that was waiting for the SK exit to be complete. When a wait is requested, the WQE is added to the waiting queue, which is processed later.

When all WQEs in the in-progress queue have been processed, DFHSKE examines the waiting queue. If any WQEs are on this queue, their ECB addresses are inserted into an operating-system multiple-wait queue. The subtask work ECB (posted when a WQE is added to the work queue) is put at the top of this multiple-wait list. An operating-system multiple-wait is then issued.

When the subtask regains control, an ECB has been posted. This can be because more work has arrived or because an ECB belonging to an exit routine has been posted.

The WQEs on the waiting queue are scanned, and those whose ECB has been posted are moved to the in-progress queue, with a flag on indicating that an SK exit routine is to be resumed.

Control returns to the beginning of this program which examines the work queue and proceeds as described earlier.

DFHSKE handles program checks and operating system abends. If an abend exit is driven when processing a WQE, that WQE is blamed and processing of it terminates. The CICS task requesting the processing is informed of the problem.

If an abend exit is driven when a WQE is not being processed, it is assumed to be a problem in the subtasking program. The abend is handled, and a count of failures is increased. When a threshold is reached, the subtask terminates.

The MVS exits are ESTAE and SPIE.

For normal termination, DFHSKE loops, processing WQEs and waiting when there is no work to do. The subtask checks a flag in the subtask control area to see if it has been requested to terminate. If the flag is set, the subtask terminates, indicating normal termination by setting a response code in the subtask control area for the attacher, DFHSKC.

Abnormal termination may occur when the error threshold has been reached. The subtask terminates, but sets an error return code in the subtask control area for the attacher to see. The attacher, DFHSKC, then cleans up any outstanding WQEs on the subtask queues.

Control blocks

This function has the following control blocks:

- SK static storage contains pointers to free work queue elements (WQEs) and to work queue elements.
- SKRQLIST is the parameter area passed to DFHSKP on a request. It contains the address of the code to be executed, and the address of the ECB.
- DFHSKWPS is the WKE structure containing the address of the next WQE in the chain, the contents of the parameter field from CTYPE=PERFORM, the save area for registers, and the work-complete ECB.
- DFHSKAPS is the subtask control area. Each instance of this control block describes the state of one subtask and contains the address of automatic storage to be used by DFHSKE, pointers to the WQE used by the subtask, the current WQE being processed, and the ECB for work and completion.

See *CICS Data Areas* for a detailed description of these control blocks.

Modules

Module	Function
DFHSKC	The subtask control program is invoked by DFHSKM to start up a subtask of the operating system
DFHSKE	The general-purpose multitask program is executed as a subtask of the operating system
DFHSKM	The subtask manager program causes the routine to execute under a subtask.

Exits

No global user exit points are provided for this function.

Trace

The following point ID is provided for this function:
- AP 00DE, for which the trace level is AP 1.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

External interfaces

The following external calls are made by DFHSKC:

MVS ATTACH
To attach a new TCB

MVS DETACH
To detach a TCB

MVS POST
To post a CICS TCB.

The following external calls are made by DFHSKE:

MVS ESTAE
To establish an error exit

MVS WAIT
To synchronize with the TCB

MVS SETRP
: To retry after a failure.

Chapter 48. Syncpoint program

This allows the user to specify logical units of work by means of **syncpoints**. Any processing performed between syncpoints (provided the resources are declared as recoverable) can be reversed in the event of an error; but ***after*** a given syncpoint has been reached, the processing performed ***before*** that syncpoint cannot be reversed.

A syncpoint is also taken automatically at the end of each task.

Design overview

The syncpoint program works in conjunction with the Recovery Manager domain to provide the user with the ability to establish points in application programs at which all recoverable updates are committed. (The user can, at any time, back out any uncommitted changes by means of the rollback function.)

The syncpoint interface is provided by the DFHSPP module. DFHSPP is invoked, via the EXEC Interface module DFHEISP, when an application program issues an EXEC CICS SYNCPOINT or SYNCPOINT ROLLBACK command. It is also called from other CICS modules, such as DFHMIRS.

Further important information about syncpoint processing is given in Chapter 26, “Function shipping,” on page 301 and Chapter 99, “Recovery Manager Domain (RM),” on page 1551.

DFHSPP implements syncpoint calls by in turn calling the Recovery Manager domain with DFHRMUWM COMMIT_UOW or BACKOUT_UOW requests. RM calls its clients with prepare, commit, start backout etc. calls. One of RM's clients is ’APUS’, serviced by module DFHAPRC. Depending on the call from RM DFHAPRC calls DFHSPP or DFHDBP to process Deferred Work Elements (DWEs). DWEs provide a mechanism whereby resource owners can record their need to perform actions at a syncpoint. Most resource owners provide their own RM client routines, but a few, such as interval control, use DWEs.

Note that the implicit syncpoint or backout performed at task termination is effected by a direct call to the RM domain, not by issuing a DFHSP macro.

Task-related user exit resynchronization

The purpose of task-related user exit resynchronization is to allow a resource manager to ask CICS for the resolution of UOWs about which it is indoubt. Task related user exit resynchronization is called as a result of an EXEC CICS RESYNC command to restore the CICS end of the thread that was interrupted by the failure of the connection with the resource manager.

DFHRMSY is passed a parameter list by DFHERMRS which consists of the following: rmi entryname (8 bytes) - the name of the TRUE to be called for resync. rmi qualifier (8 bytes) - the qualifier to the name of the TRUE to be called for resync. uowid (8 bytes) - the id of the UOW to be resynchronized resync type (1 byte) - a flag indicating whether this is a resync as a result of an EXEC CICS RESYNC command or due to a Recovery manager domain unshunt.

DFHRMSY's job is to call the named TRUE with a resync call giving the resolution of the named UOW. The resolution can be commit, backout, should not be indoubt or lost to initial start. (Lost to initial start means that a START=INITIAL has been performed subsequent to the indoubt UOW being created. Initial start clears the log and the catalog meaning that Recovery Manager has no knowledge of the UOW.)

In order to find the outcome of the UOW, DFHRMSY issues a INITIATE_RECOVERY call to Recovery manager domain for the named UOW, which returns the UOW status. DFHRMSY then builds the resync plist to pass to the TRUE, and calls the TRUE using a DFHRMCAL macro. On return from the TRUE, if the TRUE returns an OK response indicating that it has successfully resynced with its resource manager, then DFHRMSY issues a TERMINATE_RECOVERY call to RECOVERY manager domain specifying FORGET(YES). This tells RM domain it can remove this TRUE's involvement in the UOW. If no other components or TRUEs are waiting resync for the UOW, then RM domain will delete it's knowledge of the UOW. If the TRUE does not return with an ok response, FORGET(NO) is specified on the TERMINATE_RECOVERY call, and RM domain retains this UOW for this TRUE. A subsequent resync will be required.

Control blocks

This section describes the control blocks used by the syncpoint program:

- Deferred work element (DWE)

See *CICS Data Areas* for a detailed description.

Deferred work element (DWE)

A deferred work element (DWE) is created and placed on a DWE chain to save information about actions that must be taken when the unit of work terminates. These actions may depend upon whether the UOW commits or backs out.

DWEs are created by CICS control modules, and chained off field TCADWLBA in the task’s TCA using DWECHAN as the chain field. The module that creates a DWE inserts the entry address of a DWE processor in field DWESVMNA of that DWE. Control is passed to this DWE processor by the syncpoint program at the end of the task or UOW.

DWEs can be used for work to be done before or after the syncpoint is logged or in the event of transaction backout.

The layout of DWEs is defined by the DFHDWEPS structure and by the DFHDWEDS assembler DSECT.

Modules

DFHSPP, DFHAPRC, DFHDBP

DFHSPP

DFHSPP can be invoked by the following macros:

DFHSP TYPE=USER
Take a syncpoint

DFHSP TYPE=ROLLBACK
Roll back the current unit of work

DFHSP TYPE=PHASE_1
Do DWE processing for prepare

DFHSP TYPE=PHASE_2
Do DWE processing for commit

When DFHSPP is called by means of a DFHSP TYPE=USER or TYPE=ROLLBACK macro the request is converted into a call to the Recovery Manager domain to commit or backout the current UOW. If the RM request fails SPP calls DFHAPAC to select an abend code corresponding to the failure reported by RM (for example ASP1 for an indoubt failure) and, in most cases, issues a PC ABEND with this abend code.

In the case of a commit or backout failure, however, no PC ABEND is issued and the transaction continues normally. In these cases CICS has, for the present, been unable to bring all local resources to the committed state for this unit of work. It has recorded any data necessary to re-attempt this at some later time, and has retained any locks necessary to preserve data integrity until then.

When DFHSPP is called by means of a DFHSP TYPE=PHASE_1 or TYPE=PHASE_2 macro SPP processes any DWEs in the DWE chain (TCADWLBA). The TYPE=PHASE_1 call is issued by DFHAPRC in response to an RM prepare or end_backout request. For each DWE in the chain that is not marked as cancelled (DWECNLM ON) or phase_2 only (DWEPHS2 ON) the DWE processor (entry address DWESVMNA) is called. In the prepare case SPP collects ’votes’ and may return a YES, NO or READ-ONLY vote to its caller. Also, if necessary, a DL/I TERM call is issued to allow DFHDLI to perform end-of-UOW actions. The TYPE=PHASE_2 call is issued by DFHAPRC in response to an RM commit or shunt request. For each DWE in the chain that is marked phase 2 and not cancelled the DWE processor is called. In the shunt case any DWE that is marked for shunting (DWESHUNT ON) is retained in the DWE chain. All other DWEs are freed.

DFHDBP

DFHDBP is link-edited with DFHAPRC and is called by DFHAPRC in response to an RM start_backout request. For each DWE in the task's DWE chain that is not marked cancelled it marks the DWE as ’backout’ (DWEDYNB ON). For any BMS DWE it issues a DFHBMS TYPE=PURGE request to discard the incomplete message, otherwise it calls the DWE processor then marks the DWE as cancelled.

DFHAPRC

DFHAPRC is the module which provides the gate for the ’APUS’ Recovery Manager client. It provides keypoint and restart support for user written log records, which is described elsewhere, and syncpoint support where it serves as a receiver for RMRO calls from the RM domain for prepare, commit, etc. which it converts into appropriate calls to SPP or DBP described above.

Exits

No global user exit points are provided for this function.

Trace

The following point IDs are provided for this function:

- AP 00CB, for which the trace level is AP 1.
- AP D8xx, for which the trace level is AP 1.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 49. System dump formatting program

The system dump formatting program is for use on MVS system dump (SYS1.DUMP) data sets that record system dumps requested by CICS via the MVS SDUMP macro.

The program is invoked via the interactive problem control system (IPCS). You can use IPCS either interactively or from an MVS batch job.

The CICS-supplied sample system dump formatting program for use with CICS Transaction Server for z/OS, Version 4 Release 1 control blocks is called DFHPD660.

For further information about the system dump formatting programs, about using IPCS to format and analyze CICS dumps, and about the dump exit parameters available, see the *CICS Operations and Utilities Guide*.

Design overview

The system dump formatting program produces a formatted listing of CICS control blocks grouped within functional area. CICS dump exit parameters can be specified on the IPCS VERBEXIT subcommand to indicate whether the control block output is to be produced or suppressed for each functional (component) area. Summary reports are available for certain of the functional areas, and the dump exit parameters can also indicate whether these are to be produced or suppressed.

Modules

Module	Function
DFHAIDUF	Autoinstall terminal model manager formatter
DFHAPTRA	Application domain multiregion operation trace interpreter
DFHAPTRB	Application domain extended recovery facility trace interpreter
DFHAPTRC	Application domain user exit trace interpreter
DFHAPTRD	Application domain trace interpreter
DFHAPTRE	Application domain data tables trace interpreter
DFHAPTRF	Application domain SAA Communications and Resource Recovery interfaces trace interpreter
DFHAPTRG	Application domain ZC exception and VTAM exit trace interpreter
DFHAPTRI	Application domain trace interpretation router
DFHAPTRJ	Application domain ZC VTAM interface trace interpreter
DFHAPTRL	Application domain CICS OS/2 LU2 mirror trace interpreter
DFHAPTRN	Application domain autoinstall terminal model manager trace interpreter
DFHAPTRO	Application domain LU6.2 application request logic trace interpreter
DFHAPTRP	Application domain program control trace interpreter
DFHAPTRR	Application domain partner resource manager trace interpreter
DFHAPTRS	Application domain DFHEISR trace interpreter
DFHAPTRV	Application domain DFHSRP trace interpreter
DFHAPTRW	Front End Programming Interface feature trace interpreter
DFHAPTR0	Application domain old-style trace entry interpreter
DFHAPTR2	Application domain statistics trace interpreter
DFHAPTR4	Application domain transaction manager trace interpreter

Module	Function
DFHAPTR5	Application domain file control trace interpreter
DFHAPTR6	Application domain DBCTL DL/I trace interpreter
DFHAPTR7	Application domain LU6.2 transaction routing trace interpreter
DFHAPTR8	Application domain security trace interpreter
DFHAPTR9	Application domain interval control trace interpreter
DFHCCDUF	CICS catalog formatter
DFHCCTRI	CICS catalog trace interpreter
DFHCPDUF	SAA Communications and Resource Recovery interfaces formatter
DFHCSDUF	CSA and CSA optional features list formatter
DFHDBDUF	DBCTL and remote DL/I dump formatter
DFHDDDUF	Directory manager formatter
DFHDDTRI	Directory manager trace interpreter
DFHDMDUF	Domain manager formatter
DFHDMTRI	Domain manager trace interpreter
DFHDSDUF	Dispatcher domain formatter
DFHDSTRI	Dispatcher domain trace interpreter
DFHDUDUF	Dump domain formatter
DFHDUF	Formatting router
DFHDUFUT	Service functions routine
DFHDUTRI	Dump domain trace interpreter
DFHERDUF	Error message index processor
DFHFCDUF	File control formatter
DFHFRDUF	File control recoverable work elements formatter
DFHICDUF	Interval control formatter
DFHIPCSP	Table of CICS entries for the IPCS exit control table
DFHIPDUF	Kernel stack internal procedure formatter
DFHKEDUF	Kernel domain formatter
DFHKELOC	Routine for locating domain anchors
DFHKETRI	Kernel domain trace interpreter
DFHLDDUF	Loader domain formatter
DFHLDTRI	Loader domain trace interpreter
DFHLMDUF	Lock manager formatter
DFHLMTRI	Lock manager trace interpreter
DFHMEDUF	Message domain formatter
DFHMETRI	Message domain trace interpreter
DFHMNDUF	Monitoring domain formatter
DFHMNTRI	Monitoring domain trace interpreter
DFHMRDUF	Multiregion operation formatter
DFHNXDUF	Control block index processor
DFHPADUF	Parameter manager formatter
DFHPATRI	Parameter manager trace interpreter
DFHPDKW	Input parameter string validation routine
DFHPDX1	Control program
DFHPGDUF	Program manager formatter
DFHPGTRI	Program manager trace interpreter
DFHPRDUF	Partner resource manager formatter
DFHPTDUF	Program control table formatter
DFHRMDUF	Resource recovery manager formatter
DFHSMDUF	Storage manager formatter
DFHSMTRI	Storage manager trace interpreter
DFHSNTRI	Application domain signon trace interpreter
DFHSSDUF	Static storage area formatter
DFHSTDUF	Statistics domain formatter
DFHSTTRI	Statistics domain trace interpreter

Module	Function
DFHSUDUF	Dump domain summary formatter
DFHSUTRI	Subroutine trace interpreter
DFHSZDUF	Front End Programming Interface feature dump formatter
DFHTCDUF	Terminal control formatter
DFHTDDUF	Transient data formatter
DFHTDTRI	Transient data trace interpreter
DFHTIDUF	Timer domain formatter
DFHTITRI	Timer domain trace interpreter
DFHTMDUF	Table manager formatter
DFHTRDUF	Trace domain formatter
DFHTRFFD	Trace entry data field formatter
DFHTRFFE	Trace entry formatter
DFHTRFPB	Routine to process blocks of trace entries
DFHTRFPP	Routine for selecting trace entries to be printed
DFHTRIB	Trace entry interpretation string builder
DFHTRTRI	Trace domain trace interpreter
DFHTSDUF	Temporary-storage formatter
DFHUEDUF	User exit formatter
DFHUSDUF	User domain dump formatter
DFHUSTRI	User domain trace interpreter
DFHXMDUF	Transaction manager domain formatter
DFHXMTRI	Transaction manager domain trace interpreter
DFHXSDUF	Security domain dump formatter
DFHXSTRI	Security domain trace interpreter
DFHXRDUF	Extended recovery facility (XRF) formatter
DFHZXDUF	XRF ZCP queue formatter

Exits

Global user exit points are not applicable to offline utilities.

Trace

Trace points are not applicable to offline utilities. However, the output obtained and any messages issued by the system dump formatting program may provide clues to problems associated with corrupted data.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

External interfaces

The following external calls are used by the system dump formatting program:

- MVS GETMAIN and FREEMAIN for storage management
- OPEN SVC to open DFHSNAP
- CLOSE SVC to close DFHSNAP
- MVS IPCS service routines.

Chapter 50. System recovery program

The system recovery programs, DFHSR1, DFHSRP, and DFHSRLI, together form the default CICS recovery routine for the application (AP) domain. This routine is, in particular, the recovery routine for program checks, operating system abends, and runaway tasks that occur in user application code.

Design overview

The CICS kernel intercepts program checks, runaway tasks, operating system abends and some other internal errors for all CICS domains. The kernel then selects which CICS recovery routine to pass control to. The selected recovery routine can then process the error as appropriate.

The DFHSR1 module is the default recovery routine for the application domain. It receives control if any of the above errors occur in CICS system application programs, user application programs and some CICS nucleus modules. It processes internal errors itself but, when dealing with program checks, operating system abends, and runaway task abends, it calls the DFHSRP module. The DFHSRP module, in turn, converts the error into a transaction abend, if possible; if not possible, it terminates CICS. The DFHSRP module uses subroutines in DFHSRLI.

The transaction abend codes that may be issued are:

AEYD	error detected by command protection
AICA	task runaway
AKEF	domain gate not active
AKEG	kernel stack storage GETMAIN failure.
ASRA	program check
ASRB	operating system abend
ASRD	illegal macro call or attempt to access the CSA or TCA
ASRK	TCA not available
xxxx	as set by issuers of deferred abend

The processing associated with each of these abends is described in "Error handling" on page 410.

For further information about the abends, see *CICS Messages and Codes*.

System recovery table

Associated with DFHSRP is the system recovery table (SRT). This is a table that the user can provide, containing operating system abend codes. It controls whether CICS recovers from program checks and operating system abends in noncritical code.

You specify the name of the system recovery table by the SRT system initialization parameter, as either SRT=NO or SRT=xx, where xx is the two-character suffix of the SRT:

- If NO is coded, CICS does not recover from program checks or operating system abends, and terminates if one occurs.
- If a suffix is coded, CICS attempts to recover from all types of program check, but can only recover from an operating system abend if the abend code appears in the SRT identified by the suffix (for example, DFHSRT1A where 1A is the suffix). If the abend code is not in the SRT, CICS terminates.

For information about how to create the SRT, see .

Recovery initialization

The DFHSII1 module calls the DFHSR1 module during AP Domain initialization. The DFHSR1 module tells the Kernel that it is the default recovery routine for the AP domain and adds the ABAB gate.

If any error occurs when informing the kernel, CICS is terminated with message DFHSR0605 and a system dump because it is not possible to run CICS without AP domain recovery.

Error handling

The DFHSR1 module gets control from the kernel or from other AP domain modules. It decides whether it is dealing with an internal error or an external error such as a program check. Internal errors are dealt with by exiting from the recovery environment and issuing the appropriate kernel call. If either of the DFHXFP or DFHEMS modules has caused a program check, the DFHSR1 module exits from the recovery environment and passes control to DFHXFP or DFHEMS. All other external errors are passed on to the DFHSRP module. If control returns from the DFHSRP module, DFHSR1 issues a transaction abend. If control returns from the abend call, it is because the XPCTA exit has requested retry; in which case, DFHSR1 restores the registers etc and branches to the resume address.

The DFHSRP module makes an exception trace entry, ensures it is running on the QR TCB and then deals with one of the following:

- Program check (see "Program check" on page 411)
- Operating system abend (see "Operating system abend" on page 412)
- Runaway task (see "Runaway task" on page 412)
- Kernel gate error (see "Kernel gate error" on page 413)
- Deferred abend. (see "Deferred abend" on page 413).

Note: The kernel recovery environment is terminated very soon after DFHSRP receives control. This ensures that DFHSRP gets driven again if a subsequent error occurs in DFHSRP itself (rather than the kernel percolating the error to the next kernel stack entry). DFHSRP is therefore in a position to detect such recursive errors, and can take the appropriate action.

If DFHSRP can abend the transaction, it builds a Transaction Abend Control Block (TACB) to describe the abend. The TACB is a task-lifetime control block that records details of a transaction abend. This TACB may be used by the rest of AP domain that needs information about the abend. DFHSRP builds the TACB, rather than letting Program Control build it as part of DFHPC TYPE=ABEND processing.

This enables DFHSRP to include extra information in the TACB that would otherwise be lost, such as GP registers, PSW, and FP registers at the time of the error.

Program check

The following processing takes place for a program check, in the order given:

1. If this program check occurred while DFHSRP was in the middle of processing a previous program check, then CICS is terminated with message DFHSR0602 and a system dump. Otherwise DFHSRP may get caught in a recursive loop.
2. If this program check occurred while DFHSRP was in the middle of processing an operating system abend, then CICS is terminated with message DFHSR0615 and a system dump. This traps program checks in global user exit XSRAB.
3. If DFHEIP hired gun checking caused the program check, create an abend record for abend code AEYD and return to DFHSR1.
4. If the program check was an 0C4 protection exception, DFHSRP diagnoses the 0C4 further in order to establish whether it was caused by an attempt to access or overwrite CICS-managed protected storage. Such storage is as follows:
   - The fetch-protected dummy CSA block
   - The CDSA
   - The ECDSA
   - The ERDSA.
   - The EUDSA.
   - The RDSA.
   - The UDSA.

   Of the above, it should be noted that one can only 0C4 on the CDSA or ECDSA if storage protection is active, while 0C4 on the UDSA or EUDSA can only be obtained if transaction isolation is active.

   This diagnosis is accomplished by disassembling the failing instruction, and examining the instruction operands in conjunction with the execution conditions at the time of the 0C4 (such as execution key). If the dummy CSA caused the 0C4 (that is, an attempt was made to access the CSA or TCA, or an illegal macro call was issued), message DFHSR0618 is issued. If a DSA caused the 0C4, message DFHSR0622 is issued.
5. If the SRT=NO system initialization parameter was specified, you have disabled recovery, and CICS terminates with message DFHSR0603 and a system dump.
6. If a CICS system task was in control at the time of the program check, indicated by a non-numeric transaction number, CICS is terminated with message DFHSR0601 and a system dump.
7. Some special processing is performed which applies only to PL/I programs.
8. DFHSRLI is called to determine the following information:
   - The program in which the program check occurred
   - The offset in that program
   - The execution key.
9. The results of the diagnosis (program, offset, execution key, and, if an 0C4 abend, any “hit” DSA) are output in an exception trace.
10. Message DFHAP0001 or DFHSR0001 is issued and a system dump is taken. (See also “System dump suppression” on page 413.)

Whether message DFHAP0001 or DFHSR0001 is issued is governed by the execution key at the time of the program check. If the program was running in user key, message DFHSR0001 is issued; otherwise, message DFHAP0001 is issued.

11. Finally, DFHSRP creates an abend record and returns to DFHSR1.

Operating system abend

The following processing takes place for an operating system abend, in the order given:

1. If this abend occurred while DFHSRP was in the middle of processing a previous operating system abend, then CICS is terminated with message DFHSR0612 and a system dump. Otherwise, DFHSRP may get caught in a recursive loop.
2. If the SRT=NO system initialization parameter was specified, you have disabled recovery, and CICS terminates with message DFHSR0606. A system dump may be taken, if specified on the operating system abend.
3. If the SRT=xx system initialization parameter was specified, DFHSRP searches the SRT with the suffix xx (that is, DFHSRTxx) for the abend code. If it does not find the abend code, CICS terminates with message DFHSR0606. A system dump may be taken, if specified on the operating system abend.
4. When the abend code has been located, the next check is to see if the operating system abend occurred in a CICS system task, indicated by a non-numeric transaction number. If so, CICS terminates with message DFHSR0613 and a system dump.
5. Otherwise, the default decision is to abend the transaction with code ASRB. However, you can modify this decision by coding a global user exit program at exit point XSRAB. In addition to performing any processing that might be required for particular operating system abends, the XSRAB exit point allows you to specify whether to:
   - Terminate CICS
   - Abend the transaction ASRB
   - Abend the transaction ASRB, but cancel any active HANDLE ABEND exits.
6. If you choose to terminate CICS, CICS terminates with message DFHSR0606. A system dump may be taken, if specified on the operating system abend.
7. DFHSRLI is called to determine the following information:
   - The program in which the program check occurred
   - The offset in that program
   - The execution key.
8. The results of the diagnosis (program, offset, and execution key) are output in an exception trace.
9. Message DFHAP0001 or DFHSR0001 is issued and a system dump is taken. (See also “System dump suppression” on page 413.)

   Whether message DFHAP0001 or DFHSR0001 is issued is governed by the execution key at the time of the program check. If the program was running in user key, message DFHSR0001 is issued; otherwise, message DFHAP0001 is issued.
10. Finally, DFHSRP The DFHSRP module creates an abend record with abend code ASRB returns to DFHSR1.

Runaway task

One of the following processing options takes place for a runaway task:

- If this runaway task occurred while DFHSRP was in the middle of processing an operating system abend, CICS terminates with message DFHSR0612 and a system dump. This traps runaway tasks caused by errors in global user exit XSRAB.
- Otherwise, the DFHSRP module creates an abend record with abend code AICA and returns to DFHSR1.

Kernel gate error

One of the following processing options takes place for a kernel gate error:

- If this error occurred while DFHSRP was in the middle of processing an operating system abend, CICS terminates with message DFHSR0612 and a system dump. This traps kernel gate errors from XPI calls in global user exit XSRAB.
- Otherwise, the DFHSRP module issues message DFHAP0001, creates an abend record with abend code AKEF, and returns to DFHSR1.

kernel stack GETMAIN error

The processing that takes place for a kernel stack GETMAIN error is identical to the processing for a kernel gate error, except that the transaction is abended with abend code AKEG.

Deferred abend

The DFHSRP module creates an abend record using the abend code set by the code that issued the deferred abend and returns to DFHSR1.

DFHSRLIM interface

This interface is used to call program DFHSRLI. It provides the following functions for DFHSRP:

INVOKE_XSRAB

This function invokes global user exit XSRAB if active, passing to it structure SRP_ERROR_DATA which contains details of the operating system abend that occurred. The abend recovery option selected by the exit is returned, which is either to terminate CICS, abend the transaction ASRB, or abend the transaction ASRB and cancel any active abend exits.

DIAGNOSE_ABEND

This function diagnoses a program check, operating system abend, or other error, to establish the location of the error. It returns the program in which the error occurred, the offset within that program, and whether the error occurred in CICS or user application code. (A decision based on the execution key; user key implies user application code.)

System dump suppression

When message DFHAP0001 or DFHSR0001 is issued before the transaction is abended with ASRA, ASRB, ASRD, AKEF, or AKEG, the default is to take a system dump with dumpcode AP0001 or SR0001 respectively. Message DFHSR0001 is issued if CICS is running with storage protection active and is running in user key at the time of the error; otherwise, message DFHAP0001 is issued.

Therefore, it is possible to suppress the system dumps taken for errors occurring in code that is being run in user key (user application code), while retaining system dumps for errors occurring in code that is being run in CICS key (CICS code), by adding SR0001 to the dump table specifying that no system dump is to be taken.

Note that the XDUREQ Global User Exit can be used to distinguish between AP0001 situations in application and non-application code. This allows selective dump suppression when storage protection is not active or when it is active but some applications run in CICS key.

Modules

Module	Function
DFHSRP	Called by DFHSR1 to process program checks, operating system abends, runaway tasks, and so on.
DFHSRLI	Provides functions for DFHSRP, via the DFHSRLIM interface.
DFHSR1	The default recovery routine for the AP Domain.

Exits

There is one global user exit point in DFHSR1: XSRAB. This exit can be called if an operating system abend has occurred and the abend code is in the SRT.

For further information about using the XSRAB exit, see the *CICS Customization Guide*.

Trace

The following trace point IDs are provided for DFHSRP and DFHSRLI:
- AP 0701, for which the trace entry level is AP 2
- AP 0702, for which the trace entry level is AP 2
- AP 0780, for which the trace entry level is Exc
- AP 0781, for which the trace entry level is Exc
- AP 0782, for which the trace entry level is Exc
- AP 0783, for which the trace entry level is Exc.
- AP 0790, for which the trace entry level is Exc
- AP 0791, for which the trace entry level is Exc
- AP 0792, for which the trace entry level is Exc
- AP 0793, for which the trace entry level is Exc.
- AP 0794, for which the trace entry level is Exc
- AP 0795, for which the trace entry level is Exc
- AP 0796, for which the trace entry level is Exc
- AP 0797, for which the trace entry level is Exc.
- AP 0798, for which the trace entry level is Exc
- AP 0799, for which the trace entry level is Exc.
- AP 079A, for which the trace entry level is Exc.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 51. System spooler interface

A system programmer can communicate with the local system spooler and, consequently, with other system spoolers via the system spooler network facilities. The system spooler interface single-threads its input, and it is the user's responsibility to see that all transactions get the chance to run. One high-priority transaction should not use the interface exclusively.

Further information about the system spooler interface is given in the *CICS Application Programming Reference*.

Design overview

The system spooler interface program opens a system spooler file for either input or output, reads or writes a file, and closes a file. These functions are for system programmer use. The input is single-threaded, so only one transaction can use it at a time.

An application can send files to a remote location by specifying the node of the location, and the userid (or external writer name) of the user at that location. To retrieve a file at the remote location, you specify the external writer name, and you can then retrieve reports from that writer. For security reasons, the external writer name must begin with the same four characters as the CICS applid. The remote system to which a file or report is sent, or from which it is received, must have JES under MVS, or VM.

System spooler interface modules

The SPOOLOPEN command dynamically allocates input or output files using the CICS SVC, and an application control block (ACB) is opened to process the file. For an input file, the IEFSSREQ macro is also issued to determine which file to process. The SPOOLREAD or SPOOLWRITE commands cause GETs or PUTs to be issued using the ACB. The SPOOLCLOSE command dynamically deallocates a file, and causes it to be either transmitted or deleted. All processing which could cause CICS to be suspended is performed under an operating system subtask which is initiated by subtask control, DFHSKP.

DFHPSPST runs under CICS, but DFHPSPSS, and modules called as a result, run under the subtask.

Normal flow

When a system spooler interface command is executed, the normal sequence of invocation of modules is:

1. DFHEIP
2. DFHEPS
3. DFHPSP
4. DFHPSPSS
5. DFHPSPST
6. DFHPSSVC.

DFHPSP is called by:

- Application programs via DFHEPS issuing the DFHPS macro.
- Syncpoint program and dynamic transaction backout program to the deferred work element (DWE) module (DFHPSPDW). The entry address of DFHPSPDW is stored in the DWE. DFHPSPDW then calls DFHPSPST via DFHPS.

Abnormal flow

If a user transaction terminates without issuing a SPOOLCLOSE command, DFHPSPDW is invoked to process a DWE that was set up when the SPOOLOPEN command was processed. This closes the file in the usual way.

Modules

Module	Name
DFHEIP	DFHEIP initializes the EXEC interface structure (EIS) and then invokes the application program. Each EXEC CICS command invokes DFHEIP (nucleus) which in turn invokes the appropriate interface processor. DFHEIP also returns information to the application program through EIB (within EIS).
DFHEPS	DFHEPS is the link between DFHEIP and the JES interface program, DFHPSP.
DFHPSP	DFHPSP is the system spooler interface control module.
DFHPSPCK	DFHPSPCK is the JES interface termination processor.
DFHPSPDW	DFHPSPDW is the DWE processor.
DFHPSPSS	The system spooler interface subtask module attaches a subtask to check that a writer name and a token have been supplied. It opens and closes JES data sets, reads a record, and writes a record.
DFHPSPST	DFHPSPST is the JES interface controller.
DFHPSSVC	DFHPSSVC is the system spooler interface module that retrieves a data set name for a given external writer name, dynamically allocates it, and returns its DDNAME.

Exits

No global user exit points are provided for this interface.

Trace

The following point ID is provided for this interface:
- AP 00E3, for which the trace level is AP 1.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 52. Table manager

The table manager controls the locating, adding, deleting, locking, and unlocking of entries in certain CICS tables. These operations can be performed while CICS is running.

Design overview

Locating, adding, deleting, locking, and unlocking entries in tables such as the terminal control table (TCT) are performed by the table manager program, DFHTMP.

Entries in these tables are also called “resources”. Because the structures of tables vary as entries are added or deleted, and a quick random access is required, a hash table mechanism is used to reference the table entries. In addition because fast access is needed for generic locates and ordered lists of entries, a getnext chain with a range table is used.

Hash table

The hash table is a set of pointers that are the addresses of directory elements of table entries. A directory element is a set of pointers; one of these pointers is the address of the table entry, the remaining pointers are the addresses of the next elements of various chains used in the different operations of the table manager. An example of a hash table is shown in Figure 75 on page 418.

The table manager logically combines the characters of the name of the resource, and transforms the result to give an integer that is evenly distributed over the hash table size.

When an entry is located or added, the table manager places it at the head of its chain. Thus frequently used entries tend to have the minimum search times.

If the hash chains become very long, the table manager creates a larger hash table if storage is available. The hash table is enqueued before and dequeued after the reorganization, so that no references to the table can be made during reorganization.

Note: Certain TMP hash tables are not reorganized because they are also used in VTAM SRB exits.

Range table and getnext chain

Some requests to TMP are not full key locates, but rather generic locates with a partial key. For example, requests to find all terminals whose Termid starts with two specified characters. To enable these requests, a getnext chain is maintained which orders all the directory elements alphabetically by key. There is also a ‘range table’ which holds pointers to certain elements along the getnext chain and a count of how many intermediate elements there are in each range.

This range table is hunted with a binary search to find the range in which a given key (full or partial) will reside, and then the getnext chain is used to find a match (if one exists) for the search condition.

A range will be split into two equal ranges if the number of intermediate elements rises above a threshold which depends on the number of ranges and the number of elements in the table. So the ranges are dynamic, and do not depend on any particular key distribution.

The number of ranges in the table is determined when the hash table is created, and if all the ranges are full, but a range should be split, a reorganization of the ranges takes place, which increases the range threshold by a factor of 2.

Secondary indexes

A separate hash table, called the secondary index, is created for certain TMP tables, which allows the same entry to be located by another key. In certain secondary indexes, the names do not need to be unique (whereas in the primary index the name is always unique). The secondary index entry is deleted at the same time the entry in the primary index is deleted.

For example, a secondary index is created for DSNAME blocks. This allows table entries to be accessed via secondary keys, using the DSNAME block number in the case of DSNAME blocks.

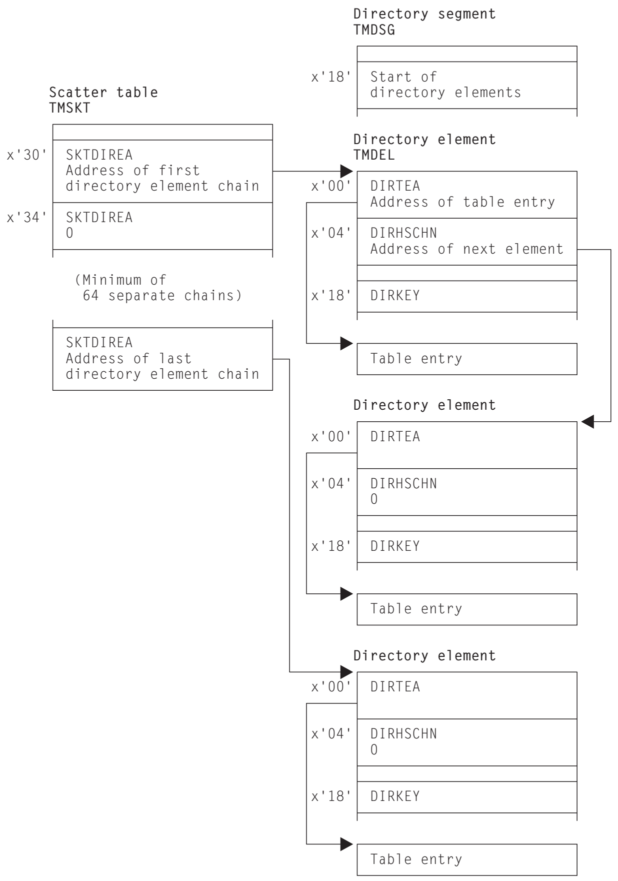


Figure 75. Example of a hash table

Certain tables also have aliases as distinct from secondary indexes. These are alternative names for the table entry, which can be used to locate a table entry. They exist in the same index as the primary name, and are not included in a getnext chain, rather they form an alias chain from the primary entry.

Functions of the table manager

The table manager performs the following functions:

Locate table entry
For a given name, find the address of the table entry.

Get next table entry
For a given name, find the address of the next table entry in collating sequence. This can be used repeatedly to find all entries in a range (or all elements in the whole table).

Add table entry
For a given table entry, add it into the table.

Quiesce a table entry
For a given name, mark its directory segment as busy.

Unquiesce a table entry
For a given name, remove its directory segment from the 'quiesce' state.

Delete a table entry
For a given name, delete it and any associated alias. The entry must have been quiesced first.

Create an index for a table
Create a hash table of a given type.

Add a name into a secondary index
Given a primary name and a secondary name, add the names to the secondary index.

Add an alias name
For a given name, assign an alias name.

Get next alias name
For a given a name, find the next alias name (if any).

Lock a table entry
For a given a name, assign a read lock to it.

Unlock a directory entry
For a given a name, remove the associated read lock.

Reset lock slots
For a given name, reset the lock slots.

Transfer lock to target task
For a given a name and the address of a target TCA, transfer the read lock to the target task.

Process deferred work element
Make the changes made by the logical unit of work (LUW) visible at task syncpoint time.

Read locks

Read locks are used to prevent a table entry being deleted by the table manager.

A read lock is a fullword of storage. When DFHKCP attaches a task, it allocates storage for a number of local read locks; this storage is addressed by TCATMRLP in the TCA. Local read locks are not acquired for table entries that cannot be deleted.

Global read locks are used by the CICS modules that are executed independently of any task. They reside in the table manager static storage area (TMS) that is addressed by SSATMP in the static storage address list (SSA).

These locks are released by:

- an Unlock call,
- a Getnext call,

- a Reset call,
- the termination of the task,
- or a DWE call.

Read locks are always obtained against the primary index entry even if the request is against a secondary index or an alias.

Browse token

For Getnext requests on secondary indexes, a browse token is used to hold the name of the previously found entry. The token consists of the name found in the secondary index (which may not be unique) and the name in the primary index (which is unique).

The address of the directory entry cannot be used instead of this logical name because the entry may be returned unlocked, and so may be deleted when the next getnext request is received.

The getnext consists of locating the entry in the secondary index which has a the correct primary index, if it exists, and then moving forward in the getnext chain. If it does not, an entry with a matching secondary index name, but a higher primary index name is located, if one exists. If that also does not exist, an entry with a higher name in the secondary index is located. This requires that entries on the getnext chain for ordered both by secondary index name and also when identical secondary index names exist, by primary index name.

Quiesce state

A table entry is moved into quiesce state by a quiesce request if no read locks (including ones obtained by the issuing task) exist for the entry. When a table entry moves into quiesced state, it is unable to be located. Locating tasks can choose to ignore or wait for quiesced entries to be unquiesced or deleted.

If the quiesce request is performed with the commit option, the only ways to release the quiesced state are:

- Unquiesce
- Delete

For commit requests, the delete takes place immediately the request completes. Otherwise, if an entry is not deleted or unquiesced by the end of the UOW the TM DWE will unquiesce the entry. In this case, a delete does not take effect until the end of the UOW.

Finding table entries in a partition dump

Figure 76 on page 422 shows the relationship of the table manager control blocks. A general procedure for finding the required table entries in a partition dump is as follows:

1. Find the CSA.
2. Find the CSA optional features list, CSAOPFL, from its address in field CSAOPFLA (offset X'C8') in the CSA.
3. Find the static storage area address list (SSA) from its address in field CSASSA (offset X'1C0') in the CSAOPFL.
4. Find the table manager static storage area (TMS) from its address in field SSATMP (offset X'14') in the SSA.

5. Look at TMS in *CICS Data Areas*. The fields TMASKT1 through TMASKT24 hold the addresses of the hash tables for various control blocks. Find the hash table for the control block you are interested in:

TMASKT1	Reserved
TMASKT2	Reserved
TMASKT3	Reserved
TMASKT4	Address of profile table (PFT) entries
TMASKT5	Address of file table (FCT) entries
TMASKT6	Address of destination control table (DCT) entries
TMASKT7	Address of local terminal (TCTE) entries
TMASKT8	Address of remote terminal and connection (TCNT) entries
TMASKT9	Address of local connection (TCTS) entries
TMASKT10	Reserved
TMASKT11	Address of DSN
TMASKT12	Address of DSNA
TMASKT13	Address of partner resource table (PRT) entries
TMASKT14	Reserved
TMASKT15	Address of local terminal NETNAME table (TCNT) entries
TMASKT16	Address of autoinstall terminal model (AITM) table entries
TMASKT17	Address of signon table (SNT) entries
TMASKT18	Address of session (TCSE) entries
TMASKT19	Address of remote connection (TCSR) entries (secondary index)
TMASKT20	Address of indirect connection (TCSI) entries (secondary index)
TMASKT21	Address of connection NETNAME entries (TCSN) (secondary index)
TMASKT22	Address of remote terminal (TCTR) entries (secondary index)
TMASKT23	Address of generic connection NETNAME entries (TCSM) (secondary index)
TMASKT24	Address of remote terminal NETNAME (TCNR) entries (secondary index)

Use the following formula to find the offset of the individual scatter table:

```
Length(TMATTV) * (n-1) + X'08'
```

Where n = position in table (see above - TMASKTn)

To find Length(TMATTV) (and the value of n) see *CICS Data Areas*.

6. Find the first directory element from its address in field SKTFDEA (offset X'10') in the hash table area.

7. Directory elements are chained together in alphabetic order. The address of the next element is in field DIRGNCHN (offset X'10').
8. Look at each directory element until you find the name of the control block you are looking for. The name is in field DIRKEY (offset X'18'). Field DIRTEA (offset X'0') holds the address of the desired control block.

Control blocks

Figure 76 shows the table manager control blocks.

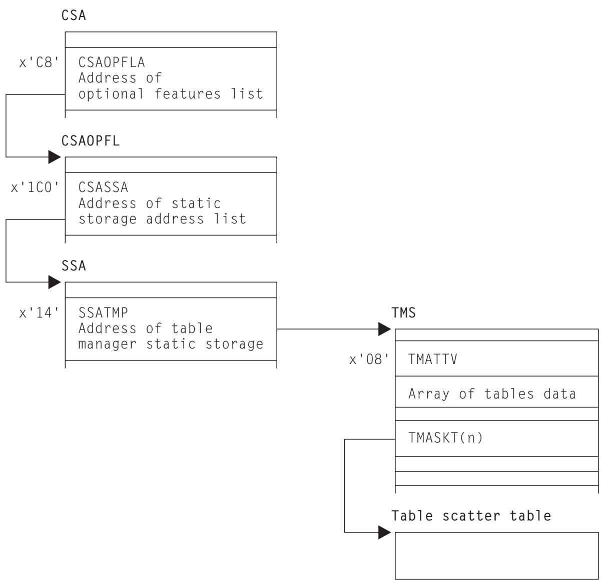


Figure 76. Table manager control blocks

See *CICS Data Areas* for a detailed description of these control blocks.

Modules

DFHTMP

Exits

No global user exit points are provided for this function.

Trace

The following point ID is provided for this function:
- AP 00EA, for which the trace level is AP 1.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Table Management Statistics

The statistics utility program, DFHSTUP, provides, for table management, statistics (for each table) on the amount of storage (expressed in bytes) used by the table manager to support each table (excluding storage used for the tables themselves).

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see *CICS Problem Determination Guide*.

Chapter 53. Task-related user exit control

Task-related user exit support in CICS, also known as the resource manager interface (RMI), provides an interface that non-CICS resource managers can use to communicate with CICS applications. The exit program can be enabled or disabled dynamically, and useful information can be transferred to a user work area.

Functional overview

The following operations may be performed on a task-related user exit from application programs:

ENABLE
: This is a global operation that names the task-related user exit and causes the task-related user exit to be loaded into storage, if it has not already been loaded. It also causes the exit program control block (EPB), which represents the task-related user exit, and the exit's global storage to be set up by the user exit manager module, DFHUEM. The EPB also holds a TALENGTH argument and a bit-string profile for use in an exit operation. The ENABLE operation does not pass control to the task-related user exit. DFHUEM is used to enable both global user exits and task-related user exits.

  The ENABLE operation is performed in two stages:
  1. ENABLE
  2. START.

  An exit is not made available for execution until it has been both enabled and started.

  You can use the TASKSTART keyword on the ENABLE command to enable a task-related user exit so that it is invoked at task start for all tasks in the CICS system.

  You can also enable a task-related user exit with the FORMATEDF keyword, which means that the task-related user exit can provide formatted screens for EDF to display, whenever a DFHRMCAL request to the task-related user exit takes place.

  The task-related user exit is invoked in the addressing mode of its original caller unless the LINKEDITMODE keyword is specified on the ENABLE command, in which case the exit is invoked in its own link-edit AMODE. LINKEDITMODE is only valid on the first ENABLE command for an exit program.

EXTRACT
: Information concerning an "enabled and started" task-related user exit is returned to an application when it issues this command.

DISABLE
: This is a global operation which in general terms is the reverse of an ENABLE request. The DISABLE operation can be performed in two stages:
  1. STOP: This is the reverse of the START keyword on the ENABLE request. It causes the task-related user exit to remain in main storage together with all its associated control blocks; however it is not available for execution until an ENABLE command with the START option is specified.

2. EXITALL: This causes the EXIT and its control blocks to be deleted from main storage. The EPB however is added to a chain of re-usable EPB's anchored in the UETH. This function should not be used until all tasks that have used the exit have ended; the results of EXITALL before that point are unpredictable.

DFHRMCAL

After an exit has been enabled and started, it can be invoked from an application using a DFHRMCAL request directly, or by passing control to a stub which performs the DFHRMCAL request. A register 1 parameter list may be supplied to the task-related user exit from the application.

The task interface element (TIE) control block is created for the task and task-related user exit combination when the task issues its first DFHRMCAL request, unless the TIE has already been created because the task-related user exit was enabled for TASKSTART.

When a DFHRMCAL request is issued, control passes to DFHEIP, to DFHERM (the external resource manager interface program), and then to the task-related user exit. DFHERM manages the TIEs.

ENABLE, DISABLE, and EXTRACT are all EXEC CICS requests. DFHRMCAL is a macro.

A task-related user exit can “express interest” in certain types of events, and be invoked when these events take place. These events are:

- Application invocations (DFHRMCAL mentioned above), associated with which are optionally the EDF screen format invocations
- System Programming interface events i.e. INQUIRE EXITPROGRAM commands
- Syncpoint related events
- Task termination events
- CICS termination.

By default, it is assumed that task-related user exits are interested in application invocations only.

Design overview

The task-related user exit interface is comparable with the EXEC interface. When an application program requests the services of a non-CICS resource manager, it does so by a module called the task-related user exit. The exit receives arguments from the application program, and passes them on to the resource manager in a suitable form.

The advantage of this method is that if the resource manager is changed, the application program that invokes the resource manager should not need to be changed too.

The exit is part of the resource manager programs. The name of the exit, or the name of the entry to the exit, is specified by the resource manager, and each application program that invokes the resource manager has to be link-edited with an application program stub that refers to that name.

The exit is enabled and disabled using the user exit manager (DFHUEM). For enabling, the resource manager can specify the size of a task-related work area that it requires.

The exit, when enabled and subsequently driven, receives arguments in the form specified by the DFHUEXIT TYPE=RM parameter list (see the *CICS Customization Guide* or the manual). Register 1 points to this parameter list. Register 13 points to the address of a save area, rather than the address of the CSA. The save area is 18 words long, with registers 14 through 12 stored in the fourth word onward.

Responses to the request are indicated by values placed in register 15, and also by means that are specific to the architecture of the application interface, for example, by moving data into storage areas passed by the call, or into the caller's register 15.

The main control blocks used by the task-related interface are the task interface element (TIE):

- A TIE is created by DFHERM on the first call by a task to each resource manager, and it is chained to the TCA for that task.

Task-related user exit implementation

The state of an exit is managed by DFHUEM, which is described under Chapter 64, "User exit control," on page 509. For an exit, the TALENGTH argument and a profile in the form of a bit-string are held in the exit program block (EPB). These arguments are not processed until the occurrence of an application program CALL that explicitly names the exit, unless the TASKSTART keyword is used on the ENABLE request.

Entry to the exit is through the task-related user exit interface, which comprises:

- An application stub provided with the exit, but generated using the CICS-provided macro DFHRMCAL. It is this stub which explicitly names the exit, and which is link-edited with each application program that uses the application program interface (API) of the resource manager.
- DFHEIP, which is entered at DFHEIPCN by the application stub, in much the same way as EXEC CICS commands are routed at execution time.
- DFHERM, which receives control when DFHEIP discovers that the call is not for a CICS control function, but for a named exit.

DFHERM receives a set of registers (those of the caller, for example, the application program), and a routing argument which names the exit. This routing argument is constructed by DFHRMCAL, in the application stub, and is not normally visible to the application programmer. DFHERM retrieves the name of the requested exit from the routing argument, and scans any existing task interface elements (TIEs) that are chained from the task's TCA, looking for a TIE associated with the named exit. If such a TIE is not found, it searches the installed exits on a chain of EPBs, looking for the matching name. On finding a match, DFHERM constructs a TIE to represent the connection between that task and the exit. The TIE is initialized from information provided in the EPB; the TALENGTH argument defines the size of a task-local work area which can be thought of as a logical extension of the TIE. The profile string is also copied into the TIE.

DFHERM stacks (stores in a last-in, first-out manner) various parts of the program execution environment—the status of HANDLE commands, file browse cursors, the EXEC interface block (EIB), and so on—and builds a parameter structure which is essentially a superset of that built by DFHUEH. Additional arguments include the task-local work area, the profile referred to above, and an 8-byte UOW identifier supplied by Recovery Manager.

DFHERM then passes control to the exit's entry point using standard CALL conventions, in which register 13 addresses a save area for DFHERM's own registers, register 14 addresses DFHERM's next sequential instruction, and register 1 addresses the passed parameters. This is a vector of addresses which include that of the caller's register save area. Any changes the exit makes to arguments of the application program interface (API), or to the contents of the caller's register save area, are not examined by DFHERM when it regains control, because they are not part of the CICS task-related user exit interface—rather they are the concern of the caller and the exit. However, the exit can request DFHERM to schedule certain actions by means of the profile argument. For example, the exit can request that it be informed (driven) when commitment of resources (syncpointing) is taking place, or the exit can request that DFHERM no longer routes API calls to it from this task.

Finally, on regaining control from the exit, DFHERM unstacks the objects that it had previously stacked, and returns to the caller. The state of the cursors, HANDLE labels, and so on, is apparently unchanged by the actions of DFHERM or the exit. Note that the exit may have used EXEC CICS HANDLE commands; this does not interfere with the caller's HANDLE status.

In the discussion of DFHERM so far, the term "caller" has been used for the application program. However, a caller can be a function such as syncpoint (DFHERMSP), task control (DFHAPXM or DFHERMSP), system programming interface (DFHUEIQ), CICS termination (DFHAPDM or DFHSTP) or EDF (DFHERM). The exit can set appropriate bits in the profile (schedule flag word) so that, if the corresponding function is subsequently invoked, it in turn calls the exit. The exit can determine the identity of the caller from the first argument (called the "function definition"). This argument, passed by DFHERM, always has its first byte equal to X'00'. (If the first byte is other than X'00', the exit has been entered from DFHUEH as a global user exit.) DFHERM sets the second byte of this argument according to the type of caller, thus indicating which interface is addressed by the caller's register save area. The second byte is:

X'01'	For system programming interface
X'02'	For an application program
X'04'	For the syncpoint program
X'08'	For CICS task control
X'0A'	For a CICS termination call
X'0C'	For an EDF call.

Any remaining arguments are specific to each individual caller.

The flow of control for the task-related user exit interface is shown in Figure 77 on page 429.

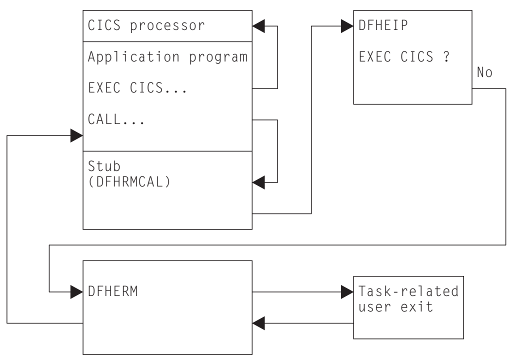


Figure 77. Task-related user exit control flow

Processors

The term "processor" is used to refer to two different types of object:

1. For the EXEC interface, it refers to the function-dependent modules associated with the EXEC interface nucleus, DFHEIP. These processors usually have names such as DFHEPC, DFHETC, DFHETD, and so on, and each of these is invoked by DFHEIP. DFHERM is also a processor of this type.
2. In various contexts, including task-related user exits, it refers to a piece of code that is link-edited with an application program and serves the dual function of:
   - Satisfying the CALL requirement for a target address—its entry resolves a V-type ADCON
   - Finding the entry point of DFHEIP.

Both these types of processor are part of the path between an application call and the functional control module that supports the request. This path appears as follows:

```
Application call
 Application processor (type 2)
  DFHEIP
   EXEC interface processor (type 1)
    Functional control module
```

Examples of the interface are:

```
EXEC CICS SYNCPOINT ... CICS API
 DFHECI     CICS COBOL EIP router
  DFHEIP
   DFHEISP  CICS syncpoint router
    DFHSPP  CICS syncpoint manager
       CICS Recovery manager domain

EXEC DLI TERM ... DLI HLPI
 DFHECI     CICS COBOL EIP router
  DFHEIP
   DFHERM   CICS RMI module
    DFHEDP  DLI HLPI manager
             (implemented as a task-related
                user exit)
```

Control blocks

The control blocks used in task-related user exit control are the exit program control block (DFHEPB), the task interface element (DFHTIEDS).

Figure 78 shows the main control blocks associated with task-related user exits.

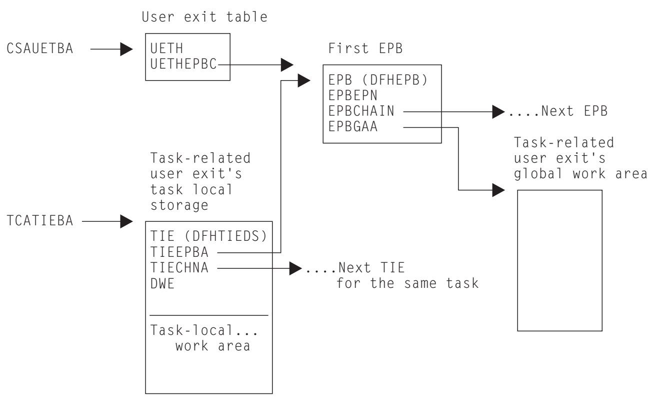


Figure 78. Control blocks associated with task-related user exits

Field CSAUETBA in the CSA points to the user exit table (UET); UETHEPBC in the UET points to the first exit program block (EPB); and EPBCHAIN in each EPB points to the next EPB in the chain.

Each EPB holds:
- The address of the exit's entry point (EPBEPN)
- The address of the global work area
- The halfword length of the global work area
- The halfword length of the task-local work area.

One EPB is associated with each enabled task-related user exit program or entry name.

EPBs used for global user exits and for task-related user exits are held on the same EPB chain.

The task-related user exit's global storage is optional. It is associated with an individual enabled task-related user exit program or entry name. Several task-related user exit programs or entry names can share the same global storage.

For full details of the EPB, see *CICS Data Areas*.

The task interface element (TIE) is associated with each associated pair of CICS task and task-related user exit. The first time a CICS task passes control to a particular task-related user exit, a TIE is created. The TIE lasts until task termination.

Note that all TIEs relating to a single task are chained together (more than one TIE is set up when a single CICS task makes use of more than one task-related user exit). The TIEs corresponding to a single EPB (that is, to a single task-related user exit program or entry name) are not chained together.

A global user exit may only use global storage; a task-related user exit may use both global storage and task-local work area.

Field TCATIEBA in the TCA points to the first TIE, and TIECHNA in each TIE points to the next TIE in the chain.

The TIE holds information relevant to all invocations of the task-related user exit for the task concerned. For example, TIEFLAGS holds information concerning the events for which the task-related user exit should be invoked, for example, API calls, syncpoint, and task start.

Figure 79 gives a closer look at the TIE control block chain that is used during the lifetime of a task-related user exit.

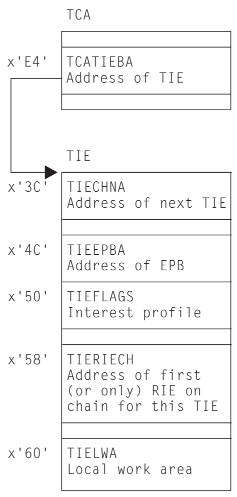


Figure 79. Control blocks used during the lifetime of a task-related user exit

For full details of the TIE control blocks, see *CICS Data Areas*.

Modules

Module	Function
DFHUEM	The EXEC interface processor for the ENABLE, DISABLE, and EXTRACT user exit commands.
DFHERM	Interfaces with task-related user exit.
DFHTIEM	Handles the TIE subpools.

Exits

No global user exit points are provided for this function.

Trace

The following point ID is provided for this function:
- AP 2520) for which the trace level is RI 1.
- AP 2521)
- AP 2522) for which the trace level is RI 2.

- AP 2523)

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

External interfaces

Calls are made to the task-related user exit via DFHEIP and DFHERM from the following modules:

DFHAPXM
Task start

DFHERMSP
Task end

DFHERMSP
Syncpoint and backout

DFHRMSY
For syncpoint resynchronization

DFHAPDM
CICS termination

DFHSTP
CICS termination

DFHUEIQ
System programming interface for inquire exitprogram calls

Applications
Application calls to resource manager

DFHERM
EDF invocations for application calls to resource manager

Chapter 54. Task-related user exit recovery

Task-related user exit recovery, also known as the resource manager interface (RMI) recovery, ensures that changes to recoverable resources performed by an external resource manager in a logical unit of work are either all committed or all backed out.

Design overview

During the execution of a CICS task, the CICS recovery manager communicates with the resource manager task-related user exit to prepare to commit, to commit unconditionally, or to back out. The purpose of these calls is to ensure that changes to recoverable resources performed in a unit of work (UOW) are either all committed or all backed out, if there is a failure anywhere in CICS or in any of the external resource managers.

Each UOW created by Recovery Manager Domain is identified by a UOW_ID and a Local UOW_ID. The LOCAL UOWID is an eight byte value whose format is easy for CICS to identify whether the UOW originated before or after an initial start.

When the resource manager receives the call to commit unconditionally or to back out, it takes the corresponding irreversible step, if possible. If the action is successful, the resource manager sends the appropriate return code. If not, it sends a return code which requests that CICS record the state of the UOW, and tries to resolve the status at a later time.

Recovery manager domain maintains the status of UOWs that require resynchronization, until all participants in the UOW have successfully resynchronized. Recovery manager domain maintains these UOWs across cold, warm and emergency start of CICS. An initial start of CICS however will mean that Recovery manager domain will lose this information and resynchronization will not be possible.

The RMI also supports an optimized syncpoint process to improve performance under certain conditions where a single-phase commit can be used. With single phase commit Recovery manager does not have to maintain resynchronization information for the RMI. This optimized process is described in more detail later in thissection .

The two-phase commit process

The RMI supports the two-phase commit process. The following is a brief summary of the two-phase commit process and other related processing as seen from the RMI's point of view.

- When a unit of work is first created, Recovery manager creates local_uow_id which will be used by the RMI.
- When the task syncpoints, a prepare-to-commit request is then issued to each task-related user exit used during the current UOW. For each task-related user exit, issuing the prepare request indicates the start of phase 1 of commit processing from CICS's point of view.

- If all syncpoint participants vote 'YES' to the prepare requests, then Recovery manager will commit the UOW. CICS then invokes each task-related user exit with a commit request. This indicates the start of phase 2 commit processing for the task-related user exit.

  If the task-related user exit is unable to commit the UOW, Recovery manager will maintain a record of the UOW's status so that the task related user exit can resync later.
- If one or more of the task-related user exits votes 'NO' to the prepare-to-commit request, all the task's recoverable resources are backed out.

Resolution of in-doubts

An external resource manager can be left in doubt about the disposition of UOWs, for example, if the resource manager abnormally terminated after receiving a prepare request for an UOW, but before receiving the commit or backout request. The resource manager, at any time while interfacing with CICS, can supply a list of recovery tokens representing the indoubt UOWs to the task-related user exit. The task-related user exit (or other related code) can then issue an EXEC CICS RESYNC request with the indoubt list and the name of the task-related user exit as parameters.

As a result of a the EXEC CICS RESYNC command, DFHERMRS initiates a CRSY task (running program DFHRMSY) for each UOW named in the indoubt list passed from the TRUE. DFHRMSY interfaces with Recovery manager to find out the status of the UOW, and calls the task-related user exit with the appropriate resolution, for example 'Commit', 'Backout' and so on. For each successful commit or backout, DFHRMSY informs Recovery manager that it can delete the TRUEs involvement in the UOW. When all interested parties in a UOW complete such processing, Recovery manager deletes its record of the UOW.

If an EXEC CICS RESYNC request is issued without an indoubt list or with an indoubt list of length zero, then DFHERMRS informs Recovery manager that it can remove the TRUE (identified by its name and qualifier) from all UOWs in the resynchronization set, i.e. delete all resync information for a TRUE.

A resynchronization set is first established when a TRUE is enabled. The next resynchronization set is identified on completion of an EXEC CICS RESYNC command, and is used for the next RESYNC command. A resynchronization bounds how many UOWs resync information is deleted for because RESUNC commands execute at the same time as new work is processed by a TRUE. A RESYNC command with a zero list should not delete resync information new UOW created since the resync command was issued.

The single-phase commit process

The RMI also supports the single-phase commit process for UOWs that are read-only, and for UOWs where CICS detects that only one external resource manager has been called for update requests. The task-related exit must indicate to the RMI that it is capable of processing single-phase commit requests; otherwise, a two-phase commit is used. Use of single-phase commit improves performance, because CICS does not perform any logging and the task-related user exit is called only once during syncpoint processing.

Single-phase commit for read-only UOWs

To take advantage of single-phase commit for read-only UOWs, the external resource manager must return to the task-related user exit an indicator that the UOW is read-only. This can be done by the resource manager returning a flag indicating the “history” of the UOW so far (that is, whether it is read-only so far), or returning information about the current request. In the latter case, it is the responsibility of the task-related user exit to keep a “history” of the UOW so far. After each request, the task-related user exit must return to CICS with a flag set in the parameter list indicating this history.

At syncpoint time, if CICS detects that the UOW is read-only, it invokes the task-related user exit with an “End-UOW” request instead of the normal prepare and commit requests associated with a two-phase commit. This means that the task-related user exit is invoked only once during syncpoint. The “End-UOW” request is issued during phase 2 syncpoint processing. On receiving an “End-UOW” request, the task-related user exit should invoke the resource manager for single-phase commit. There are no return codes associated with the “End-UOW” request, and CICS does not perform any logging for this type of request.

Single-phase commit for the single updater

To take advantage of single-phase commit for the single-update situation, the task-related user exit must indicate to the RMI that it knows the single-update protocol. It does this by setting a flag in the parameter list at the same time as it expresses an interest in syncpoint.

At syncpoint time, if CICS detects that only resources owned by one external resource manager were updated in the UOW, and if the task-related user exit has indicated that it understands the protocol, CICS invokes the task-related user exit with an ‘Only’ request, instead of the normal prepare and commit requests associated with a two-phase commit. This means that the task-related user exit is invoked only once during syncpoint. The ‘Only’ request is issued during phase 1 syncpoint processing. CICS does not perform any logging for this type of request. When invoked for an ‘Only’ request, the task-related user exit should invoke the resource manager for single-phase commit.

There are two architected responses to the ‘Only’ request: ‘OK’ and ‘Backed-out’. ‘OK’ means that the UOW was committed; ‘Backed-out’ means that the single-phase commit failed and the updates were backed out. It is important to note that, unlike the two-phase commit, there is no equivalent ‘Remember’ response. If a task-related user exit calls a resource manager for single-phase commit and, for example, the resource manager abends while processing this request, the task-related user exit is left in doubt as to the outcome of the request. The task-related user exit cannot return to CICS in this case, but instead must output diagnostic messages as appropriate, and then abend the transaction.

Recovery manager does not keep resynchronization information for UOWs using single phase commit. Because the resource manager is the only updater in the UOW, CICS is ***not*** in doubt about any of its resources. The resource manager has either committed or backed out the updates. The messages output by the task-related user exit, in conjunction with any messages output by the resource manager, can be used to determine the outcome of the UOW.

Modules

Module	Function
DFHERMRS	DFHERMRS is invoked by DFHEISP as a result of a an EXEC CICS RESYNC command. It attaches a CRSY task for each UOW identified in the IDLIST. Calls Recovery manager to delete unwanted resynchronization information.
DFHRMSY	A CRSY task (running program DFHRMSY) is attached for each indoubt UOW appearing in the indoubt list for an EXEC CICS RESYNC command. This program then issues the appropriate 'phase 2 of syncpoint' request, that is, commit or backout, to the external resource manager that issued the EXEC CICS RESYNC.

Exits

No global user exit points are provided for this function.

Trace

The following point IDs are provided for this function:
- AP 2540) For trace level RI Level 1
- AP 2541)
- AP 2548) For trace level RI level 2
- AP 2549)
- AP 2560) For trace level RI level 1
- AP 2561)

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

External interfaces

Calls are made from DFHRMSY, via DFHERM, to the task-related user exit to provide information about the disposition of the UOW, when resynchronization of in-doubts is taking place.

Chapter 55. Terminal abnormal condition program

Terminal error processing for BSAM-supported terminals normally routes any error to the terminal abnormal condition program (DFHTACP). Depending on the type of error, DFHTACP issues messages, sets error flags, and places the terminal or line out of service.

Before default actions are taken, CICS passes control to the terminal error program (DFHTEP) for application-dependent action if necessary. On return from the terminal error program, DFHTACP performs the indicated action as previously set by DFHTACP or as altered by the TEP, a sample version of which is supplied by CICS (DFHXTEP in source code form). See Chapter 57, “Terminal error program,” on page 465 for further information about the TEP.

Design overview

The terminal abnormal condition program (DFHTACP) is used by terminal control to analyze any abnormal conditions. Appropriate action is taken with regard to terminal statistics, line statistics, terminal status, and line status; the task (transaction) can be terminated. Messages are logged to the transient data master terminal destination (CSMT) or the terminal log destination (CSTL). DFHTACP links to the user-supplied (or sample) terminal error program, passing a parameter list via a COMMAREA that is mapped by the DFHTEPCA DSECT. This allows the user to attempt recovery from transmission errors and to take appropriate action for the task.

Table 24 lists the various TACP message processing routines, which assemble the text of the messages and write them to one of three destinations depending on the type of error.

The matrix shown in Table 25 on page 438 shows the sequence in which the message routines are called for each error code. For example, for error code X'88', the processing routines are executed in the following order: ME, F, W, X, N, BA, and finally R.

Table 26 on page 439 gives a generalization of TACP's default error handling upon completion of the message processing. For each error code, it shows the first routine to be called.

Table 24. TACP message routines

Routine	Function
A	Establish DFHTC message number 2501 (Msg too long, please resubmit)
D	Establish DFHTC message number 2502 (TCT search error)
F	Establish DFHTC message number 2507 (Input event rejected)
H	Establish DFHTC message number 2506 (Output event rejected)
I	Establish DFHTC message number 2513 (Output length zero)
J	Establish DFHTC message number 2514 (No output area provided)
K	Establish DFHTC message number 2515 (Output area exceeded)
L	Establish DFHTC message number 2517 (Unit check SNS=ss, S.N.O.)

Table 24. TACP message routines (continued)

Routine	Function
M	Establish DFHTC message number 2519 (Unit exception, S.N.O.)
N	Generate standard message inserts, for example, 'at term tttt'
O	Generate special inserts for message DFHTC2500
Q	Write to terminal causing the error, after retrieving the message text from ME domain using an MEME RETRIEVE_MESSAGE call
R	Write to destination (CSMT or CSTL) using an MEME SEND_MESSAGE call to ME domain
T	Obtain terminal main storage area (message build area)
V	Establish DFHTC message number 2511 (Incorrect write request)
W	Establish 'return code xx' message insert
X	Convert hexadecimal byte into 2 printable characters
AB	Establish DFHTC message number 2534 (Incorrect destination)
AE	Establish DFHTC message number 2500 (Line|CU|Terminal out of service)
AF	Obtain terminal statistics
BA	Obtain line statistics
BB	Establish DFHTC message number 2516 (Unit check SNS=ss)
BC	Establish DFHTC message number 2518 (Unit exception)
BF	Establish DFHTC message number 2521 (Undetermined unit error)
CA	Establish DFHTC message number 2522 (Intercept required)
DB	Establish DFHTC message number 2529 (Unsolicited input)
ME	Initialize parameter list for calling ME domain

Table 25. TACP message construction matrix

Error codes																
X'81'	**X'82'**	**X'84'**	**X'85'**	**X'87'**	**X'88'**	**X'8C'**	**X'8D'**	**X'8E'**	**X'8F'**	**X'94'**	**X'95'**	**X'96'**	**X'97'**	**X'99'**	**X'9A'**	**X'9F'**
ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME
T																
	AE															
		D														
			V													
				DB												
					F											
						H										
							I									
								J								
									K							
										BB						
											L					
												BC				
													M			
														BF		

Table 25. TACP message construction matrix (continued)

Error codes																
X'81'	**X'82'**	**X'84'**	**X'85'**	**X'87'**	**X'88'**	**X'8C'**	**X'8D'**	**X'8E'**	**X'8F'**	**X'94'**	**X'95'**	**X'96'**	**X'97'**	**X'99'**	**X'9A'**	**X'9F'**
															CA	
																AB
A																
	O															
					W	W										
AF																
Q																
					X	X				X	X					
		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
		BA			BA	BA										
	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R

Table 26. TACP default error handling

Error code	Default action
X'81'	Abend transaction
X'82'	none
X'84'	Put line in or out of service, as required
X'85'	Abend transaction
X'87'	Unsolicited input message
X'88'	Put line (or terminal) out of service
X'8C'	Put line (or terminal) out of service
X'8D'	Abend transaction
X'8E'	Abend transaction
X'8F'	Abend transaction
X'94'	I/O error test
X'95'	I/O error test
X'96'	I/O error test
X'97'	I/O error test
X'99'	Put line (or terminal) out of service
X'9A'	Test line for next operation
X'9F'	Abend transaction

Modules

DFHTACP

Exits

No global user exit points are provided for this function.

Trace

The following point ID is provided for the terminal abnormal condition program:

- AP 00E6, for which the trace level is TC 1.

DFHTACP provides trace entries immediately before and after calling DFHTEP.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 56. Terminal control

Terminal control allows communication between terminals and application programs. VTAM/NCP is used for most terminal data control and line control services.

Terminal control supports automatic task initiation to process transactions that use a terminal but which are not directly initiated by the terminal operator (for example, printers).

Terminal control can also provide a simulation of terminals, using sequential devices, in order to help test new applications.

Design overview

The user can specify that concurrent terminal support is to be provided by any combination of the following access methods:
- VTAM
- Basic sequential access method (BSAM)
- Interregion communication (IRC)
- Console.

The primary function of terminal control is to take an input/output (I/O) request for a terminal and convert it to a format acceptable to the access method (VTAM or BSAM).

Terminal control uses data that describes the communication lines and terminals, kept in the terminal control table (TCT). The TCT is generated by the user as part of CICS system definition, or dynamically as needed. The TCT entries contain terminal request indicators, status, statistics, identification, and addresses of I/O and related areas.

When CICS terminal control is used with VTAM, VTAM itself resides in a separate address space, having a higher priority than CICS. VTAM-related control blocks and support programming comprise the CICS terminal control component. The application programs that run under CICS control communicate with terminals through the CICS terminal control interface with VTAM.

VTAM network functions allow terminals to be connected to any compatible control subsystem that is online. This enables a terminal operator to switch from one CICS system to another, or to another subsystem.

VTAM manages the flow of data between devices in the network and VTAM application programs such as CICS. VTAM is responsible for:
- Connecting, controlling, and terminating communication between the VTAM applications and terminal logical units
- Transferring data between VTAM applications and logical units
- Allowing VTAM applications to share communication lines, communication controllers, and terminals
- Controlling locally attached devices, that is, those not connected through a communication controller

- Providing tools to monitor network operations and make dynamic changes to the network configuration.

In a VTAM environment, the functions of CICS terminal control include:

- Establishing communication with terminal logical units (LUs) by issuing logon requests, communicated through the access method
- Handling terminal input and passing user program requests for communication to VTAM
- Returning terminal LUs to the access method by accepting logoff requests
- Taking measures to ensure the integrity of messages flowing to and from VTAM
- Performing logical error recovery processing for VTAM devices.

Terminal control issues VTAM macros to receive incoming messages, and routes them to the appropriate CICS application program for processing. Likewise, it sends messages destined for various devices in the network to VTAM, which then routes them to the appropriate location.

Terminal control services

The following services are performed by, or in conjunction with, terminal control:

- Service request facilities
- System control services
- Transmission facilities.

Service request facilities

Write request
Sets up and issues or queues access method macros; performs journaling and journal synchronization.

Read request
Sets up and issues access method macros; performs journaling if required.

Wait request
Causes a dispatcher to suspend.

Dispatch analysis
Determines the type of access method and terminal used, and executes the appropriate area of terminal control.

System control services

Automatic task initiation
Services requests for automatic task (transaction) initiation caused by events internal to the processing of CICS.

Task initiation
Requests the initiation of a task to process a transaction from a terminal. When an initial input message is accepted, a task is created to do the processing.

Terminal storage
Performs allocation and deallocation of terminal storage.

Transmission facilities—VTAM

Connection services
Accepts logon requests, requests connection of terminals for automatic task

initiation, and returns terminals to VTAM, as specified by the user. If the terminal has not been defined, CICS uses the VTAM logon information to autoinstall the terminal.

Transmission facilities—VTAM/non-VTAM

Access method selection
Passes control to the appropriate access method routine based on the access method specified in the terminal control table.

Wait
Synchronizes the terminal control task with all other tasks in the system. When all possible read and write operations have been initiated, terminal control processing is complete and control is returned to the transaction manager to allow dispatching of other tasks.

Terminal error recovery

The resolution of certain conditions (for example, permanent transmission errors) involves both CICS and additional user coding. CICS cannot arbitrarily take all action with regard to these errors. User application logic is sometimes necessary to resolve the problem.

For the VTAM part of the network, terminal error handling is carried out by the node abnormal condition program (NACP) and a sample node error program (NEP), provided by CICS, or a user-written node error program. For further information about these, see Chapter 36, “Node abnormal condition program,” on page 357 and Chapter 37, “Node error program,” on page 361.

For the portion of the telecommunication network connected to BSAM, these error-handling services are provided by the terminal abnormal condition program (TACP) and by the user-written or sample terminal error program (TEP). For further information about these, see Chapter 55, “Terminal abnormal condition program,” on page 437 and Chapter 57, “Terminal error program,” on page 465.

The following sequence of events takes place when a permanent error occurs for a terminal:

1. The terminal is “locked” against use.
2. The node or terminal abnormal condition program is attached to the system to run as a separate CICS task.
3. The node or terminal abnormal condition program writes the error data to a destination in transient data control if the user has defined one. This destination is defined by the user and can be intrapartition or extrapartition.
4. The node or terminal abnormal condition program then links to the appropriate node/terminal error program to allow terminal- or transaction-oriented analysis of the error. In the node or terminal error program, the user may decide, for example, to have the terminal placed out of service, have the line placed in or out of service, or have the transaction in process on the terminal abnormally terminated.
5. The terminal is “unlocked” for use.
6. The node or terminal abnormal condition program is detached from the system if no other terminals are to be processed.

Testing facility—BSAM

To allow the user to test programs, BSAM can be used to control sequential devices, such as card readers, printers, magnetic tape, and direct-access storage devices. These sequential devices can then be used to supply input/output to CICS before actual terminals are available or during testing of new applications.

Terminal control modules (DFHZCP, DFHTCP)

Terminal control consists of two CICS resource managers:

ZCP	DFHZCP, DFHZCX, and DFHZCXR provide both the common (VTAM and non-VTAM) interface, and DFHZCA, DFHZCB, DFHZCC, DFHZCW, DFHZCY, and DFHZCZ provide the VTAM-only support.
TCP	DFHTCP provides the non-VTAM support (not MVS console support).

Terminal control communicates with application programs, CICS system control functions (transaction manager, storage control), CICS application services (basic mapping support and data interchange program), system reliability functions (abnormal condition handling), and operating system access methods (VTAM or BSAM).

Requests for terminal control functions made by application programs, BMS, or the transaction manager, are processed through the common interface of DFHZCP. Generally, terminal control requests for other CICS or operating system functions are issued by either ZCP or TCP, depending upon the terminal being serviced.

The ZCP and TCP suites of programs are loaded at CICS system initialization according to specified system initialization parameters, as follows:

- DFHTCP is loaded only if TCP=YES is specified.
- DFHZCP, DFHZCX, and DFHZCXR are always loaded.
- DFHZCA, DFHZCB, DFHZCY, and DFHZCZ are loaded only if VTAM=YES is specified.
- DFHZCC and DFHZCW are loaded only if ISC=YES is specified.

Figure 80 on page 445 shows the relationships between the components of terminal control.

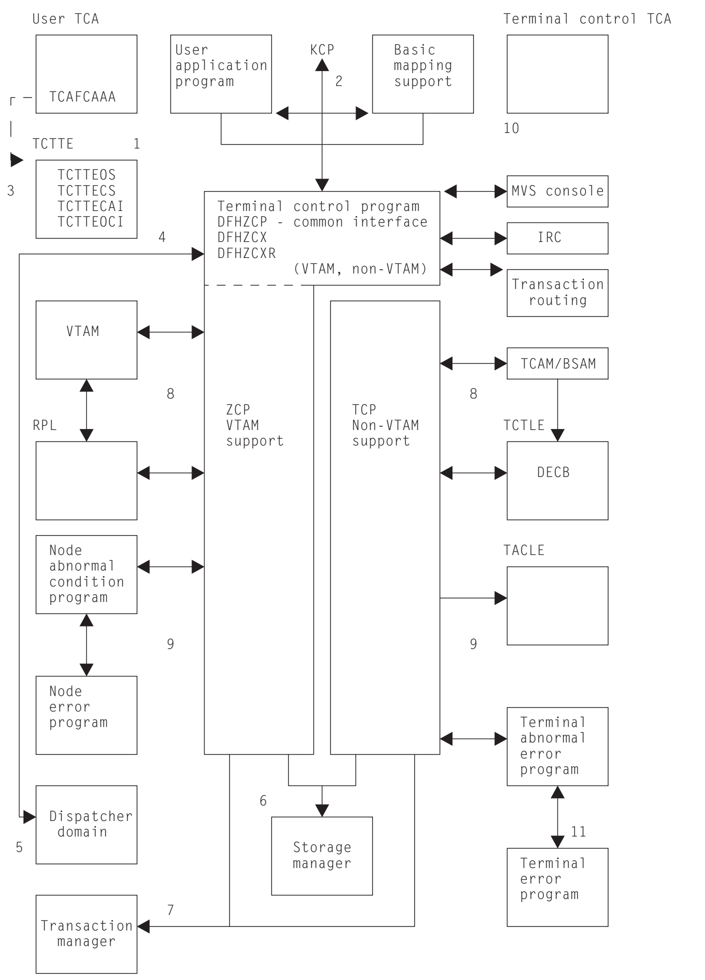


Figure 80. Terminal control interfaces

Notes for Figure 80:

Common interface

1. When a terminal control request is issued by an application program, or internally by the basic mapping support (BMS) routines using the DFHTC macro, request bits are set in the user's task control area (TCA) and control is passed to the common interface (VTAM, non-VTAM) routines of DFHZCP.
2. If the request includes WAIT and the IMMED option is not in effect, control is passed to the transaction manager to place the requesting program (task) in a suspended state. If WAIT is not included, control is returned to the requesting task.
3. The task's TCA contains the TCTTE address either in a field named TCAFCAAA (facility control area associated address) or in a field named TCATPTA when passing TCATPTA to terminal control.
4. The dispatcher dispatches terminal control through the common interface (DFHZDSP in DFHZCP) for one of the following reasons:
   - The system address space exit time interval (specified by the ICV system initialization parameter) has elapsed since the last terminal control dispatch.
   - The specified terminal scan delay (specified by the ICVTSD system initialization parameter) has elapsed.

- There is high-performance option (HPO) work to process.
- The terminal control event has been posted complete (for example, an exit scheduled in the case of VTAM, or an event control block (ECB) posted in the case of non-VTAM), and CICS is about to go into a wait condition.

5. Terminal control, through its common interface (DFHZDSP) requests the dispatcher to perform a CICS WAIT when the terminal control task has processed through the terminal network and has no further work that it can do.
6. Terminal control communicates with storage manager to obtain and release storage as follows:

   VTAM

   ZCP modules issue domain calls for terminal storage (TIOAs), receive-any input area (RAIA) storage, and request parameter list (RPL) storage.

   Non-VTAM

   DFHTCP issues DFHSC macros to obtain and release terminal and line storage.
7. Terminal control communicates with the transaction manager by means of the DFHKC macro. The macro can be issued by certain CICS control modules, depending upon the terminal being serviced. Terminal control may request the transaction manager to perform one of the following:
   - Attach a task upon receipt of a transaction identifier from a terminal.
   - Respond to a DFHKC TYPE=AVAIL request (a task control macro documented only for system programming) when a terminal is required by or for a task and that facility is available.
8. Terminal control communicates with operating system access methods in either of the following ways, depending upon the terminal being serviced:

   VTAM

   ZCP (referring here to the resource manager) builds VTAM request information in the RPL which is then passed to VTAM for servicing. VTAM notifies terminal control of completion by placing completion information in the RPL. ZCP analyzes the contents of the RPL upon completion to determine the type of completion and the presence of error information. Communication with VTAM also occurs by VTAM scheduling exits, for example, LOGON or LOSTERM. VTAM passes parameter lists and does not always use an RPL.

   When authorized-path VTAM has been requested (HPO), communication with VTAM also occurs in service request block (SRB) mode (using DFHZHPRX); ZCP uses the RPL with an extension to communicate with its SRB mode code. When an SRB mode RPL request is complete, ZCP calls the relevant exit or posts the ECB, as indicated by the RPL extension.

   Non-VTAM

   DFHTCP builds access method requests in the data event control block (DECB), which is part of the terminal control table line entry (TCTLE). The DECB portion of the TCTLE is passed to the access method by terminal control to request a service of that access method. The access method notifies terminal control of the completion of the service through the DECB. Terminal control analyzes the contents of the DECB upon completion to determine the type of completion and to check for error information.
9. Terminal control communicates with the CICS abnormal condition functions in either of the following ways, depending upon the terminal being serviced:

VTAM

The activate scan routine (DFHZACT, in the DFHZCA load module) attaches the CSNE transaction to run the node abnormal condition program (DFHZNAC); this is done during CICS initialization. DFHZNAC does some preliminary processing and then passes control to the node error program (DFHZNEP). (The node error program can be either your own version or the default CICS-supplied version.) Upon the completion of the user's error processing, control is returned to DFHZNAC. (For further information about DFHZNAC, see Chapter 36, "Node abnormal condition program," on page 357.)

Non-VTAM

DFHTCP attaches the CSTE transaction to run the terminal abnormal condition program (TACP) and passes a terminal abnormal condition line entry (TACLE) when an error occurs. The TACLE is a copy of the DECB portion of the TCTLE and contains all information necessary for proper evaluation of the error, together with special action indicators that can be manipulated to alter the error correction procedure. After analyzing the DECB, DFHTACP calls the terminal error program (DFHTEP) with a COMMAREA containing the TACLE address. (The terminal error program can be either your own version or the default CICS-supplied version.) For further information about DFHTACP, see Chapter 55, "Terminal abnormal condition program," on page 437.

10. Terminal control is executed under either the user's TCA or its own TCA as follows:

    User's TCA

    a. During the application program interface
    b. During the interface with basic mapping support
    c. While performing direct VTAM terminal SEND requests.

    Terminal control's TCA

    a. When the dispatcher dispatches terminal control
    b. When terminal control issues a request to the transaction manager to attach a task
    c. When terminal control issues a request to storage control
    d. While performing non-VTAM terminal I/O or queued VTAM terminal I/O
    e. For session-control functions when no task is attached.

Because many devices are supported by CICS terminal control, a large number of modules are required to provide this support.

Figure 81 on page 448 gives an overview of the relationships between the functions within terminal control and the rest of CICS and Figure 82 on page 448 through Figure 84 on page 450 show some of the flows through the terminal control modules.

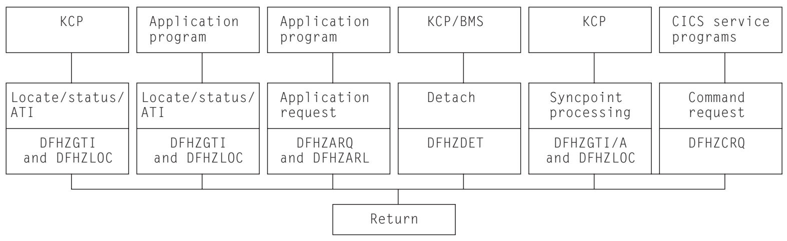


Figure 81. Terminal control functions and modules

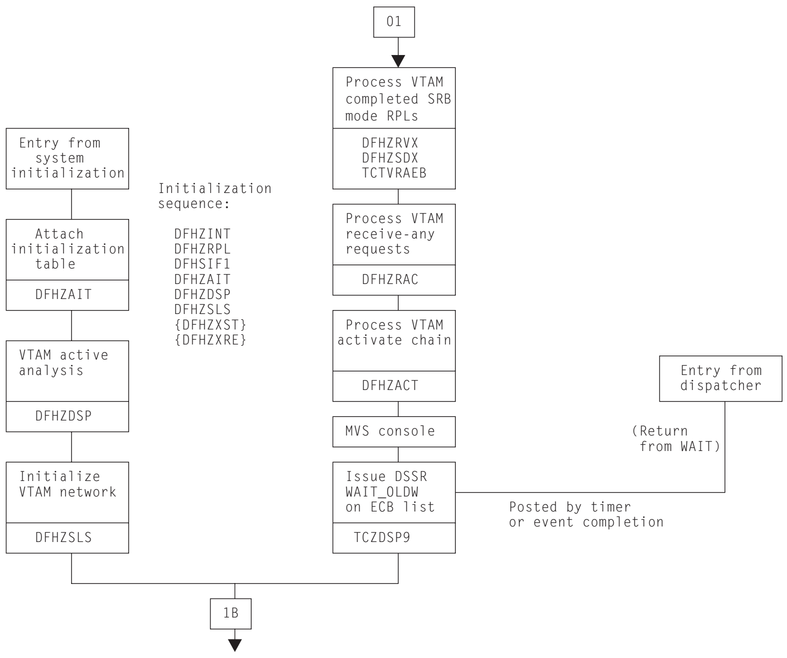


Figure 82. Terminal control ZCP and TCP common control routines

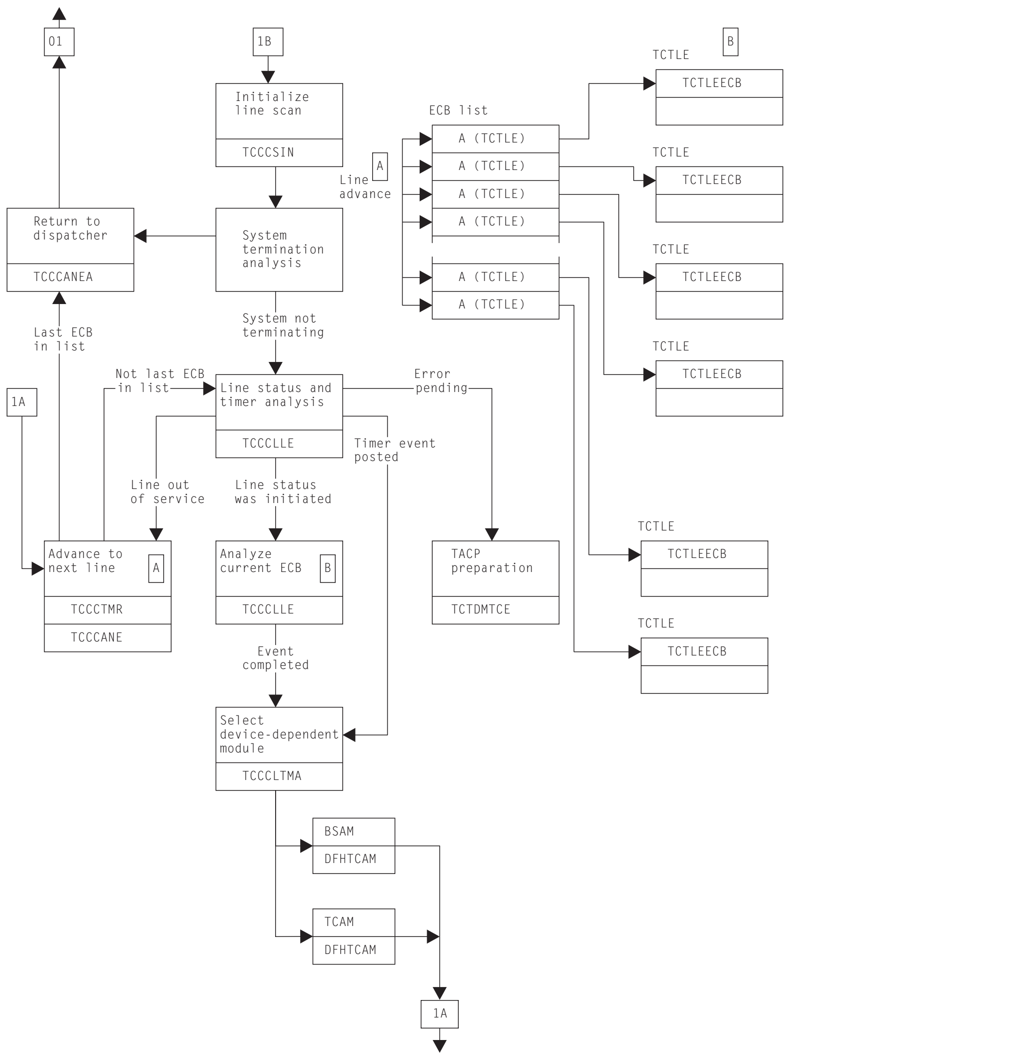


Figure 83. Terminal control TCP control routines (BSAM)

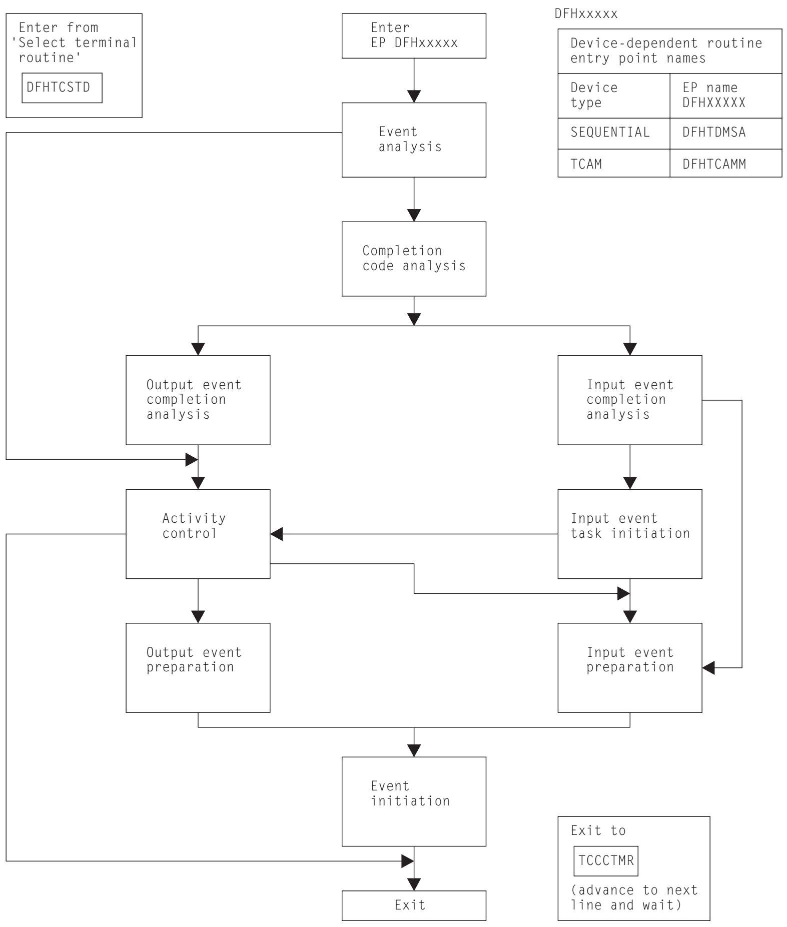


Figure 84. Terminal control general flow through device-dependent modules (TCP only)

High-performance option

When running CICS under MVS, the high-performance option (HPO) can be used. HPO uses VTAM with CICS as an authorized program so that the VTAM path length is reduced. This is achieved by dispatching SRBs to issue the send and receive requests for data to and from the terminals. The SRB code is executed in the DFHZHPRX module.

System console support

One or more MVS system consoles can be used as CICS terminals. This includes any MVS extended console introduced from MVS/ESA SP 4.1 onward; for example, a TSO user issuing the TSO CONSOLE command.

Each console has a unique number (releases before MVS/ESA SP 4.1) or a unique name (MVS/ESA SP 4.1 onwards). This matches the console number or name defined in the MVS system generation. Consoles are defined to CICS using CEDA DEFINE TERMINAL (see Chapter 42, “Resource definition online (RDO),” on page 373). The console number or name is specified using the CONSOLE or CONSNAME keyword respectively, depending on the level of MVS.

The console operator communicates with CICS using the MVS MODIFY command to start transactions. CICS communicates with the console using either the WTO macro or the WTOR macro.

A system console is modeled by CICS as a TCTTE that has an associated control block, the console control element (CCE). The CCE holds the event control block (ECB) for the console, and both the console ID and the console name.

The interface between a system console and CICS is the command input buffer (CIB), which is created in MVS-protected storage for each MODIFY command. A CIB contains the data for a MODIFY command. CICS addresses the first CIB using the EXTRACT macro and the CIBs are chained together.

The MVS communication ECB is in MVS-protected storage; it is posted complete for each MODIFY command and reset when there are no CIBs to be processed. The CICS system wait list holds pointers to the MVS communication ECB and the ECB for each system console.

When CICS is initialized, an EXTRACT macro is executed to obtain the job name and point to the MVS communication ECB and the first CIB; all these are stored in the TCT prefix.

DFHZCP contains two modules, DFHZCNA and DFHZCNR, which perform system console support.

DFHZCNA is used to:

- Resume a task on completion of a terminal event for the task
- Attach a task to satisfy a request for transaction initiation by a MODIFY command
- Attach a task (AVAIL) requested by automatic transaction initiation (ATI)
- Detach a terminal from a task when the task has completed
- Shut down console support when CICS is quiescing.

DFHZCNR is used to:

- Issue WTO macros for application program WRITE requests
- Issue WTO and WTOR macros for application program CONVERSE or (WRITE,READ) requests
- Issue a WTOR macro with message DFH4200 for application program READ requests.

Console support control modules

DFHZDSP calls DFHZCNA to scan the consoles for any activity.

DFHZCNA checks whether any task is suspended because it is waiting for a terminal event, for example, a READ, and, if the event is completed, resumes that task before starting any new task. This is done by scanning the CCE chain for ECBs that have been posted by MVS.

When a MODIFY command is executed, the communication ECB is posted complete and a CIB for the command is added to the end of the CIB chain. DFHZCNA processes the CIB chain in first-in, first-out order. For each CIB, DFHZCNA searches the CCE chain for the console. With MVS/ESA SP 4.1 (or later), the search is on console name; otherwise, the search is on console ID.

The task is then attached if the ‘task pending’ flag in the CCE is not set by a preceding CIB in the chain. In the course of scanning the CIB chain, DFHZCNA may find a MODIFY command that requires a task to be attached, but cannot attach the task immediately because there is already a task active, or there is an outstanding error condition to clear. DFHZCNA therefore sets the ‘task pending’ flag in the CCE to remember the existence of the CIB. During the CIB chain scan, the condition preventing the task attach might clear, and a subsequent CIB might be selected for attach. However, the ‘task pending’ flag prevents this, and ensures that CIBs are processed in order. All ‘task pending’ flags are reset before each CIB chain scan.

If the task is to be attached, DFHZCNA obtains a TIOA and moves the data from the CIB to the TIOA. DFHZATT is then called to attach the task. If the attach fails, the TIOA is freed. A QEDIT macro frees the CIB if the attach is successful, and the scan continues.

When a transaction is automatically initiated and DFHKCP schedules the transaction for a terminal which is a console, a flag is set in the CCE by DFHZLOC. After DFHZCNA has completed scanning the CIB chain, it checks that the console does not have a task already attached and there is not a CIB on the chain for the console; if both these conditions are satisfied, the task is attached.

DFHZCNA issues a QEDIT macro to prevent any more MODIFY commands being accepted when CICS is shutting down. Any MODIFY commands on the CIB chain after shutdown has been started are processed. When other access methods have been quiesced, and there are no tasks attached for a console, console support is shut down.

If a console not defined to CICS is used to enter a MODIFY command, DFHZCNA sets up an error code and links to DFHACP to issue the error message. This is done using the TCTTE for the error console, CERR.

DFHZCNR sends terminal control requests from an application program to a specific system console by issuing WTO and WTOR macros. It is called by DFHZARQ.

For a WRITE request, DFHZCNR executes either a single WTO macro, or one or more multiline WTO macros, depending on the amount of data specified for the request.

For a READ request, DFHZCNR acquires a TIOA for the reply area and executes a WTOR macro with a CICS-supplied message, DFH4200. This message requests the operator to reply, and the transaction waits for this reply.

For a CONVERSE or (WRITE,READ) request, DFHZCNR acquires a TIOA for the reply area and executes a WTOR macro with the data specified for the WRITE. If there is any data remaining, DFHZCNR then executes either a single WTO macro, or one or more multiline WTO macros, depending on the amount of data. The transaction then waits until the operator replies to this request.

Defining terminals to CICS

Terminal definitions are created as CSD records or DFHTCT macros (non-VTAM only) and then installed in (added to) the terminal control table (TCT) as TCT terminal entries (TCTTEs).

When a cold start is performed, CICS obtains its TCT entries from DFHTCT macros or from groups of resource definitions in the CSD file, which are named in the GRPLIST system initialization parameter. These are recorded in the CICS catalog.

When a warm start is performed, CICS obtains the definitions from the DFHTCT macros and from the CICS catalog; the GRPLIST is ignored.

On emergency restart, CICS obtains the definitions from the DFHTCT macros and from the CICS catalog; the GRPLIST is ignored. Then CICS re-applies any in-flight TCT updates using information from the system log.

During CICS execution, TCT entries can be added as follows:

- By using the CEDA INSTALL command
- By the autoinstall process when an unknown terminal logs on
- By the transaction routing component when a TCT entry is shipped from a terminal-owning to an application-owning region.
- By using the EXEC CICS CREATE command

During CICS execution, TCT entries can be deleted as follows:

- By using the EXEC CICS DISCARD command
- By the autoinstall process when an autoinstalled terminal logs off or has been logged for a period.
- By the transaction routing component when a TCT entry has been unused for a period.
- Using the CEDA INSTALL, EXEC CICS CREATE, transaction routing, or autoinstall processes to replace the old entry.

Figure 85 on page 454 shows the terminal control table (TCT).

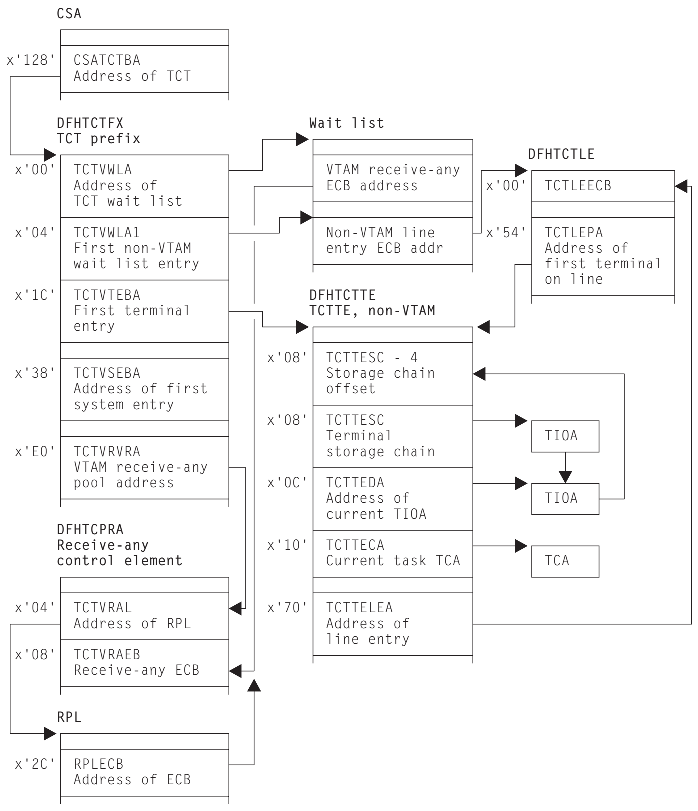


Figure 85. Terminal control table (TCT)

DFHZCQ

DFHZCQ installs, deletes, catalogs, uncatalogs, recovers, and inquires on terminals. Entries are installed in and deleted from the terminal control table by DFHZCQ. DFHZCQ is called by the following modules:

DFHAMTP
For the CEDA transaction and EXEC CICS CREATE, to install TCT entries

DFHEIQSC
For EXEC CICS DISCARD CONNECTION, to discard a connection.

DFHEIQST
For EXEC CICS DISCARD TERMINAL, to discard a terminal.

DFHTBSS
During CICS initialization, to restore terminal definitions at warm or emergency restart

DFHZATA
The autoinstall program

DFHZATD
The autoinstall delete program

DFHZATS
When a TCT entry is shipped, installed, or deleted for transaction routing

DFHZTSP
When a transaction route request is received to recatalog the connection if certain characteristics have changed.

DFHQRY
When the QUERY function is used to discover the actual characteristics of a device, complete the TCT entry, and recatalog the resulting TCTTE

DFHWKP
The warm keypoint program, to record information for RDO-eligible terminals in the CICS catalog, and to uncatalog autoinstalled entries.

DFHZCQ calls the table builder services (TBS) modules which in turn, call the appropriate DFHBSxxx modules to build the TCTTE for the input parameters. DFHZCQ is heavily dependent on the module that calls it to supply the complete set of parameters to be used to create the TCTTE; DFHZCQ itself is not responsible for determining parameters for the TCTTE.

DFHBS* builder programs

DFHZCQ calls the builder programs, whose names all begin DFHBS. These **builders** are responsible for creating TCTTEs. The parameters given to DFHZCQ are passed on to the builders, which extract the parameters and set the relevant fields in the TCTTE.

For further information about builders, see Chapter 6, “Builders,” on page 61.

Contents of the TCT

The TCT describes the logical units (LUs) known to CICS. Each active LU is represented by a terminal control table terminal entry (TCTTE). The TCT does not describe the network configuration; it describes the CICS logical viewpoint of the network.

The TCT contains pointers to these VTAM-related control blocks:

- Access method control block (ACB)— Link an application program, such as CICS, to VTAM
- Receive-any control blocks (RA-RPL, RA-ECB, RACE)— Process initial transaction input
- Node initialization block (NIB) descriptors and bind-area models— Used during logon processing
- TCTTEs— Describe the logical units known to CICS
- ACB and RPL exit lists— Point to the VTAM exit routines.

TCT indexing(DFHZGTI and DFHZLOC)

There are two types of requests that can be used in CICS to locate terminal entries:

1. DFHZGTI calls
2. and DFHTC CTYPE=LOCATE calls

Both these modules use DFHTM calls to a variety of indexes and chains to locate terminal entries in the TCT with efficiency.

The DFHZGTI module has the following call types:

Locate Find a TCT entry in the given ‘domain’ which matches the name

GetStart
Obtain a browse token for Getnexts.

GetFirst
Find the first entry that matches the name in the given domain.

GetNext
: Find the next entry that matches the name in the given domain.

GetEnd
: Release the browse token

Release
: Unlock an entry

Callers can decide to have an entry returned as locked or unlocked.

In DFHZGTI the total TCT is carved up into 'domains' A TCT entry can reside in several domains depending on its type. Callers to DFHZGTI specify one domain on a call and are returned one entry that fits the name (or partial name) that is supplied. DFHZGTI calls can be for the following domains:

Terminal by termid
: All terminals (local, remote, non-vtam) by the terminal id (4-char).

Session by termid
: All sessions (VTAM, MRO, remote) by the terminal id (4-char).

Global by termid
: All terminal and all sessions by the terminal id (4-char).

System by sysid
: All connections (local, remote) by the sysid (4-char)

MRO system by sysid
: MRO connections by sysid (4-char).

LU61 system by sysid
: LU61 connections by sysid(4-char).

REMDEL system by sysid
: Systems that need REMDEL sent to them (because they do not support timeout) when a local entry is deleted by sysid (4-char).

Terminal by netname
: VTAM local terminals by the netname (8-char).

System by netname
: All connections (local, remote) by the netname (8-char).

Remote terminal by netname
: Remote terminals by the netname (8-char).

Global by netname
: Terminals, remote terminals and sessions by the netname (8-char).

Remote by Unique
: All remote terminals and remote connections by the unique name that is Terminal-Owning-Region (TOR) netname, followed by a period, followed by the termid or sysid in the TOR. (13-char).

Remote terminal by Rsysid
: Remote terminals by the value of REMOTESYSTEM (4-char).

Remote system by Rsysid
: Remote connections by the value of REMOTESYSTEM (4-char).

Indirect system by Rsysid
: Indirect connections by the value of REMOTESYSTEM (4-char).

Generic system by mbrname
: Generic connections by the member-name of the connection in the generic VTAM resource (8-char).

DFHTC CTYPE=LOCATE calls are processed by DFHZLOC. DFHZLOC does not have access to as wide a range of domains as DFHZGTI, but it provides extra facilities such as finding particular types of sessions for a connection. Both DFHZGTI and DFHZLOC can lock TCT entries.

Locks

The table manager program (DFHTMP) is used to locate TCT entries by both DFHZGTI and DFHZLOC. When DFHTMP gives the address of an entry, it notes the address of the calling task, and this has the effect of a shared lock unless the caller asked for the entry not to be locked. All locks are released implicitly at the end of the task.

When a TCT entry is deleted, it must not be in use by another task. This is achieved by issuing the DFHTM QUIESCE macro. Other tasks that issue DFHTM LOCATE for that entry are suspended when they acquire a shared lock. These tasks are resumed when the original task issues a delete (if the commit option is used), or at syncpoint if not.

In addition to TMP read locks, DFHZLOC and DFHZGTI, use update locks which are obtained and released by DFHZGTA. DFHZGTA's involvement in TCT updates is discussed in Chapter 6, "Builders," on page 61. For efficiency, two flags in each TCT entry (one for delete and one for update) are examined before a TCT entry is returned. If either is set, and the request does not ask to see all updates, DFHZGTA is called to determine if the inquiring task holds the lock on the termid or sysid name. If it does, the entry is returned, otherwise the entry is ignored. This hides entries that are being installed or replaced from other parts of CICS until they are ready to be used, without requiring a lock search for each inquiry. The Builders, see Chapter 6, "Builders," on page 61, are responsible for setting and resetting the flags in the TCT entry.

The following sections describe some of the callers of DFHZCQ.

System initialization (DFHTCRP, DFHAPRDR and DFHTBSS)

The DFHTCRP program is responsible for reestablishing TCTTEs that were in existence in the previous CICS run. There are three stages of processing in DFHTCRP:

1. Initialize DFHZCQ and DFHAPRDR, then exit if START=COLD
2. Reestablish TCTTEs recorded in the CICS catalog calling DFHZCQ for each one.
3. Call DFHAPRDR to allow it to proceed and forward-recover in-flight updates to TCTTEs recorded in the system log at emergency restart or XRF takeover.

The DFHAPRDR program is called by DFHTCRP in two phases:

1. To initialize its control blocks.
2. To wait until Recovery Manager has delivered any inflight log records and DFHAPRDR (running on another task) has called DFHTBSS to recover them.

DFHAPRDR is called by Recovery Manager (RM) for each log record that are for UOWs that did not write a Forget record to the system log when CICS failed. It is then called again to denote the end of any such records. On this call DFHAPRDR waits until DFHTCRP has rebuilt the TCT from the catalog, and then calls DFHTBSS to recover each log record (which will update the TCT and catalog). Then it posts DFHTCRP to show that the TCT has recovered and returns to Recovery Manager.

The DFHTBSS program is called by DFHAPRDR with log records for TCT updates that were being written to the catalog when CICS failed. It then calls DFHZCQ to re-install or re-delete the entries that the log records represent.

CEDA INSTALL and EXEC CICS CREATE (DFHAMTP)

When the CEDA INSTALL command is used to install a group of TERMINAL definitions, the flow of control is as follows:

1. DFHAMP processes CEDA and EXEC CICS CREATE commands.
2. DFHAMPIL processes the INSTALL and CREATE commands.
3. DFHAMTP calls DFHTOR and then DFHZCQ.
4. DFHTOR receives as input a partial definition (TERMINAL, TYPETERM, CONNECTION, or SESSIONS), calling one of the DFHTOAxx modules, depending on the type of resource definition:
   - DFHTOAxx adds a partial definition to a BPS. For a terminal device, a complete BPS is built from information from one TYPETERM and one TERMINAL definition; for an ISC or MRO link, a complete BPSes are built from information from one CONNECTION and one (or more) SESSIONS definition(s).
   - DFHTOBPS builds the BPS, calling one of the DFHTRZxP modules to translate the parameter list into BPS format.
5. When DFHTOR has built a complete BPS, it returns it to DFHAMTP, ready to be passed to DFHZCQ.

For additional information about this process, see Chapter 42, “Resource definition online (RDO),” on page 373.

Autoinstall

For information about this process, see Chapter 3, “Autoinstall for terminals, consoles and APPC connections,” on page 15.

QUERY function (DFHQRY)

The QUERY function (DFHQRY) is used to determine the characteristics of IBM 3270 Information Display System devices, and complete the information about a device in the TCTTE. DFHQRY sends a read partition query structured field to the device, and analyzes the response. The TCTTE fields mainly affected are those used by basic mapping support (BMS), such as extended attributes. If QUERY(ALL) or QUERY(COLD) is specified in the terminal definition, DFHQRY is executed before any other transaction is initiated at a terminal. If QUERY(ALL) is specified, this is done after each logon. If QUERY(COLD) is specified, it is only done following the first logon after a cold start. After completing the TCTTE fields, DFHQRY calls DFHZCQ to recatalog the TCTTE.

Control blocks

Figure 86 on page 459 shows the control blocks associated with terminal control.

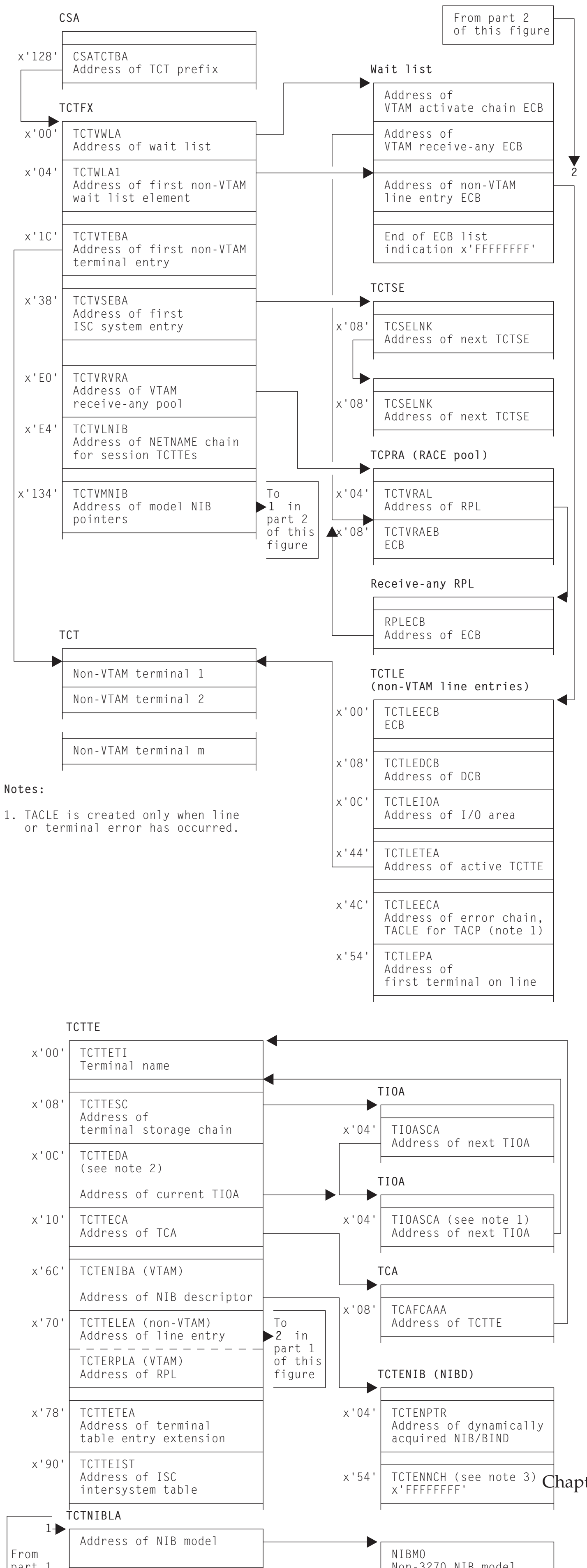

From part 2 of this figure
CSA
x'128' CSATCTBA Address of TCT prefix
Wait list
Address of VTAM activate chain ECB
Address of VTAM receive-any ECB
2
Address of non-VTAM line entry ECB
End of ECB list indication x'FFFFFFFF'
TCTFX
x'00' TCTVWLA Address of wait list
x'04' TCTWLA1 Address of first non-VTAM wait list element
x'1C' TCTVTEBA Address of first non-VTAM terminal entry
x'38' TCTVSEBA Address of first ISC system entry
x'E0' TCTVRVRA Address of VTAM receive-any pool
x'E4' TCTVLNIB Address of NETNAME chain for session TCTTEs
x'134' TCTVMNIB Address of model NIB pointers
To 1 in part 2 of this figure
TCTSE
x'08' TCSELNK Address of next TCTSE
x'08' TCSELNK Address of next TCTSE
TCPRA (RACE pool)
x'04' TCTVRAL Address of RPL
x'08' TCTVRAEB ECB
Receive-any RPL
RPLECB Address of ECB
TCT
Non-VTAM terminal 1
Non-VTAM terminal 2
Non-VTAM terminal m
TCTLE (non-VTAM line entries)
x'00' TCTLEECB ECB
x'08' TCTLEDCB Address of DCB
x'0C' TCTLEIOA Address of I/O area
x'44' TCTLETEA Address of active TCTTE
x'4C' TCTLEECA Address of error chain, TACLE for TACP (note 1)
x'54' TCTLEPA Address of first terminal on line
Notes:
1. TACLE is created only when line or terminal error has occurred.
TCTTE
x'00' TCTTETI Terminal name
x'08' TCTTESC Address of terminal storage chain
x'0C' TCTTEDA (see note 2) Address of current TIOA
x'10' TCTTECA Address of TCA
x'6C' TCTENIBA (VTAM) Address of NIB descriptor
x'70' TCTTELEA (non-VTAM) Address of line entry
TCTERPLA (VTAM) Address of RPL
To 2 in part 1 of this figure
x'78' TCTTETEA Address of terminal table entry extension
x'90' TCTTEIST Address of ISC intersystem table
TIOA
x'04' TIOASCA Address of next TIOA
TIOA
x'04' TIOASCA (see note 1) Address of next TIOA
TCA
x'08' TCAFCAAA Address of TCTTE
TCTENIB (NIBD)
x'04' TCTENPTR Address of dynamically acquired NIB/BIND
x'54' TCTENNCH (see note 3) x'FFFFFFFF'
TCTNIBLA
1
Address of NIB model
From part 1
NIBMO
Non-3270 NIB model

Figure 87 shows the TCTLE and Figure 88 shows the TACLE.

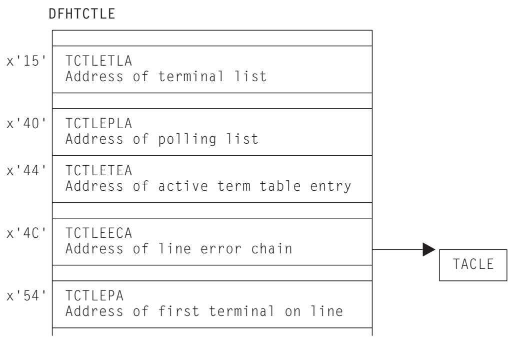


Figure 87. Terminal control table line entry (TCTLE)

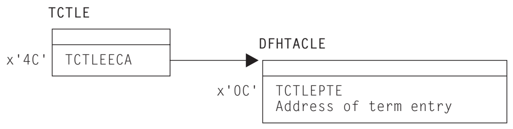


Figure 88. Terminal abnormal condition line entry (TACLE)

Terminal input/output areas (TIOAs) are set up by storage control and chained to the terminal control table terminal entry (TCTTE) as needed for terminal input/output operations. The TCTTE contains the address of the first terminal-type storage area obtained for a task (the beginning of the chain), and the address of the active TIOA.

See *CICS Data Areas* for a detailed description of these control blocks.

Modules

The DFHZCx modules contain CSECTs that issue VTAM macros to perform specific communication functions, and exit routines that are driven by VTAM when network events occur that are related to CICS.

The following is a list of the DFHZCx load modules concerned with terminal control and VTAM management in CICS, together with brief descriptions of their component object modules (CSECTs):

Module	CSECT	Description
DFHZCA	DFHZACT	Activate scan
	DFHZFRE	Freemain
	DFHZGET	Getmain
	DFHZQUE	Queue manager
	DFHZRST	RESETSR request
DFHZCB	DFHZATI	Automatic task initiation
	DFHZDET	Task detach
	DFHZHPSR	Authorized path SRB requests
	DFHZLRP	Logical record presentation
	DFHZRAC	Receive-any completion
	DFHZRAS	Receive-any slowdown processing
	DFHZRVS	Receive specific
	DFHZRVX	Receive specific exit
	DFHZSDR	Send response
	DFHZSDS	Send DFSYN
	DFHZSDX	Send synchronous data exit
	DFHZSSX	Send DFSYN command exit
	DFHZUIX	User input exit
DFHZCC	DFHZARER	Protocol error and exception handler
	DFHZARL	APPC application request logic
	DFHZARM	APPC migration logic
	DFHZARR	Application receive request logic
	DFHZARRA	Application receive buffer support
	DFHZARRC	Classify what next to receive
	DFHZARRF	Receive FMH7 and ER1
	DFHZBKT	Bracket state machine
	DFHZCHS	Chain state machine
	DFHZCNT	Contention state machine
	DFHZCRT	RPL_B state machine
	DFHZRLP	GDS post-VTAM receive logic
	DFHZRLX	GDS receive exit logic
	DFHZRVL	GDS pre-VTAM receive logic
	DFHZSDL	GDS send logic
	DFHZSLX	GDS send exit logic
	DFHZSTAP	Conversation state determination
	DFHZUSR	Conversation state machine
DFHZCP	DFHZARQ	Application request handler
	DFHZATT	Attach routine
	DFHZCNA	MVS console
	DFHZDSP	Dispatcher
	DFHZISP	Allocate/free/point
	DFHZSUP	Startup task
	DFHZUCT	3270 uppercase translate
DFHZCW	DFHZERH	APPC ERP logic
	DFHZEV1	APPC bind security (part 1)
	DFHZEV2	APPC bind security (part 2)
DFHZCX	DFHSNAS	Create signon/sign-off ATI sessions
	DFHSNPU	Preset userid signon/sign-off
	DFHSNSU	Session userid signon/sign-off
	DFHSNTU	Terminal userid signon/sign-off
	DFHSNUS	US domain - local and remote signon
	DFHSNXR	XRF reflecting signon state
	DFHZABD	Abend routine for incorrect requests
	DFHZAND	Build TACB before issuing PC abends
	DFHZCNR	MVS console request
	DFHZIS1	ISC/IRC syncpoint
	DFHZIS2	IRC internal requests
	DFHZLOC	Locate TCTTE and ATI requests
	DFHZSTU	Status changing TCTTEs/LCDs and TCTSEs

Module	CSECT	Description
DFHZCXR	DFHBSXGS	APPC session name generation
	DFHZTSP	Terminal sharing functions
	DFHZXRL	APPC command routing
	DFHZXRT	Routed APPC command handling
DFHZCY	DFHZASX	DFASY exit
	DFHZDST	SNA-ASCII translation
	DFHZLEX	LERAD exit
	DFHZLGX	LOGON exit
	DFHZLTX	LOSTERM exit
	DFHZNSP	Network services exit
	DFHZOPA	Open VTAM ACB
	DFHZRRX	Release request exit
	DFHZRSY1	Resynchronization part 1
	DFHZRSY2	Resynchronization part 2
	DFHZRSY3	Resynchronization part 3
	DFHZRSY4	Resynchronization part 4
	DFHZRSY5	Resynchronization part 5
	DFHZRSY6	Resynchronization part 6
	DFHZSAX	Send command exit
	DFHZSCX	SESSION control input exit
	DFHZSDA	Send command
	DFHZSES	SESSIONC
	DFHZSEX	SESSIONC exit
	DFHZSHU	Shutdown VTAM
	DFHZSIM	SIMLOGON
	DFHZSIX	SIMLOGON exit
	DFHZSKR	Send response to command
	DFHZSLS	SETLOGON start
	DFHZSYN	Handle CTYPE=syncpoint/recover request
	DFHZSYX	SYNAD exit
	DFHZTPX	TPEND exit
	DFHZTRA	Create ZCP/VIO trace requests
	DFHZXPS	APPC persistent session recovery
	DFHZXRC	XRF and persistent sessions state data analysis
DFHZCZ	DFHZCLS	CLSDST
	DFHZCLX	CLSDST exit
	DFHZCRQ	CTYPE command request
	DFHZEMW	Error message writer
	DFHZOPN	OPNDST
	DFHZOPX	OPNDST exit
	DFHZRAQ	Read ahead queuing
	DFHZRAR	Read ahead retrieval
	DFHZTAX	Turnaround exit

Exits

DFHZCB has three global user exit points: XZCIN, XZCOUT, and XZCOUT1.

DFHZCP has one global user exit point: XZCATT.

DFHTCP has the following global user exit points: XTCIN, XTCOUT, XTCATT, XTCTIN, and XTCTOUT.

For further information about these, see the *CICS Customization Guide*.

Trace

The following point IDs are provided for terminal control:

- AP 00E6 (DFHTCP), for which the trace level is TC 2
- AP 00FC (DFHZCP), for which the trace level is TC 1
- AP FBxx, for which the trace levels are TC 1, TC 2 and Exc
- AP FCxx, for which the trace levels are TC 1, TC 2, and Exc
- AP FDxx, for which the trace level is TC 1
- AP FExx (APPC application receive requests), for which the trace levels are TC 2 and Exc.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 57. Terminal error program

The terminal error program (DFHTEP) is invoked by the terminal abnormal condition program (DFHTACP) when an abnormal condition associated with a terminal or line occurs. The terminal error program (TEP) can be either of the following:

- The CICS-supplied sample TEP (DFHXTEP in source code form)
- A user-supplied TEP.

Design overview

The TEP analyzes the cause of the terminal or line error that has been detected by the terminal control program. The CICS-supplied version is designed to attempt basic and generalized recovery actions.

A user-supplied TEP can be used to enable processing to be performed whenever a communication system error is reported to CICS; for example, to analyze the error and accept or override the default actions set by DFHTACP.

When TEP processing is complete, control goes back to DFHTACP.

Note: Communication system errors (non-VTAM) are passed only to DFHTEP—not to the application programs.

Guidance information about TEP coding is given in the *CICS Recovery and Restart Guide*. Reference information about TEP coding is given in the *CICS Customization Guide*.

Modules

DFHTEP

Exits

No global user exit points are provided for this function.

Trace

No trace points are provided specifically for this function; however, DFHTACP provides trace entries immediately before and after calling the terminal error program (see Chapter 55, "Terminal abnormal condition program," on page 437 for further details).

Chapter 58. Trace control macro-compatibility interface

DFHTRP is responsible for handling all requests for trace services that are made by using the routine addressed by CSATRNAC in the CICS common system area (CSA).

Some parts of the CICS AP domain invoke DFHTRP to record trace information. This is achieved by use of the DFHTR, DFHTRACE, or DFHLFM macro.

DFHTRP converts all requests for recording trace entries into TRACE_PUT calls to the trace domain. All requests for changing the various trace flags that control tracing are converted into KEDD format calls to the kernel domain.

Design overview

The input to DFHTRP, set up by the macro used for the invocation or by the calling program directly, consists of the following TCA fields:

TCATRTR
: The trace request byte. The bottom half byte has one of the following values:

2	User trace entry
3	An entry requested via DFHLFM on entry to a LIFO module
4	A system entry requested via DFHTR or DFHTRACE
5	An entry requested via DFHLFM on exit from a LIFO module.

TCATRID
: The trace ID of the entry to be made. This is one byte X'nn'. The resulting trace point ID is AP 00nn.

TCATRF1/TCATRF2
: Two 4-byte fields to appear as FIELD A and FIELD B in the trace entry.

TCATRRSN
: An 8-character field used by some entries to specify a resource name.

The following flags in the TCA and CSA are tested by DFHTRP before making the call to the trace domain (TRACE_PUT function):

CSATRMAS (X'80' bit in CSATRMF1)
: The trace master flag. This is off unless at least one of internal, auxiliary, or GTF trace is active.

TCANOTRC (X'40' bit in TCAFLAGS)
: This is set according to the TRACE (YES|NO) specification on the TRANSACTION definition for the transaction ID used to start this task. It allows suppression of all trace activity for specified transaction IDs.

X'80' bit in TCATRMF
: This is the user entry ‘single’ flag. It allows suppression of user trace entries for the associated task.

The process flow is as follows:

1. Test appropriate flags and exit if trace not required.
2. Execute data collection routine specific to trace ID in TCATRID to set up fields in trace entry.
3. Call TR domain with TRACE_PUT call to write the entry to the active destinations.

4. Invoke the storage violation trap (if this has been activated) by using the CSFE DEBUG transaction, or by using the CHKSTSK or CHKSTRM startup override. See the *CICS Problem Determination Guide* for information about the detection of storage violations.

Modules

DFHTRP

Exits

No global user exit points are provided for this function.

Trace

The following point IDs are provided for trace entries recording “trace on” and “trace off” calls to DFHTRP:

- AP 00FE, for trace turned on
- AP 00FF, for trace turned off.

There are no corresponding trace levels for these point IDs; that is, the trace entries are always produced.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 59. Trace formatting

There are three possible destinations for CICS trace entries:

Internal
To main storage in the CICS region

Auxiliary
To a BSAM data set managed by CICS

GTF To the MVS-defined destination for generalized trace facility (GTF) records.

This section describes the code used to interpret and format CICS trace entries from all of these destinations when they are processed offline.

For more information about using traces in problem determination, see the *CICS Trace Entries*.

In this context, "formatting" is used to mean the overall process of producing a report, suitable for viewing or printing, from trace data in a dump or trace data set. "Interpretation" is the process of taking just the point ID and the data fields from a trace entry and producing a character string describing what the entry represents.

There are four environments for trace formatting:
- Internal trace in transaction dump
- Internal trace in system dump
- Printing auxiliary trace data set
- Printing GTF trace data set or processing GTF records in an SDUMP.

Table 27. CICS trace formatting summary

	Transaction dump printout	**System dump printout**	**Auxiliary trace printout**	**GTF trace printout**
CICS trace type	Internal	Internal	Auxiliary	GTF
Data set	DFHDMPx	SYS1.DUMPnn	DFHxUXT	SYS1.DUMPnn or SYS1.TRACE
Controlling program	DFHDU660	DFHTRDUF	DFHTRPRA	DFHTRPRG
Load module name	DFHDU660	DFHPD660	DFHTU660	AMDUSREF (alias DFHTR660)

Design overview

The controlling program (DFHDU660, DFHTRDUF, DFHTRPRA, or DFHTRPRG) is responsible for acquiring the trace formatting control area (TRFCA), which is used for communication between the different routines.

As far as possible, the necessary code is constructed of routines that can run in all four environments. Subroutines required by the common code that cannot themselves be common (such as the line print subroutine) have their addresses placed in the TRFCA by the controlling program.

The controlling routines are:

DFHDU660
: The dump utility program used to print transaction dumps. Invokes DFHTRFPB for each internal table block.

DFHTRDUF
: The system dump formatting routine for the trace domain. Invokes DFHTRFPB for each internal table block.

DFHTRPRA
: The main routine of the trace utility program DFHTU660 used to print an auxiliary trace data set. Invokes DFHTRFPP to encode selective print parameters. Invokes DFHTRFPB for each auxiliary trace block.

DFHTRPRG
: The main routine of the GTF format appendage for CICS entries (format ID X'EF') AMDUSREF (alias DFHTR660). Invokes DFHTRFPP to encode selective print parameters. Invokes DFHTRFFE for each trace entry.

A noncommon subroutine required in all four environments is:

TRFPRL
: Print a specified character buffer. This is contained in the controlling program.

The common routines required in more than one environment are:

DFHTRFPP
: Process parameters. Passed a character string, encodes the string as selective print parameters into the TRFCA (for DFHTRPRA and DFHTRPRG only). See the *CICS Operations and Utilities Guide* for details of the selective print parameters.

DFHTRFPB
: Process block. Processes a trace block from a dump or auxiliary trace data set, calling DFHTRFFE for each entry in the block.

DFHTRFFE
: Format entry. Passed a trace entry, it calls DFHxxTRI, TRFPRL, and DFHTRFFD to produce the formatted entry.

DFHTRFFD
: Format data. To format and print the trace data fields of a particular entry in hex and character form. Calls TRFPRL to print each line.

DFHxxTRI
: The interpretation routine for the *xx* domain. Builds the interpretation string for a particular entry given the trace point ID and the data fields from the entry. The AP domain routine DFHAPTRI calls one of the interpretation routines DFHAPTRx. Each of these is responsible for a functional component of the AP domain.

DFHTRIB
: The interpretation build program. Adds printable data to the interpretation buffer in the TRFCA as requested by the interpretation routine.

DFHCDCON
: The interpretation of some trace entries requires analysis of domain call parameter lists. Converts a hexadecimal parameter list into a printable list of keywords. If the resulting interpretation string would have been more

than 1024 bytes long if all keywords were included, the warning '<<INTERPRETATION OVERFLOWED>>' is printed with the string.

DFHxxyyT
The data file for an *xxyy* format parameter list that is used by DFHCDCON to translate the hexadecimal parameter list into a printable list of keywords.

The components of the trace formatting function are shown in Figure 89.

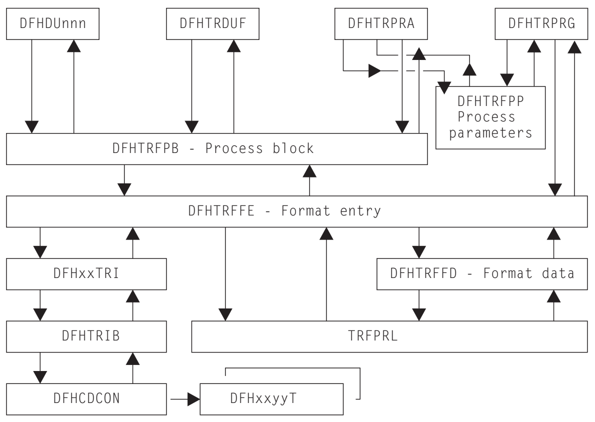


Figure 89. Trace formatting components

Segmented entries on GTF

GTF entries with the CICS format ID X'EF' are written from parts of CICS that run asynchronously with the mainline code, as well as from the trace domain itself. The source of the entry is identified by the type byte in TREN_TYPE in the entry header. See DFHTREN in *CICS Data Areas* for a full description of the trace entry header.

Type	**Source of entry**
00	TR domain
01	not used
02	DFHMNSVC
03	'normal' CICS VTAM exit
04	CICS VTAM LERAD/SYNAD exit
05	CICS VTAM TPEND exit
06	CICS VTAM HPO exit
07	CICS VTAM HPO LERAD/SYNAD exit

For trace formatting, the different types run on different MVS threads. Because CICS entries can be split into several GTF entries due to the 256-byte restriction on GTF entry length, it is possible that header and continuation entries of the different types may be interleaved on the GTF data set. DFHTRPRG allows for this by having 4KB buffers for each type in which it can reconstruct segmented entries. This is made all the more relevant when it is recognized that there could be several CICS regions writing to the GTF data set at the same time. Not only may different types become interleaved, but also records of the same type but from different CICS regions. For each type there can be up to five 4KB buffers for reconstructing the segmented entries to ensure that all the entries for any region are formatted completely and correctly. This makes the segmenting of the entries transparent in a formatted GTF trace, although they appear in order of completion and so may be out of time sequence.

Control blocks

The trace formatting control area (TRFCA) is used as a communication area between the routines that go to make up each of the four trace formatting load modules. See *CICS Data Areas* for details of DFHTRFCA.

Modules

Module	Function
Controlling programs	
DFHDU660	Internal trace in transaction dump
DFHTRDUF	Internal trace in system dump
DFHTRPRA	Auxiliary trace
DFHTRPRG	GTF trace
Common routines	
DFHTRFPB	Process trace block
DFHTRFPP	Process selective print parameters
DFHTRFFE	Format trace entry
DFHTRFFD	Format data from entry
DFHTRIB	Interpretation build routine
DFHCDCON	Parameter list decode routine
Trace interpretation routines	
DFHAPTRA	MRO entries
DFHAPTRB	XRF entries
DFHAPTRC	User exit management entries
DFHAPTRD	DFHAPDM/DFHAPAP entries
DFHAPTRE	Data tables entries
DFHAPTRF	SAA communications and resource recovery entries
DFHAPTRG	ZC exception and VTAM exit entries
DFHAPTRI	Application domain entries (router)
DFHAPTRJ	ZC VTAM interface entries
DFHAPTRL	CICS OS/2 LU2 mirror entries
DFHAPTRN	Autoinstall terminal model manager entries
DFHAPTRO	LU6.2 application request logic entries
DFHAPTRP	Program control entries
DFHAPTRR	Partner resource manager entries
DFHAPTRS	DFHEISR trace entries
DFHAPTRV	DFHSRP trace entires
DFHAPTRW	Front End Programming Interface feature entries
DFHAPTR0	Old-style entries
DFHAPTR2	Statistics entries
DFHAPTR4	Transaction manager entries
DFHAPTR5	File control entries
DFHAPTR6	DBCTL entries
DFHAPTR7	Transaction routing entries
DFHAPTR8	Security entries
DFHAPTR9	Interval control entries
DFHCCTRI	Local and global catalog domain entries
DFHDDTRI	Directory manager entries
DFHDMTRI	Domain manager domain entries
DFHDSTRI	Dispatcher domain entries
DFHDUTRI	Dump domain entries
DFHKETRI	Kernel domain entries
DFHLDTRI	Loader domain entries
DFHLGTRI	Log Manager domain entries

Module	Function
DFHL2TRI	Log Manager domain entries
DFHLMTRI	Lock manager domain entries
DFHMETRI	Message domain entries
DFHMNTRI	Monitoring domain entries
DFHNQTRI	Enqueue domain entries
DFHPATRI	Parameter manager domain entries
DFHPGTRI	Program manager domain entries
DFHRMTRI	Recovery Manager domain entries
DFHSMTRI	Storage manager domain entries
DFHSNTRI	Signon entries
DFHSTTRI	Statistics domain entries
DFHTITRI	Timer domain entries
DFHTRTRI	Trace domain entries
DFHTSITR	Temporary Storage domain entries
DFHUSTRI	User domain entries
DFHXMTRI	Transaction manager domain entries
DFHXSTRI	Security domain entries

Exits

Global user exit points are not applicable to offline utilities.

Chapter 60. Transaction Failure program

The abnormal condition program has been divided into two new programs according to function.

1. **DFHTFP** which is a new program that is invoked after transaction initialization on abnormal termination.
2. **DFHACP** which is invoked by transaction manager whenever an incorrect transaction is detected.

The transaction failure program (DFHTFP) is invoked during transaction abend processing. Its purpose is to reset the status of a terminal attached to the transaction, and to send a message informing the terminal operator that the transaction has abended. It also calls the user-written (or default) program error program (DFHPEP), and writes a message to the CSMT transient data destination.

DFHTFP resolves any abnormal conditions other than those associated with a terminal, or those handled directly by the operating system.

Design overview

Errors can be classified as belonging in either of two broad categories:

1. **DFHTFP**. Task abnormal conditions, which are detected by CICS control programs and are often due to an application program destroying system control information. When this happens, the task is terminated, the program error program (DFHPEP) is called, the terminal operator is, if possible, informed of the error, and the error is logged at destination CSMT. If the transaction has entered syncpoint processing, then DFHPEP is **NOT** called.
2. **DFHACP**. Operator errors, such as incorrect transaction identifiers, security key violations, or failure of an operator to sign on to the system before attempting to communicate with CICS. When any of these happens, the program error program is **NOT** called, the terminal operator is notified, and the error is logged at destination CSMT.

Figure 90 on page 476 and Figure 91 on page 476 show the interfaces between the abnormal condition programs, DFHTFP and DFHACP, and other components when an error has been detected.

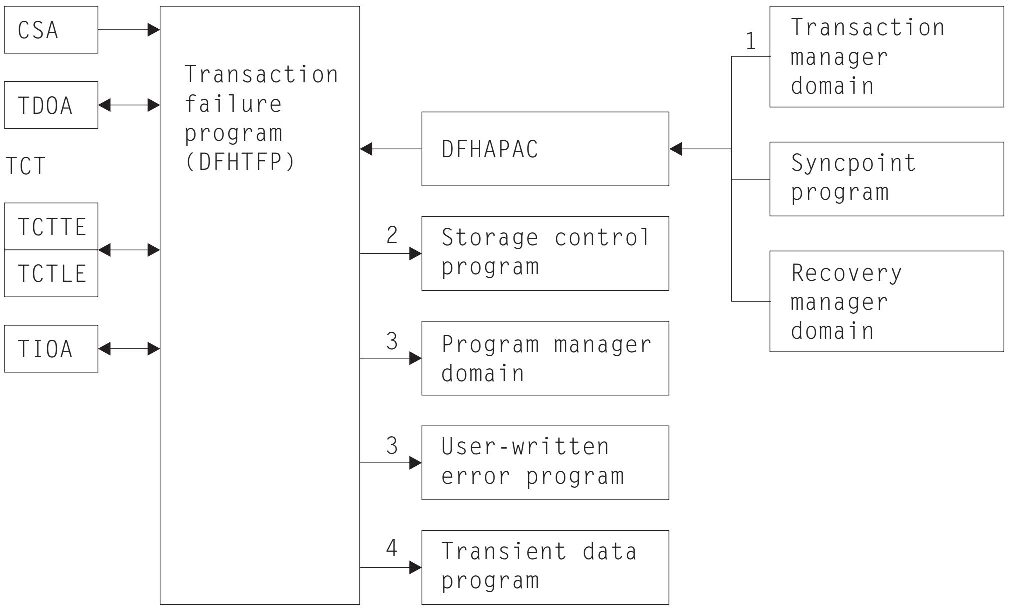


Figure 90. DFHTFP abnormal condition program interfaces

Note:

1. DFHTFP is invoked by transaction manager whenever a task is abnormally terminated. The operator ID for error messages is in the terminal control table terminal entry (TCTTE) at TCTTEOI. DFHTFP returns to transaction manager after the error message has been issued. When a task is abnormally terminated because of a stall purge condition, the stall purge count is increased by one and the transaction identifier (from the installed resource definition) is included in the error message.
2. DFHTFP communicates with storage control to obtain and release terminal input/output areas (TIOAs).
3. DFHTFP links to the user-supplied (or default) program error program by issuing a DFHPGLU LINK_URM domain call, which passes a parameter list via a COMMAREA (mapped in this case by DFHPCOM TYPE=DSECT). Any abend within a DFHPEP program results in control returning to DFHTFP unless there is an active HANDLE ABEND for this program. See Chapter 39, “Program error program,” on page 367 for further information about the DFHPEP program.
4. DFHTFP and DFHACP both write error messages to the transient data destination, CSMT, by calling the message domain.

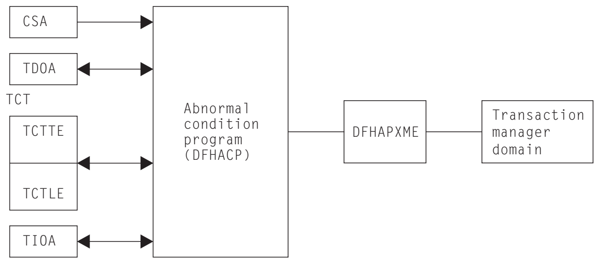

CSA
TDOA
TCT
TCTTE
TCTLE
TIOA
Abnormal condition program (DFHACP)
DFHAPXME
Transaction manager domain

Figure 91. DFHACP abnormal condition program interfaces

Note:

1. DFHACP is invoked by transaction manager whenever an incorrect transaction code is detected.
2. DFHTFP and DFHACP both write error messages to the transient data destination, CSMT, by calling the message domain.

Modules

DFHTFP, DFHACP, DFHAPAC, and DFHAPXME

Exits

No global user exit points are provided for this function.

Trace

The following point ID is provided for the abnormal condition program:

- AP 00DC, for which the trace level is AP 1.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 61. Transaction restart program

The transaction restart program, DFHREST, is a user-replaceable program that helps you to determine whether or not a transaction is restarted. The default version of DFHREST requests a transaction restart under certain conditions; for example, if a program isolation deadlock occurs (that is, when two tasks each wait for the other to release a particular DL/I database segment), one of the tasks is backed out and automatically restarted, and the other is allowed to complete its update.

For further information about the transaction restart program, see the *CICS Recovery and Restart Guide*. For information about how to provide your own code for DFHREST, see the *CICS Customization Guide*.

Design overview

In the creation of the program control table (PCT), the system programmer can designate selected transactions as **restartable**.

During the execution of any transaction, certain temporary-storage data, intrapartition destinations, and files are protected for dynamic backout. In addition, for a restartable transaction, the following actions take place:

- Any terminal input/output area (TIOA), command-level communication area, or terminal user area existing at task initiation is copied to the dynamic log.
- Interval control automatic initiate descriptors (AIDs) used in the task are preserved by means of deferred work elements (DWEs) until the next syncpoint.
- Data is maintained to show:
  - What terminal traffic has occurred during the task
  - Whether a syncpoint has been passed
  - Whether or not the current activation of the task is the result of a restart.

If a transaction abends, but before backout has been attempted, DFHREST may be invoked to decide whether or not the task is to be restarted. Even if DFHREST decides that the transaction can be restarted, CICS may overrule the restart, for example because of a transaction backout failure.

DFHREST is invoked by DFHXMTA passing a parameter list via a COMMAREA that is mapped by the DFHXMRSD DSECT. DFHREST should return to DFHXMTA, indicating whether or not the transaction should be restarted. If DFHREST requests a restart, and CICS does not overrule this decision, the principal facility is not released and the principal facility owner reattaches a new task to restart the transaction.

Note:

1. DFHREST can invoke CICS facilities such as file control and transient data, via the command-level interface.
2. If an error occurs while linking to, or in, the transaction restart program, the restart is not attempted for this task.
3. DFHREST runs before backout.

Control blocks

CICS supplies a description of the transaction restart program commarea, in Assembler-language, COBOL, PL/I, and C, which maps the layout of the parameter list passed between DFHXMTA and DFHREST. The parameter list contains information that helps you code your own version of DFHREST to determine whether a restart should be requested for a task.

For a detailed description of this control block, see *CICS Data Areas*.

Modules

DFHREST is a skeleton user-replaceable program that you can modify.

Exits

Global user exit points are not relevant for this function.

Trace

Trace point IDs are not relevant for this function.

Transaction Restart Statistics

CICS keeps a count of the number of times that each transaction has been restarted.

Chapter 62. Transaction routing

Transaction routing allows one CICS system to run a transaction in another CICS system. The transaction routing facility enables a terminal operator to enter a CICS transaction code into a terminal attached to one CICS system, and thereby start a transaction on another CICS system in a different address space in the same processing system or in another system.

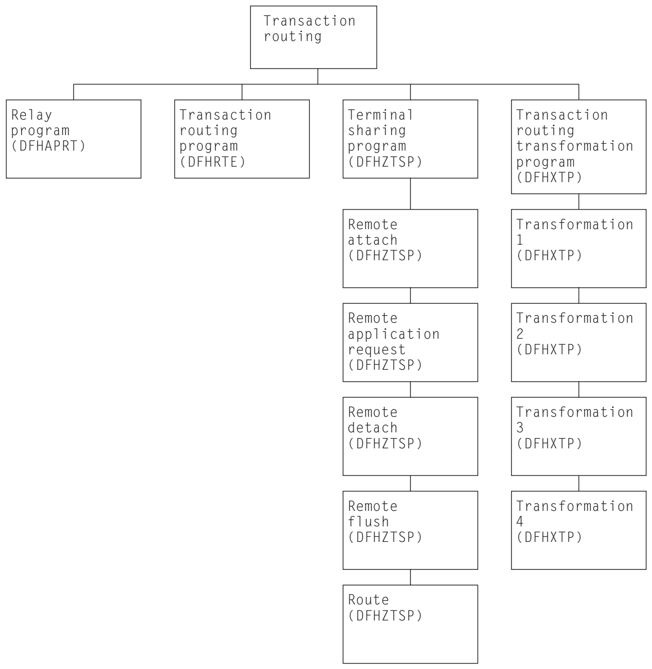
There are two cases of transaction routing:
- Advanced program-to-program communications (APPC); that is, LU6.2
- Non-APPC (for example, LU2).

APPC transaction routing makes use of much of the non-APPC function, and there is often considerable overlap between the function provided by modules for each of the two cases.

The *CICS Intercommunication Guide* gives a detailed description of transaction routing.

Design overview

Figure 92 shows the overall design of this component.
CICS executes the CICS relay program DFHAPRT (which invokes the



Transaction routing
Relay program (DFHAPRT)
Transaction routing program (DFHRTE)
Terminal sharing program (DFHZTSP)
Transaction routing transformation program (DFHXTP)
Remote attach (DFHZTSP)
Remote application request (DFHZTSP)
Remote detach (DFHZTSP)
Remote flush (DFHZTSP)
Route (DFHZTSP)
Transformation 1 (DFHXTP)
Transformation 2 (DFHXTP)
Transformation 3 (DFHXTP)
Transformation 4 (DFHXTP)

Figure 92. Transaction routing

user-replaceable dynamic transaction routing program) as follows:
- When a transaction defined with the value DYNAMIC(YES) is initiated.

- When a transaction definition is not found and CICS uses the special transaction defined on the DTRTRAN system initialization parameter. (For more information about DTRTRAN, see the *CICS System Definition Guide*.)
- Before routing a remote, terminal-oriented, transaction initiated by ATI.
- If an error occurs in route selection.
- At the end of a routed transaction, if the initial invocation requests re-invocation at termination.

If CICS has been generated with the appropriate options for intercommunication, the initialization of CICS with the ISC=YES system initialization parameter specified causes the following modules to be loaded:
- DFHXTP (transaction routing data transformation program)
- DFHZCXR (which includes the DFHZTSP CSECT, the terminal sharing program).

The entry point addresses of these modules are contained in the optional features list that is addressed by CSAOPFLA in the CSA.

The rest of this section is mainly concerned with APPC transaction routing, which occurs when an APPC device is linked through an LU6.2 session to a transaction that is defined as remote.

Overview of operation in the application-owning region for APPC transaction routing

Figure 93 on page 483 shows the modules in the application-owning region for transaction routing for APPC devices.

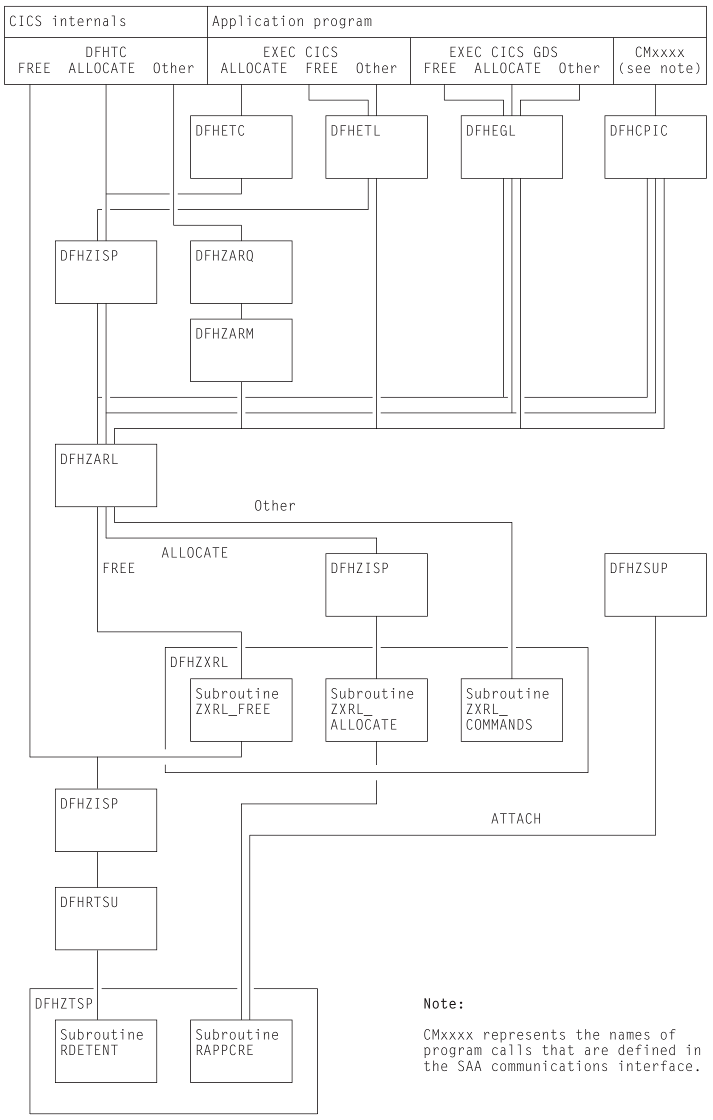


Figure 93. Transaction routing for APPC devices: modules in the application-owning region

APPC control blocks

A remote APPC device is defined in the application-owning region with a remote terminal control table system entry (or remote system entry). There are no TCT mode entries or session TCTTE entries associated with the remote system entry when it is defined.

A session with the remote APPC device is represented by a surrogate session TCTTE (or surrogate session entry). The surrogate is built dynamically when the conversation between the systems is initiated, and is deleted when the conversation terminates.

Figure 94 on page 484 shows the way in which the TCT entries are related.

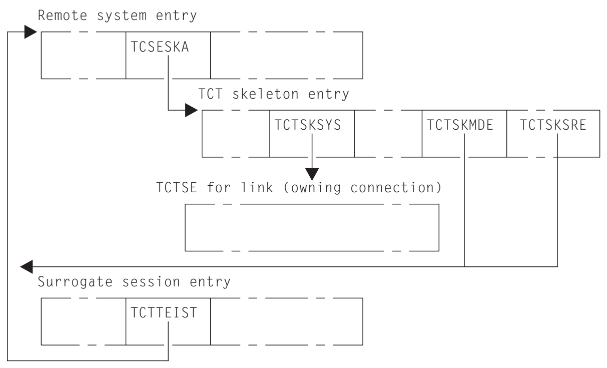


Figure 94. Transaction routing for APPC devices: TCT control-block structure in the application-owning region

Remote system entry: The remote system entry is similar to a normal system entry and, together with the TCT skeleton entry, also includes the following information:

- SYSIDNT of the terminal-owning region (TCTSKSYS)
- SYSIDNT of remote APPC device (local name) (TCTSKID)
- REMOTENAME of APPC device (SYSIDNT on terminal-owning region) (TCTSKHID)
- NETNAME of remote APPC device (TCSESID).

The remote system entry may be defined explicitly with CEDA DEFINE and INSTALL commands.

Alternatively, it is installed dynamically when the first transaction is routed from the remote APPC device. In this case, all data required to build the system entry is included in the initial ATTACH data stream from the application-owning region. No INQUIRE or INSTALL data is sent.

The remote system entry is recorded on the catalog and recovered after warm start and restart. It is located by TMP in the REMOTE domain and SYSTEM domain.

Surrogate session entry: The session between the terminal-owning region and the APPC device is represented in the application-owning region by a surrogate session entry.

The surrogate session entry is used to support the routing of commands to the APPC device, and to record security and status information for the conversation.

A surrogate session entry cannot be defined by the user; instead it is created when the conversation is initiated (by an ATTACH request from the APPC device, or an ALLOCATE request from the application-owning region), and is deleted when the conversation ends.

The surrogate session entry is not recorded on the catalog, is not accessible via TC LOCATE, and does not have an entry in the TMP index. It is not recovered after warm start or restart.

CEMT and EXEC CICS INQUIRE or SET commands cannot be used to modify a remote system entry.

DFHZXRL

This module forms a principal part of the transaction routing component for APPC devices. It passes DFHLUC macro requests issued in an application-owning region to the terminal-owning region.

All DFHLUC macro requests cause DFHZARL to be invoked. DFHZARL passes a request to DFHZXRL if the TCTTE address passed is for a surrogate session, and the request is one that DFHZXRL is known to handle (apart from ALLOCATE). ALLOCATE requests are always routed from DFHZARL to DFHZISP. DFHZISP is then responsible for calling DFHZXRL if the system from which a session is to be allocated is found to be remote. Table 28 summarizes this and shows which of the three main routines in DFHZXRL is called. ZXRL_ALLOCATE, ZXRL_COMMANDS, and ZXRL_FREE are described in "ALLOCATE processing in the application-owning region" on page 487, "Other LU6.2 command processing in the application-owning region" on page 489, and "FREE processing in the application-owning region" on page 488 respectively.

Table 28. DFHZXRL's processing of DFHLUC requests

DFHLUC request	DFHZXRL's caller	DFHZXRL routine called
ALLOCATE	DFHZISP	ZXRL_ALLOCATE
ISSUE-ABEND ISSUE-ATTACH ISSUE-CONFIRMATION ISSUE-ERROR ISSUE-SIGNAL RECEIVE SEND WAIT EXTRACT-PROCESS	DFHZARL	ZXRL_COMMANDS
FREE	DFHZARL	ZXRL_FREE

The input and output for DFHZXRL is provided by means of the LUC parameter list, that is, the parameter list which is built by the DFHLUC macro. DFHZARL passes the LUC parameter list to DFHZXRL unaltered. If the LUC parameter list previously contained only the SYSID name, DFHZISP adds the address of the remote system entry to the LUC parameter list before passing it to DFHZXRL.

DFHZXRL calls routine RAPPCRE of DFHZTSP to build the surrogate TCTTE representing the session with the APPC device, and DFHZISP calls routine RDETENT to free it.

ATTACH processing in the application-owning region

The following describes how a transaction is attached in the application-owning region when the attach request has been routed from the terminal-owning region.

DFHZSUP module:

1. Issues DFHSEC TYPE=CHECK,RESTYPE=TRAN to validate transaction security against the security values associated with the intersystem link at bind time.
2. Processes the incoming attach FMH5.

   For an LU6.2 ISC connection:

   - Sets the TCTTE to indicate a mapped or unmapped conversation.
   - Validates synclevel requested in FMH5 against the value negotiated at bind time.

- Moves the TPN from the FMH5 to the TCA extension.
- Performs attach-time security processing, as defined by the ATTACHSEC parameter in the resource definition for the LUC CONNECTION to the terminal-owning region. This may change the security values associated with the link from the bind-time established values that were checked in step 1 on page 485) to user-level values, obtained from the SNT for a userid specified in the FMH5.

For an MRO connection:

- Issues DFHZIRCT FN=ZSUP to extract the USERID and UOW-ID from the LU6.2 style FMH5.
- Performs attach-time security processing, as defined by the ATTACHSEC parameter in the resource definition for the LUC CONNECTION to the terminal-owning region. This can change the security values associated with the link from the bind-time established values that were checked in step 1 on page 485) to user-level values, obtained from the SNT for a userid specified in the FMH5.
- Deletes the LU6.2-style FMH5 from the front of the data stream.

3. Issues DFHZUSRM TYPE=SET,REQUEST=ATTACH_INBOUND and DFHLUC TYPE=INIT-CALL macros to move input data into a buffer bypassing the FMH5 ATTACH header.
4. PIP processing is bypassed because PIP is never present on an attach from a terminal-owning region when transaction routing.
5. Puts the remaining data into a TIOA with a DFHTC TYPE=(READ,WAIT),NOATNI=YES.
6. Issues a DFHIS TYPE=RATT, to call DFHZTSP to build a surrogate session entry to represent the session TCTTE in the terminal-owning region.
7. Assign the security values established for the link to the surrogate, as preset security values are shipped from the terminal-owning region, and cannot be defined on the application-owning region.

   ATTACH security processing in DFHZSUP has established two SNTTEs associated with the link session:

   a. The SNTTE pointed to by TCTELSNT in the LU6.2 extension or TCTEIRSN for MRO represents link-level security values established at bind time.
   b. The SNTTE pointed to by TCTTESNT represents user-level security values established during ATTACH security processing.

   TCTTESNT is copied to the surrogate TCTTE. No provision is made for preset user security values to override the TCTTESNT value.

   Preset security values defined for the terminal session on the terminal-owning region are processed only on that system, during local attach processing. The SNTTE then associated with the local TCTTE is used to build the routed attach FMH5.

   At transaction end, no SNTTEs addressed by the surrogate are deleted when the surrogate is deleted. This is done, if necessary, as part of the termination of the LINK SESSION.

   Each system in a “daisy chain” imposes its own link security requirements. An intermediate system with a lower level of security would route the ATTACH with lower security (that is, no USERID or verified bit) which could cause it to be rejected by the next system in the chain.
8. Passes control to the requested application program.

DFHZTSP module:

1. Performs initialization housekeeping, checks the link TCTTE and TIOA.
2. Locates remote system entry from the TMP REMOTE domain. If not found, attaches the CITS transaction (DFHZATS) to install it.
3. Builds surrogate session TCTTE.
4. Gets a TIOA and chains it to the surrogate.
5. Issues DFHIS TYPE=XTP,XFNUM=2 to call DFHXTP.
6. Chains surrogate to TCA and Link TCTTE.
7. Copies link operator dispatching priority from the link and establishes dispatching priority for the surrogate.

DETACH processing in the application-owning region

At transaction end, routine RDETENT of DFHZTSP is called to delete the surrogate session entry. The remote system entry is not deleted, and can be used by a subsequent transaction routing request, by an ATI request, or by an ALLOCATE request issued in the application-owning region.

ALLOCATE processing in the application-owning region

A session can be allocated as a result of either of the following macro calls:
- DFHLUC TYPE=ALLOCATE
- DFHTC TYPE=ALLOCATE

The DFHLUC call invokes DFHZARL, which passes control to DFHZISP, the module that handles allocation and freeing of sessions. The DFHTC call invokes DFHZISP directly.

DFHZISP locates the TCTSE for the system identified on the ALLOCATE request.

The request is routed to DFHZXRL if the following conditions hold:
- The system is LU6.2
- The system is remote
- DFHZISP was called as a result of a DFHTC TYPE=ALLOCATE request (which is the case when DFHZISP is called from DFHZARL).

The address of the remote TCTSE is inserted in the parameter list passed to DFHZXRL.

If a Privileged Allocate request is made, the transaction abends, because the request is not permitted for a remote system.

DFHZXRL module: For an ALLOCATE request, control passes to subroutine ZXRL_ALLOCATE which establishes a session between the application-owning region and the alternate facility, and builds a surrogate session TCTTE.

Subroutine ZXRL_ALLOCATE:
1. Checks that the parameter list contains the TCTSE address for the remote LU6.2 system.
2. Obtains the address of the TCTSE of the system to which the LU6.2 commands are to be routed.
3. Allocates a session to the terminal-owning region.

   The connection between the terminal-owning region and application-owning region which supports remote alternate facilities may be an LU6.2 ISC connection or an MRO connection. Subroutine ZXRL_ALLOCATE allocates the session using a DFHTC TYPE=ALLOCATE macro call that can allocate a session on either type of connection.

The default profile DFHCICSR is used; this may specify the modename for an LU6.2 connection. The modename specified on the EXEC CICS ALLOCATE is not used here, but is shipped to the terminal-owning region where it is used to allocate an LU6.2 session between the terminal-owning region and the APPC device.

The queuing option (NOQUEUE|NOSUSPEND) specified on the ALLOCATE request by the caller is used when the DFHTC TYPE=ALLOCATE macro call is issued for the connection. If NOQUEUE is not specified, the request may also be queued when it is issued in the terminal-owning region. If a session failure occurs during this period, the transaction in the application-owning region and the relay transaction in the terminal-owning region abend.

If a session between the application-owning region and terminal-owning region cannot be allocated:

- When the failure is due to CICS logic, corruption of CICS storage, or incorrect resource definition by the user, the transaction abends.
- When the failure is due to other conditions (such as session failure or 'SYSBUSY'), an appropriate return code is passed to the caller.

  The return code is handled so as to minimize the differences between local and remote APPC devices as seen by the user of the DFHLUC interface. The actions available are:

  – Where the condition could be encountered with a local terminal, reflect the return code to the caller in LUCRCOD2 and LUCRCOD3 with LUCESYSI (X'01') in LUCRCOD1.

  – Where the condition would not occur with a local terminal, reflect a different return code to the caller.

4. Issues a DFHIS TYPE=XTP,XFNUM=3 macro call that invokes a stream that is passed to the terminal-owning region.
5. Issues a DFHTC TYPE=(WRITE,WAIT,READ),FMH=YES macro call to send the request to the terminal-owning region and receive the response.
6. Issues a DFHIS TYPE=RALL that invokes DFHZTSP to build a surrogate session TCTTE, then chains the link session TCTTE and the surrogate session TCTTE together.
7. Issues a DFHIS TYPE=XTP,XFNUM=2 macro call that invokes DFHXTP to unwrap the response from the terminal-owning region and update the surrogate session TCTTE and the parameter list created by the DFHLUC macro.
8. Examines the return codes in the response:
   - If the request has been successful, returns the surrogate session TCTTE address to the caller.
   - If the request has not been successful, issues a DFHIS TYPE=RDET macro call to free the surrogate session TCTTE.

FREE processing in the application-owning region

One of the following macro calls is made in the application-owning region to request that a surrogate session TCTTE should be freed:

- DFHLUC TYPE=FREE
- DFHTC TYPE=FREE

The DFHLUC TYPE=FREE call invokes DFHZARL, which passes control to DFHZXRL; and subroutine ZXRL_FREE in DFHZXRL is then called to issue a DFHTC TYPE=FREE request against the surrogate. The DFHTC TYPE=FREE call invokes DFHZISP.

DFHZISP:

1. Bypasses security processing (sign-off) for a surrogate session entry, because the sign-off is performed for the link.
2. Issues the DFHIS TYPE=RDET macro that calls DFHZTSP to free the surrogate and link TCTTEs.

Other LU6.2 command processing in the application-owning region

Most SAA communications calls, EXEC CICS GDS commands, and EXEC CICS commands relating to LU6.2 sessions cause a call to DFHZARL using the DFHLUC macro.

The EXEC CICS SYNCPOINT, EXEC CICS SYNCPOINT ROLLBACK, and EXEC CICS (GDS) ISSUE PREPARE commands are handled under the control of the syncpoint program, which uses DFHLUC macro requests to send syncpoint flows on LU6.2 sessions, and DFHTC macro calls to end any dangling conversations.

DFHTC macro requests: DFHTC macro requests may be issued against surrogate session TCTTEs. Unlike requests for other surrogate TCTTEs, which are passed to DFHZTSP, DFHZARQ handles these requests in the same way as other requests against LU6.2 sessions: they are passed to DFHZARM which in turn calls DFHZARL. Within DFHZARL, requests are handled in a similar way to those initiated by the DFHLUC macro.

DFHLUC requests: DFHLUC requests are passed to DFHZARL: when the session is a surrogate, the request is passed to DFHZXRL (routine ZXRL_COMMANDS).

DFHZXRL module: Input to routine ZXRL_COMMANDS in DFHZXRL is the application command in the form of a DFHLUC macro call parameter list.

1. ZXRL_COMMANDS normally wraps up the command to be shipped and relevant TCTTE fields by calling a transformer routine in DFHXTP.

   However, if the first syncpoint flow has been received, then:

   - Application requests ISSUE-ERROR and ISSUE-ABEND are sent unwrapped on the link session.
   - All other requests are rejected with a state error.
2. ZXRL_COMMANDS tests the state of its link with the terminal-owning region (this may not be the same as the state of the application):

   If it finds that it is in 'RECEIVE' state, it issues a DFHTC TYPE=(READ,WAIT) in order to receive the change direction (CD) indicator from the terminal-owning region. Except during syncpoint processing, however, the session is normally in 'SEND' state when a command is issued.
3. ZXRL_COMMANDS then sends the wrapped-up request to the remote system using the DFHTC macro. To reduce the number of flows when the command may result in the termination of the conversation, the following rules are applied for both MRO and ISC links:
   - If the application command is SEND LAST WAIT and the application program is in 'SEND' state, the command is sent using a DFHTC TYPE=(WRITE,LAST) macro.

- If the application command is WAIT and the application program is in 'FREE PENDING AFTER SEND LAST' state, the command is sent using a DFHTC TYPE=(WRITE,LAST) macro.
- If the end bracket (EB) indicator has been sent to the terminal-owning region all other commands result in a state error return code.

   In other cases and when the link between the terminal-owning region and application-owning region is MRO, ZXRL_COMMANDS issues a DFHTC TYPE=(WRITE,WAIT,READ).

   However, when the link is LU6.2, the following additional rules are applied in order to exploit the buffering provided by LU6.2:

- When the application's command is a SEND and the application is in 'SEND' state ZXRL_COMMANDS, issues a DFHTC TYPE=(WRITE,WAIT) macro to send the request without waiting for a response.
- When the application's command is a SEND and the application is not in 'SEND' state ZXRL_COMMANDS, issues a DFHTC TYPE=(WRITE,WAIT,READ) so that it can get the state error back from the remote system immediately.
- For all other commands, including SEND INVITE and so on, ZXRL_COMMANDS issues a DFHTC TYPE=(WRITE,WAIT,READ).

4. ZXRL_COMMANDS receives the response to its DFHTC macro call. This may be:
   - An ATNI or ATND abend. ZXRL_COMMANDS frees the link session and returns 'TERMERR' to the application.
   - 'SIGNAL', which is used by the terminal-owning region when it is in 'RECEIVE' state to indicate to the application-owning region that there is an abnormal response pending.

     ZXRL_COMMANDS issues a DFHTC TYPE=(WRITE,WAIT,READ) to send the change direction indicator and get the abnormal response from the terminal-owning region.
5. When the DFHTC macro included a READ, and the request was succesfully processed, ZXRL_COMMANDS checks for a wrapped reply from the terminal-owning region, and calls DFHXTP to unwrap the reply. When the resulting DFHLUC parameter list indicates SYNCPOINT or SYNCPOINT ROLLBACK, and the link is an MRO connection, ZXRL_COMMANDS issues a DFHTC TYPE=READ, because there is a SYNCPOINT or ROLLBACK flow pending.

   When there is no wrapped reply, ZXRL_COMMANDS checks for SYNCPOINT ROLLBACK received (the only possibility under these circumstances).

LU6.2 daisy-chaining considerations

There is no special-case code to distinguish between the terminal-owning region and an intermediate system. When DFHZXRT has interpreted a request received from the application-owning region, it issues the LU6.2 service request (DFHLUC) macro call with the parameter list that was created in the application-owning region. The macro generates a call to DFHZARL. If the TCTTE is a surrogate, which is the case in an intermediate system, control passes to DFHZXRL as described above.

Overview of operation in the terminal-owning region for APPC transaction routing

Figure 95 shows the modules in the terminal-owning region for transaction routing for APPC devices.

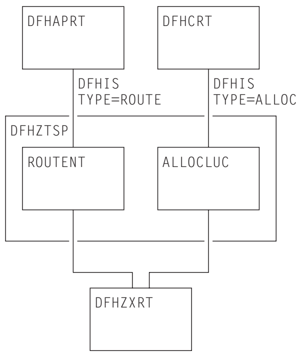


Figure 95. Transaction routing for APPC devices: Modules in the terminal-owning region

In the terminal-owning region, operation is under the control of a relay program. When transaction routing is initiated from the APPC device, the relay program is DFHAPRT (which is also used for non-APPC devices). When transaction routing is initiated by an ALLOCATE request in the application-owning region, the relay program is DFHCRT. Both relay programs call DFHZTSP, which calls DFHZXRT.

When an APPC device initiates a conversation with an application in the application-owning region, relay program DFHAPRT is started in the terminal-owning region. It calls the ROUTENT routine of DFHZTSP, which allocates a session to the application-owning region and starts the requested transaction there (see "ATTACH processing in the terminal-owning region").

When an application running in the application-owning region initiates a conversation with a remote APPC device by issuing an ALLOCATE request, the DFHCRT relay program is started in the terminal-owning region. It calls the ALLOCLUC routine of DFHZTSP which allocates a session to the APPC device (see Chapter 39, "Program error program," on page 367).

After a conversation has been started by either method, the LU6.2 commands passed from the application-owning region are processed by DFHZXRT, which issues the LU6.2 service request (DFHLUC) macro with an appropriate parameter list against the APPC device.

ATTACH processing in the terminal-owning region

The following flow describes the steps involved in routing a transaction from an APPC device across an LU6.2 intersystem link.

DFHZSUP module:

1. Processes the incoming FMH5 from the terminal. This:
   - Sets TCTTE to indicate mapped or unmapped conversation.
   - Validates synclevel requested in FMH5 against the value negotiated at bind time.
   - Moves the TPN from the FMH5 to the TCA extension.

- Performs attach-time security processing, as defined by the ATTACHSEC parameter in the resource definition for the APPC device (or CONNECTION). This may change the security values associated with the terminal from the default link-level values to user-level values, obtained from the SNT for a user who is signed on.

2. Checks transaction security code against new security levels developed during ATTACH security processing above.
3. Issues DFHSEC TYPE=CHECK,RESTYPE=TRAN to validate transaction security against the security values associated with the terminal (and with the user, if signed on).
4. Issues DFHZUSRM TYPE=SET,REQUEST=ATTACH_INBOUND and DFHLUC TYPE=INIT-CALL macros to move input data into a buffer bypassing the FMH5 ATTACH header.
5. If PIP is present, builds a new TCA extension and moves the PIP data into it by issuing a DFHLUC TYPE=RECEIVE (which also causes the PIP data to be deleted from the buffer).
6. Puts remaining mapped data into a TIOA with a DFHTC TYPE=(READ,WAIT),NOATNI=YES.
7. Issues DFHPC TYPE=XCTL to the relay program DFHAPRT.

DFHAPRT module:

1. Drives the dynamic routing exit if the transaction has been defined as dynamic.
2. Sets up the DFHISCRQ parameter list with remote sysid and tranid.
3. Recognizes that the principal facility is an APPC device.
4. Issues DFHIS macro to invoke DFHZTSP.

DFHZTSP module:

1. If the transaction has been defined with an associated TRPROF, the profile named is located with a DFHKC CTYPE=PROFLOC; otherwise the default DFHCICSS profile is used.
2. Issues DFHTC TYPE=ALLOCATE,REQUID=CSRR to allocate a session to the remote system using the profile identified in step 1.
3. Flags the returned TCTTE as a relay link and puts the remote sysid into TCTESYID in the terminal TCTTE. If the LINK TCTTE status is 'COLD', issues DFHTC CTYPE=CATALOG.
4. Sets up the transformer parameter list (DFHXTSTG) to indicate ATTACH FMH5 required, COLD or not COLD, and transaction routing for an APPC device, passing the tranid, user TCTTE, and link TCTTE.
5. Issues DFHIS TYPE=XTP,XFNUM=1 to call the transformer program, DFHXTP, to build the data. (See "Transformer program (DFHXTP)" on page 495.)
6. Issues DFHTC TYPE=(WRITE,WAIT,READ) against the link to route the ATTACH request to the application-owning region. This causes DFHZARM (when the link is ISC) or DFHZIS2 (when the link is MRO) to add an LU6.2 FMH5 preceding the LU6.1 FHM5 built by XTP. This contains security data required to validate the request at the application-owning region.

ALLOCATE processing in the terminal-owning region

DFHCRT module: Transaction CXRT (program DFHCRT) is started in the terminal-owning region when the attach FMH5 is received from the application-owning region

Program DFHCRT:

1. Checks that the principal facility of the task is an ISC or MRO session.

   If not, and if it is a terminal, a message is written to the facility, and the transaction terminates.
2. Issues DFHIS TYPE=ALLOC macro which calls DFHZTSP.

DFHZTSP module: The ALLOCLUC routine of DFHZTSP is invoked when the DFHIS TYPE=ALLOC macro is issued. This routine is called with input from the application-owning region in a TIOA.

Routine ALLOCLUC:

1. Issues DFHIS TYPE=XTP,XFNUM=4 which updates the TCTTE and builds a parameter list of the type created by the DFHLUC macro.
2. Verifies that the parameter list contains an ALLOCATE request (the only valid request at this stage). If it does not, the transaction abends.
3. Issues a DFHLUC MF=E macro with the supplied parameter list.
4. If the request is successful, DFHZTSP:
   a. Issues DFHIS TYPE=XTP,XFNUM=1 which wraps the updated TCTTE and DFHLUC parameter list ready for transmission to the application-owning region.
   b. Issues a DFHTC TYPE=(WRITE,WAIT,READ) against the session with the application-owning region.
   c. Passes control to DFHZXRT. The TIOA received with the preceding DFHTC request should contain data for one of the requests that DFHZXRT handles.
5. If the request is unsuccessful, DFHZTSP:
   - Issues DFHIS TYPE=XTP,XFNUM=1 which wraps the updated TCTTE and DFHLUC parameter list ready for transmission to the application-owning region.
   - Issues DFHTC TYPE=(WRITE,LAST) to send the response to the application-owning region.
   - Frees the session with the application-owning region.

FREE processing in the terminal-owning region

When an end-bracket has flowed from the application-owning region to the terminal-owning region as a result of an application command (for example, EXEC CICS SEND LAST), and the corresponding command has been issued in the terminal-owning region against the terminal, DFHZXRT issues a DFHLUC TYPE=FREE macro against the terminal, and a DFHTC TYPE=FREE macro against the link to the application-owning region.

Other LU6.2 command processing in the terminal-owning region

DFHZXRT is called by DFHZTSP following a DFHTC TYPE=(WRITE,WAIT,READ) macro. The reply received from the application-owning region is processed as follows:

1. If an application request has been received, DFHZXRT:
   - Calls DFHXTP to unwrap the application program's request
   - Issues the DFHLUC macro call with the parameter list created in the application-owning region
   - Calls DFHXTP to wrap the response to the DFHLUC macro
   - Sends the response to the application-owning region.

Normally the wrapped terminal response is sent to the application-owning region with a DFHTC TYPE=(WRITE,WAIT,READ) macro. However, there are exceptions:

- If the response to the DFHLUC macro call is a request for SYNCPOINT ROLLBACK, DFHZXRT sends the wrapped terminal response with a DFHTC TYPE=WRITE macro and then issues a DFHSP TYPE=ROLLBACK command.
- If the response to the DFHLUC macro call is a request for SYNCPOINT, DFHZXRT sends the wrapped terminal response with a DFHTC TYPE=WRITE macro and then issues a DFHSP TYPE=PREPARE against the link.

  The response to the macro is processed in the same way as when a SYNCPOINT request is received from the application, and issued to the terminal, except that the roles of the terminal and link are reversed.
- If the session to the terminal has been freed by an application command, DFHZXRT sends the wrapped terminal response with a DFHTC TYPE=(WRITE,LAST) macro.
- When the session to the application-owning region is in 'RECEIVE' state, normally DFHZXRT issues a DFHTC TYPE=READ to get the next request from the application.

  However, if the link between the terminal-owning and application-owning regions is LU6.2, and the response to the DFHLUC macro issued to the terminal indicates that the terminal has issued one of ISSUE_SIGNAL, ISSUE_ERROR, ISSUE_ABEND, or SYNCPOINT_ROLLBACK, DFHZXRT issues an ISSUE_SIGNAL against the link with the application-owning region to notify the application-owning region that the terminal-owning region wants to send. It then issues a series of DFHTC TYPE=READ macros until it receives the change of direction indicator.

  The data is processed in the normal way when 'SIGNAL' is received from the terminal. In the other cases, that is, if a negative response is received from the terminal, the data from the application-owning region is purged.

  After the change direction indicator is received, DFHZXRT sends the response to the application-owning region, ISSUE_SIGNAL and ISSUE_ERROR are sent using a DFHTC TYPE=(WRITE,WAIT,READ) macro, ISSUE_ABEND is sent using a DFHTC TYPE=(WRITE,LAST) macro, and SYNCPOINT_ROLLBACK is sent using a DFHTC TYPE=WRITE macro.
- If the response from the terminal was 'ROLLBACK', by a DFHSP TYPE=ROLLBACK macro is issued.

2. If a syncpoint request has been received, DFHZXRT:
   - Issues a DFHLUC TYPE=ISSUE-PREPARE macro against the terminal TCTTE.
   - Checks the terminal's response:

     If the terminal response indicates that a SYNCPOINT or BACKOUT request was issued, DFHSPP is called.

     If the terminal response indicates that the terminal issued a SEND_ERROR request, DFHZXRT issues a DFHTC CTYPE=ISSUE_ERROR macro followed by a DFHTC TYPE=(WRITE,WAIT,READ) macro against the link session.

     If the terminal response indicates that the terminal issued DEALLOCATE(ABEND), DFHZXRT issues a DFHTC CTYPE=ISSUE_ABEND macro against the link session. It then frees the link with the application-owning region and returns.

3. If a syncpoint rollback request has been received, DFHZXRT issues a SYNCPOINT ROLLBACK request.

When DFHZXRT detects that EB has flowed on both the session with the terminal and the session with the application-owning region, it issues DFHTC TYPE=FREE on both and returns.

Transformer program (DFHXTP)

The terminal-sharing data-transformation program, DFHXTP, constructs and interprets the data streams flowing between terminal-owning and application-owning regions, for both APPC and non-APPC transaction routing environments.

It does this by using four transformers. These either wrap this data from the surrogate TCTTE (in the AOR) or the real TCTTE (in the TOR) into the link TCTTE's TIOA, or they unwrap this data from the link TCTTE's TIOA into the surrogate or real TCTTE.

The transformers work in matching wrap and unwrap pairs. Transformer 1 wraps any data to be sent from a TOR to an AOR, which is then unwrapped in the AOR by transformer 2. Transformer 3 wraps any data to be sent from an AOR to a TOR, which is then unwrapped in the TOR by transformer 4. Figure 96 shows this process.

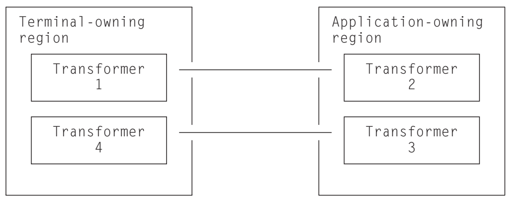


Figure 96. DFHXTP transformer operations

The transformer program is capable of shipping data from the TCTTE and the following control blocks that are chained off the TCTTE:

- The TCTTE extension, chained off TCTTETEA in the TCTTE.
- The terminal partition extension, chained off TCTTETPA in the TCTTE BMS extension.
- The TCTTE user extension, chained off TCTTECIA in the TCTTE.
- The SNTTE, chained off TCTTESNT in the TCTTE.
- The DFHLUC parameter list, and fields chained off it.

  Note that because this field is not chained off the TCTTE but is in LIFO, its address is passed as a parameter to the transformer program.
- The TCA extension for LU6.2 communication.
- Fields from the terminal control table system entry (TCTSE), chained off TCTTEIST in the TCTTE.
- Fields from the terminal control table mode entry (TCTME), chained off TCTTEMOD in the TCTTE.
- The data interchange block (DIB), chained off TCTEDIBA in the TCTTE.

The fields to be shipped are defined in tables in the transformer program.

There is special-case code to deal with fields that cannot be processed by the table-driven code.

For the transaction routing of LU6.2 commands, DFHXTP must ensure that the data stream built for transmission contains all the information relevant to support the issuing of a DFHLUC macro request on the remote system. This information consists primarily of:

- The DFHLUC parameter list
- Any data addressed by the parameter list
- The conversation state machine (TCTEUSRS in DFHTCTZE) in the TCTTE
- TCTTE fields required to build the surrogate TCTTE, in particular:
  - The synclevel supported by the terminal
  - The information returned to the application by the EXTRACT PROCESS command.

Data streams for transaction routing

Figure 97 shows the types of transaction-routing data streams.

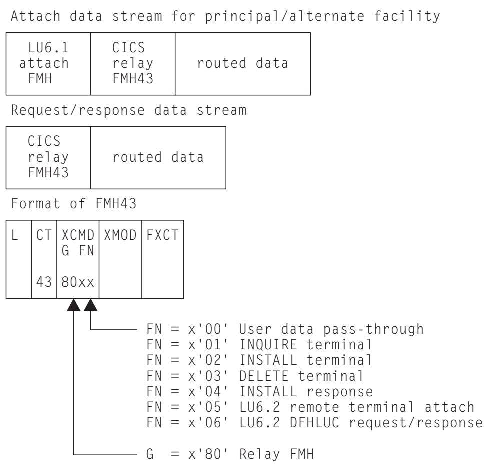

Attach data stream for principal/alternate facility
LU6.1 attach FMH
CICS relay FMH43
routed data
Request/response data stream
CICS relay FMH43
routed data
Format of FMH43
L
CT
XCMD G FN
XMOD
FXCT
43
80xx
FN = x'00' User data pass-through
FN = x'01' INQUIRE terminal
FN = x'02' INSTALL terminal
FN = x'03' DELETE terminal
FN = x'04' INSTALL response
FN = x'05' LU6.2 remote terminal attach
FN = x'06' LU6.2 DFHLUC request/response
G = x'80' Relay FMH

Figure 97. Transaction-routing data streams

The transformer builds four types of data stream for transaction routing:

1. Attach data stream for principal facility
   - Built by transformer 1
   - Shipped from TOR to AOR
   - Unwrapped by transformer 2
   - Contains an LU6.1 attach FMH (FMH5)
   - For LU6.2, the routed data does not contain a DFHLUC parameter list.
2. Attach data stream for alternate facility
   - Built by transformer 3
   - Shipped from AOR to TOR
   - Unwrapped by transformer 4
   - Contains an LU6.1 attach FMH (FMH5)
   - For LU6.2, the routed data contains a DFHLUC parameter list.
3. DFHLUC request data stream
   - Built by transformer 3

    - Shipped from AOR to TOR
    - Unwrapped by transformer 4
    - For LU6.2, the routed data contains a DFHLUC parameter list.
4. DFHLUC response data stream
    - Built by transformer 1
    - Shipped from TOR to AOR
    - Unwrapped by transformer 2
    - For LU6.2, the routed data contains a DFHLUC parameter list.

Note: The first transformer request for remote alternate facilities is to transformer 3, and not to transformer 1. This is because the same transformers are used whether transaction routing is initiated in the terminal-owning region or in the application-owning region.

An LU6.1 attach FMH5 is used when a transaction is to be started in the system to which the request is sent. CSRR is specified as the return process to indicate the use of transaction routing. In the case of routing to the application-owning region, the transaction is the user transaction; in the case of routing to the terminal-owning region, the transaction is the CXRT relay transaction.

Transaction-routed data format

Figure 98 shows the format of the data stream passed between a TOR and an AOR to provide transaction routing from any supported device.

The fields that are shipped depend principally on the type of terminal and on other parameters, as follows:

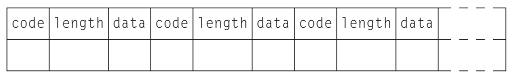


Figure 98. Routed data format

The length field in Figure 98 depends upon whether the field type is described in the table that follows as being V (Variable), F (Fixed), or U (Undefined). A V field is 2 bytes in length, an F field is 1 byte, and U indicates a variable that is no longer wrapped or unwrapped if it is encountered.

Table 29 shows the various data fields that may appear in a transaction routing data stream, together with their codes and field types.

Table 29. Transaction routing data stream. Built by the terminal sharing transformer (DFHXTP).

Code	Hex	Type	DSECT	Field	Description
1	01	V		XTPCDTC1	TC request bytes or attach start code
2	02	V		XTPCDOPC	Operator class
3	03	V		XTPCDTUA	TCTTE user area
4	04	V		XTPCDTIA	Terminal I/O area
5	05	V		XTPCDCMA	COMMAREA
6	06	V		XTPCDLPS	Terminal partition set
7	07	V		XTPCDPLM	Page LDC mnemonic
8	08	V		XTPCDPGD	Page data
9	09	V		XTPCDRQI	Request ID
10	0A	V		XTPCDETI	Error terminal ID

Table 29. Transaction routing data stream (continued). Built by the terminal sharing transformer (DFHXTP).

Code	Hex	Type	DSECT	Field	Description
11	0B	V		XTPCDETL	Error terminal LDC
12	0C	V		XTPCDMCF	Message control flags
13	0D	V		XTPCDTTL	Message title
14	0E	V		XTPCDRTT	Route target ID: netname.termid.ldc.opid
15	0F	V		XTPCDCPS	Application partition set
16	10	F	DFHTCTTE	TCTTEAID	Automatic initiate descriptor
17	11	F	DFHTCTTE	TCTTECAD	Cursor address
18	12	F	DFHTCTTE	TCTESIDO	Outbound signal data
19	13	F	DFHTCTTE	TCTESIDI	Inbound signal data
20	14	F	DFHTCTTE	TCTE32SF	Screen size attributes
21	15	F	DFHTCTTE	TCTTEFX	Transparency attributes
22	16	F	DFHTCTTE	TCTTEBMN	Map set name
23	17	F	DFHTCTTE	TCTTECRE	Request completion extension
24	18	F	DFHTCTTE	TCTTECR	Request completion analysis
25	19	F	DFHTCTTE	TCTTEDES	TCAM destination name
26	1A	F	DFHTCTTE	TCTTETM	Terminal model number
27	1B	F	DFHTCTTE	TCTTETID	Teller identification for 2980
28	1C	F	DFHTCTTE	TCTTEOI	Operator identification
29	1D	F	DFHTCTTE	TCTTEEDF	EDF mode
30	1E	F	DFHTCTTE	TCTTETC	Nominated transaction
31	1F	F	DFHTCTTE	TCTTETS	Terminal status
32	20	U	DFHSNTTE	SNTESSF	Userid
33	21	F	DFHTCTTE	TCTEASCZ TCTEASCL TCTEASCC	Alternate screen size attributes
34	22	F	DFHTCTTE	TCTE32EF TCTE32E2	3270 extended feature flags
35	23	F	DFHTCTTE	TCTETXTF	3270 text feature flag
36	24	F	TCTTETTE	TCTEAPGL TCTEAPGC	Alternate page size
37	25	F	DFHTCTTE	TCTECSG1 TCTECSG2	Coded graphic character set identifiers
38	26	F	DFHTCTTE	TCTEUSRS	LU6.2 conversation state machine
39	27	F	TCTTELUC	TCTECVT	LU6.2 conversation type (mapped or unmapped)
40	28	F	TCTTELUC	TCTESPL	LU6.2 syncpoint level
41	29	F	DFHTCTTE	TCTESPSA	Additional syncpoint flags
42	2A	F	TCTTELUC	TCTEIAHB	Attach FMH indicator
43	2B	F	DFHTCTSE	TCSESID	NETNAME of APPC device
44	2C	U	DFHSNTTE	SNTENLS	User's national language
45	2D	F	DFHTCTTE	TCTENLS	National Language Support Code
46	2E	F	DFHTCTTE	TCTESCFL	Security flag
47	2F	F	DFHTCTTE	TCTEITRS	Trace flags
48	30	F	DFHTCTME	TCMEMODE	Mode group name
49	31	F	DFHTCTTE	TCTTENLI	National language in use
50	32	F	TCTTELUC	TCTELUC1	LUC flag byte 1
51	33	F	DFHTCTTE	TCTESSPL	Synclevel of link
53	35	F	DFHTCTTE	TCTEVTP	Send mode/receive mode
54	36	F	DFHTCTTE	TCTTEIO	Task to be initiated
55	37	F	DFHLFS	PRESETC	Preset userid
56	38	F	TCTTETTE	TCTTEFMB	Outbound formatting status
57	39	F	DFHTCTTE	TCTEUCTB	UCTRAN = YES

Table 29. Transaction routing data stream (continued). Built by the terminal sharing transformer (DFHXTP).

Code	Hex	Type	DSECT	Field	Description
58	3A	F	DFHTCTTE	TCTETSU3	UCTRAN = TRANID
63	3F	F	DFHTCTTE	TCTTETT	Terminal type code
64	40	F	DFHLUCDS	LUCOPN0 LUCOPN1 LUCOPN2 LUCOPN3	LUC request codes
65	41	F	DFHLUCDS	LUCRCODE	LUC request error feedback
66	42	F	DFHLUCDS	LUCSDBLK	LUC conversation feedback
67	43	F	DFHLUCDS	LUCNSYS	System name for LUC Allocate
68	44	F	DFHLUCDS	LUCMODNM	Modename for LUC Allocate
69	45	F	DFHLUCDS	LUCMSGNO	Message number for LUC Abend and Error
70	46	F	DFHLUCDS	LUCSENSE	Sense code for LUC Abend and Error
71	47	F	DFHLUCDS	LUCRQCON	Conversation type for LUC Issue Attach
72	48	F	DFHLUCDS	LUCRQSYN	Syncpoint level for LUC Issue Attach
73	49	F	DFHLUCDS	LUCFTPNL LUCFTPN	TPN for LUC Issue Attach
74	4A	F	DFHLUCDS	LUCPIP	PIP indicator for LUC Issue Attach
75	4B	F	DFHLUCDS	LUCTAREL	Maximum receivable length for LUC Receive
76	4C	F	DFHLUCDS	LUCMGAL	Mode group name of allocated session
90	5A	F	DFHDIBDS	DIBSENSE	DIB system/user sense data
128	80	V		XTPCDZIR	ZC install response
129	81	V		XTPCDZBP	ZC builder parameter set
130	82	V		XTPCDZIM	ZC install message set
131	83	V		XTPCOPCL	Opclass in routed message
132	84	V		XTPCDPNM	Program name for ISSUE LOAD
133	85	V		XTPLUCSD	Message text for LUC Send
134	86	V		XTPLUCRD	Message text for LUC Receive
135	87	V		XTPLUTCX	TCA extension for LU6.2
136	88	V		XTPLUMSG	Message text for LUC Issue Abend or Issue Error
137	89	V		XTPIPASS	Issue Pass
138	8A	V		XTPLDATA	Logon Data
139	8B	V		XTPRETC	Issue Pass Return Code
140	8C	V		XTPLMOD	Issue Pass Logmode

Control blocks

Relay transaction control blocks

To support transaction routing, the relay transaction owns two TCTTEs; see Figure 99 on page 500. One TCTTE is for the terminal, the other is for the link to the user transaction. The link TCTTE has bit TCTERLT in field TCTETSU set on, to indicate that it is being used by the relay transaction.

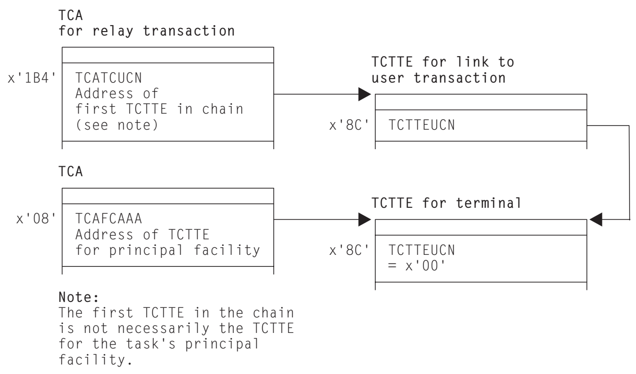
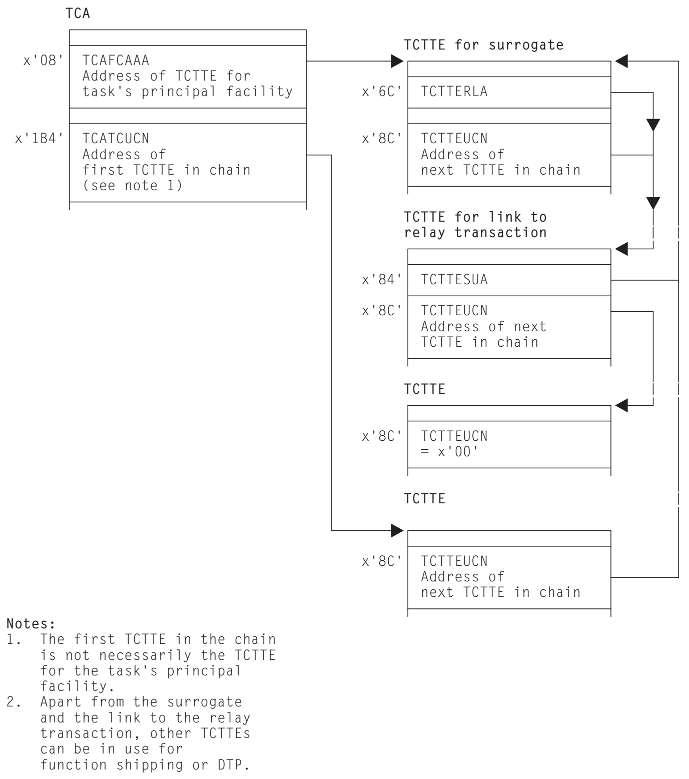


Figure 99. Control blocks associated with the relay transaction

User transaction control blocks

The user transaction owns two or more TCTTEs; see Figure 100 on page 501. One TCTTE is always present for the link to the relay transaction, and another TCTTE, called the surrogate TCTTE, represents the terminal TCTTE in the relay transaction address space. Field TCTTERLA in the surrogate TCTTE contains the address of the TCTTE for the link to the relay transaction. Bit TCTESUR (in field TCTETSU) set on indicates that the TCTTE is for a surrogate terminal. The link TCTTE has bit TCTERLX in field TCTETSU set on, to indicate that it is being used as a relay link.

If the user transaction executes CICS functions that are shipped to another address space or processing system, one TCTTE is chained off from the TCA for each different address space or processing system.



TCA
x'08'
TCAFCAAA Address of TCTTE for task's principal facility
x'1B4'
TCATCUCN Address of first TCTTE in chain (see note 1)
TCTTE for surrogate
x'6C'
TCTTERLA
x'8C'
TCTTEUCN Address of next TCTTE in chain
TCTTE for link to relay transaction
x'84'
TCTTESUA
x'8C'
TCTTEUCN Address of next TCTTE in chain
TCTTE
x'8C'
TCTTEUCN = x'00'
TCTTE
x'8C'
TCTTEUCN Address of next TCTTE in chain
Notes:
1. The first TCTTE in the chain is not necessarily the TCTTE for the task's principal facility.
2. Apart from the surrogate and the link to the relay transaction, other TCTTEs can be in use for function shipping or DTP.

Figure 100. Control blocks for the user transaction (non-APPC device)

See *CICS Data Areas* for a detailed description of these control blocks.

Modules

The principal modules associated with transaction routing are as follows:

DFHAPRT
: is the relay program for non-APPC devices, and for APPC devices when the device initiates a transaction by sending an attach FMH5 to CICS.

DFHCRT
: is the relay program for APPC devices when CICS sends an attach FMH5 to the device.

DFHRTSU
: is the program which maintains the state of a surrogate APPC session during syncpoint

DFHXTP
: is the data transformation program for terminal sharing. It constructs and interprets data streams flowing between terminal-owning and application-owning regions, for both APPC and non-APPC transaction routing environments.

DFHZTSP
: is the terminal sharing program. It is used by transaction routing for devices of all types, exclusively so for non-APPC devices.

DFHZXRL
: runs in the application-owning region to route APPC requests to the terminal-owning region.

DFHZXRT
: runs in the terminal-owning region to receive APPC requests from the application-owning region, and issue them to the APPC device.

Exits

No global user exit points are provided for this function.

Trace

The following point IDs are provided for this function:
- AP DBxx (DFHXTP), for which the trace level is IS 1
- AP 08xx (DFHCRT, DFHZXRL, and DFHZXRT), for which the trace levels are IS 1, IS 2, and Exc.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 63. Transient data control

Transient data control provides an optional queuing facility for managing data being transmitted between user-defined destinations (I/O devices or CICS tasks). This function facilitates data collection.

Design overview

The transient data program provides a generalized queuing facility enabling data to be queued (stored) for subsequent internal or offline processing. Selected units of information can be routed to or from predefined symbolic queues. The queues are classified as either **intrapartition** or **extrapartition**.

Intrapartition queues

Intrapartition queues are queues of data, held in a direct-access data set, for eventual input to one or more CICS transactions. Intrapartition queues are accessible only by CICS transactions within the CICS address space. Data directed to or from these internal queues is called intrapartition data. It can consist of variable-length records only.

An intrapartition queue is mapped onto one or more control intervals in the intrapartition data set. The control intervals are allocated to a queue as records are written and freed automatically as they are read or as the queue is deleted.

Examples of the data queued for intrapartition processing are:

- Transactions that require processes to be performed serially, not concurrently. An example of this type of process is one in which pending order numbers are to be assigned.
- Data to be used in a data set (file) update that could pass through the queue to allow the data to be applied in sequence.

Recovery of intrapartition transient data queues

Following abnormal system termination, intrapartition queues defined as recoverable by the user can be restored. Recovery is accomplished by reconstructing the queues from catalog data and from log records written automatically by CICS during normal execution. Two types of recovery are possible: **physical** and **logical**.

Physical recovery of intrapartition transient data queues: Physically recoverable transient data queues are restored to the state they were in when the system terminated abnormally. A physically recoverable transient data queue is not backed out if it has been updated by a unit of work (UOW) that has subsequently failed. Data written to such a queue is always committed and is restored during warm and emergency restarts.

When a UOW reads, writes, or deletes a physically recoverable queue, a log record is written to the system log. When the system is brought up after an abnormal termination, CICS can re-create a queue by retrieving definition information associated with the queue from the catalog, and state data from the log. .

Note: There is an exception to the rule that states that a physically recoverable queue is restored to the state it was in when CICS abnormally terminated. If a

UOW reads a physically recoverable queue and CICS then terminates abnormally, the read operation will be backed out when CICS is subsequently brought back up.

Logical recovery of intrapartition transient data queues: Logically recoverable transient data queues are restored to the state they were in at the time they were last syncpointed. All inflight UOWs are backed out. If a UOW updates a logically recoverable queue and subsequently fails, all updates to the queue are backed out. Logically recoverable queues are restored during warm and emergency restarts.

Logically recoverable queues are logged as part of the first phase of syncpoint processing. When CICS is brought up after an abnormal termination, it can re-create logically recoverable queues by retrieving definition information associated with the queue from the catalog, and state data from the log.

Logically recoverable transient data queues can suffer from indoubt failures. If a UOW is indoubt and CICS abnormally terminates, the indoubt UOW environment is recreated when CICS is next brought up. When the indoubt failure is resolved, the UOW is committed or backed out.

Extrapartition queues

Extrapartition queues are sequential data sets on tape or direct-access devices. Data directed to or from these external queues is called extrapartition data and can consist of sequential records that are fixed- or variable-length, blocked or unblocked.

Data can be placed on an extrapartition data set by CICS for subsequent input to CICS or for offline processing. Sequentially organized data created by other than CICS programs can be entered into CICS as an extrapartition data set. Examples of data that might be placed on extrapartition data sets are:
- System statistics
- Transaction error messages
- Customer data, such as cash payments that can be applied offline.

Indirect queues

Intrapartition and extrapartition queues can be referenced through indirect destinations. This provides flexibility in program maintenance. Queue definitions can be changed, using the CEDA transaction, without having to recompile existing programs.

Automatic transaction initiation

When data is sent to an intrapartition queue and the number of entries (WRITEQs from one or more programs) in the queue reaches a predefined level (trigger level), the user can optionally specify that a transaction be automatically initiated to process the data in that queue.

The automatic transaction initiation (ATI) facility allows a user transaction to be initiated either immediately, or, if a terminal is required, when that terminal has no task associated with it. The terminal processing status must be such that messages can be sent to it automatically. Through the trigger level and automatic transaction initiation facility, an application program can switch messages to terminals. After a task has been initiated, a command in the application program is executed to retrieve the queued data. All data in the queue is retrieved sequentially for the application program.

Trigger transactions may only execute sequentially against their associated queue. When a trigger transaction has been attached, another transaction will not be attached until the first transaction has completed. If a trigger transaction suffers an indoubt failure, (the transaction must be associated with a logically recoverable queue) another trigger transaction cannot be attached until the indoubt failure has been resolved.

Transient data services

The following services are performed by the transient data program in response to transient data commands issued in application programs:

Intrapartition data disposition
Controls and queues data for serially reusable or re-enterable facilities (programs, terminals) related to this partition or region.

Intrapartition data acquisition
Retrieves data that has been placed in a queue for subsequent internal processing.

Extrapartition data acquisition
Enters a sequentially organized data set into the system.

Extrapartition data disposition
Writes fixed- or variable-length data in a blocked or unblocked format on sequential devices, usually for subsequent offline processing.

Automatic transaction initiation
Initiates a transaction to process previously queued transient data when a predefined trigger level is reached.

Dynamic open/close
Logically opens or closes specified extrapartition data sets (queues) during the real-time execution of CICS.

Dynamic allocation and deallocation of extrapartition queues
Extrapartition transient data queues do not have to be predefined in your JCL. They can be created dynamically.

Transient data

This section describes transient data's interfaces.

Intrapartition queues

Figure 101 on page 506 shows transient data's interfaces for intrapartition queues.

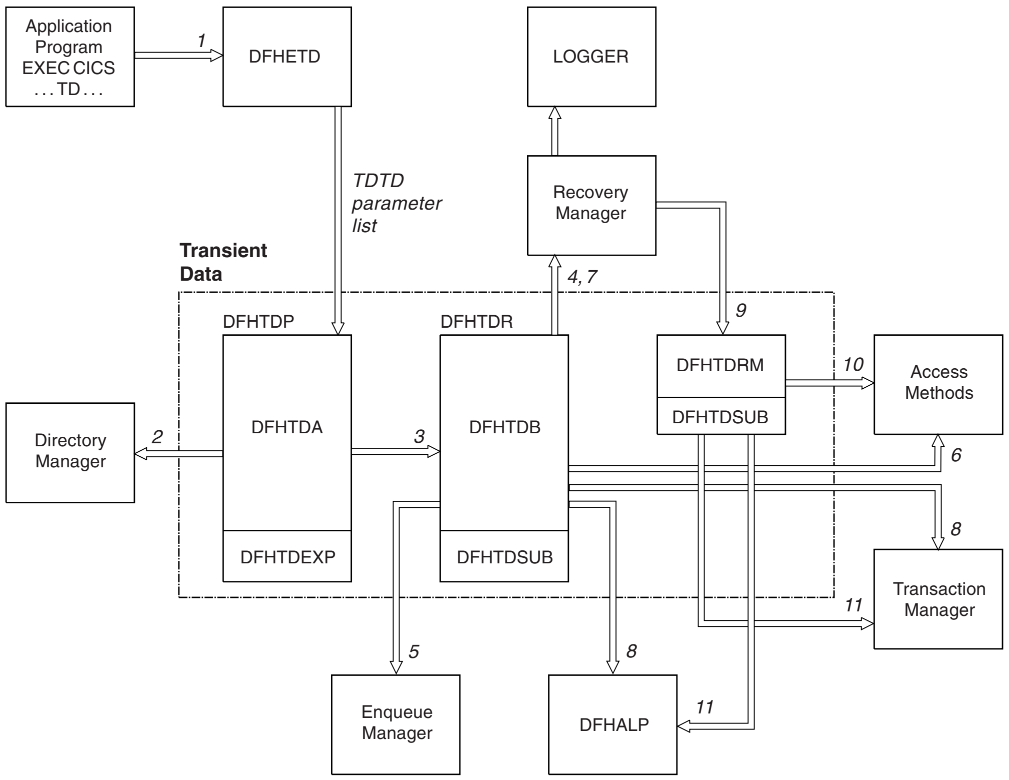


Figure 101. Transient data interfaces for intrapartition queues

Note:

1. An application program invokes a Transient Data request (WRITEQ TD, READQ TD, or DELETEQ TD). The EXEC interface module, DFHETD is invoked and calls Transient Data using the TDTD CDURUN parameter list.
2. Transient Data locates the target queue using a Directory Manager locate.
3. Assuming that the required queue has been found, the call is passed to the module that handles intrapartition queue requests, DFHTDQ.
4. If the target queue is logically recoverable, Transient Data must tell Recovery Manager it is interested in this UOW by setting its work token in the Recovery Manager's table.
5. If the target queue is logically recoverable, Transient Data must obtain an enqueue on the appropriate end of the queue by invoking the Enqueue Manager.
6. Data is read from (or written to) the target queue using the appropriate access method. In the case of physically recoverable queues only, the buffers are always flushed and the data set hardened.
7. After the request has completed, Transient Data must log the state of the queue, if the queue is physically recoverable.
8. If the request was a WRITEQ TD request and the target queue was physically recoverable or non-recoverable, the trigger level may have been exceeded. If the trigger transaction is to be associated with a terminal DFHALP is invoked so that the required AID can be scheduled. If the trigger transaction is to be associated with a file, Transaction Manager is invoked to attach the trigger transaction.

9. If a UOW has updated a logically recoverable queue, Recovery Manager invokes Transient Data when the UOW begins syncpoint processing DFHTDRM.
10. Transient Data invokes the appropriate access methods to harden the data set. Finally, Recovery Manager invokes Transient Data once more, detailing whether Transient Data should commit or back out its updates.
11. If the UOW commits the updates. Transient Data attaches a trigger transaction or schedules an AID if the trigger level has been exceeded. DFHALP is invoked if the trigger transaction is associated with a terminal. Transaction Manager is invoked if the trigger transaction is associated with a file.

Extrapartition queues

Figure 102 shows the transient data interfaces for extrapartition queues.

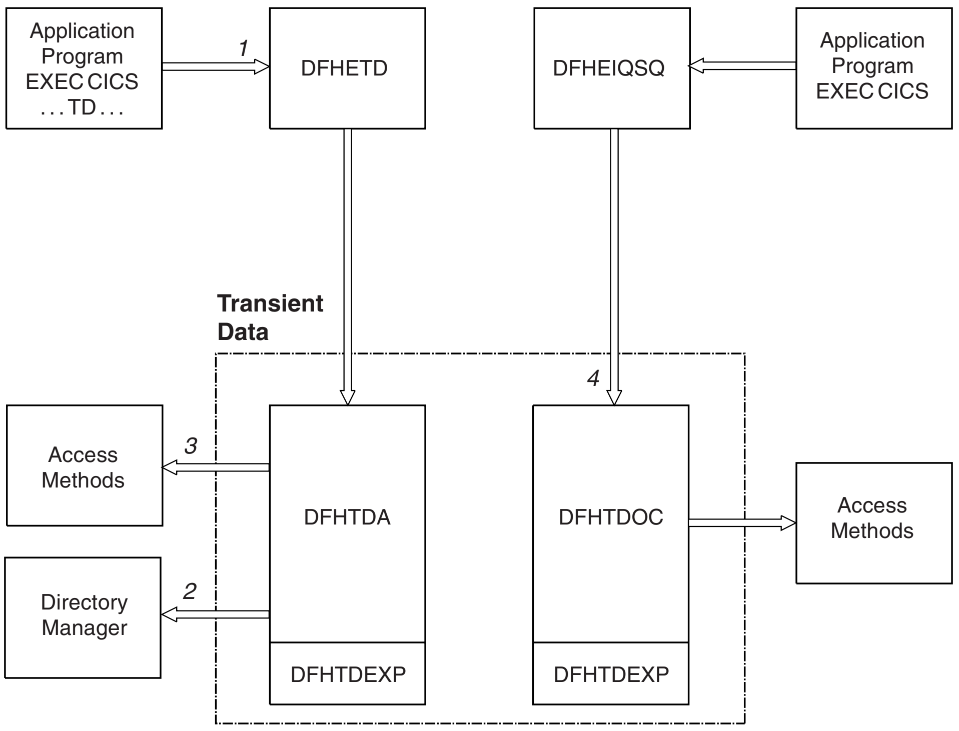


Figure 102. Transient data interfaces for extrapartition queues

Note:

1. An application program invokes Transient Data services (WRITEQ TD, READQ TD or DELETEQ TD). The EXEC interface module, DFHETD is invoked. DFHETD invokes Transient Data using the TDTD CDURUN parameter list.
2. Transient Data locates the target queue using Directory Manager.
3. The request is passed to the appropriate QSAM routine for processing. QSAM PUT with LOCATE mode is used.
4. If an application program requests that an intrapartition queue be opened or closed, module DFHTDOC is invoked using the TDOC CDURUN parameter list.

Modules

Module	Function
DFHTDP	Provides request analysis and extrapartition processing, RMODE(24)
DFHTDA	Included in load module DFHTDP. Provides request analysis and processing for extrapartition queues
DFHTDEXC	Included in load module DFHTDP. Contains subroutines associated with the processing of extrapartition queues
DFHTDOC	Included in load module DFHTDP. Manages the opening and closing of extrapartition queues
DFHETD	Processes EXEC CICS commands and maps them to the TDTD CDURUN parameter list
DFHTDB	Included in load module DFHTDQ. Processes intrapartition queue requests
DFHTDSUC	Included in load module DFHTDQ. Contains subroutines associated with the processing of intrapartition transient data queues
DFHTDRM	Undertakes syncpoint processing on behalf of Transient Data
DFHTDTM	Manages requests to install, discard, set and inquire on transient data queues

Exits

The following global user exit points are provided for this function: XTDREQ, XTDEREQ, XTDEREQC, XTDIN, and XTDOUT.

See the *CICS Customization Guide* for further information.

Trace

The following point ID is provided for transient data control:

- AP F6xx, for which the trace levels are TD 1 and Exc.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 64. User exit control

User exit control enables the user to run exit programs at selected points in CICS modules in the application domain and in other domains. The exit program can be enabled or disabled dynamically, and useful information can be transferred to a user work area.

This function:

- Controls which exit programs are to run at which exit points. This is generally specified using EXEC CICS commands and can be changed during a CICS run.
- Invokes the specified exit programs when control reaches an exit point in a CICS module, and handles any change in flow indicated by a return code from the user exit program.

Design overview

User exit control provides an interface that allows the user to run exit programs at selected points (known as exit points) in CICS control modules. The exit programs are separate from the control modules and are associated with them dynamically by means of the EXEC CICS ENABLE command. (See the *CICS Customization Guide* for a description of how to use exit programs.)

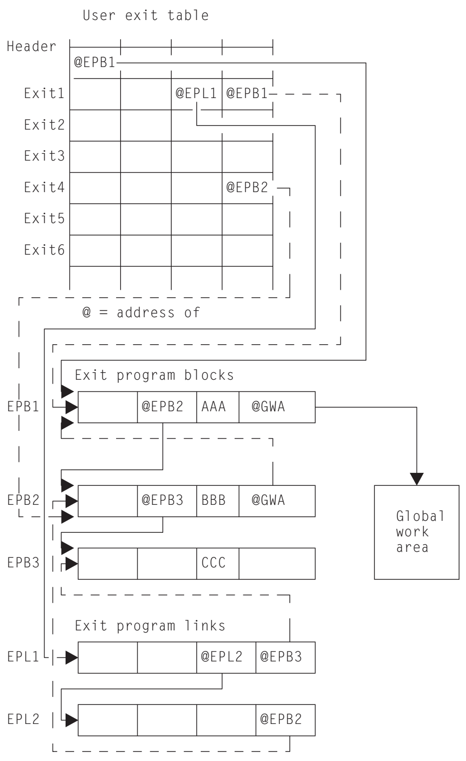
An exit point can have more than one exit program, and an exit program can be shared by more than one exit point. Work areas can be set up for the exit programs, and several exit programs can share a work area. For some exit points, the continuation of the control module can be controlled by a return code.

Each exit point is identified internally by an exit number. The user exit table (UET) contains a UET header and an entry for each exit point, in exit-number order. The UET is addressed from CSAUETBA in the CSA and exists throughout the life of CICS.

Each enabled exit program is represented by an exit program block (EPB). This exists only while an exit program is enabled or while any other exit program is using the work area owned by this exit program. The EPBs are chained together in order of enablement. The UET header points to the first EPB.

Each activation of an exit program for a particular exit point is represented by an exit program link (EPL) which points to the EPB for the exit program. The first EPL for each exit point is contained in the UET entry. If an exit point has more than one exit program, additional EPLs are obtained to represent each subsequent activation. These additional EPLs are chained off the UET entry in order of activation. Thus, for each exit, its EPL chain defines the exit programs that are to be executed at that exit point, and the order of execution.

The user exit interface (UEI) control blocks are illustrated in Figure 103 on page 510.



Note:

1. There are three enabled programs: AAA, BBB, and CCC.
2. Program AAA owns a global work area, which is shared by program BBB. The global work area pointer (@GWA) in BBB's EPB points to the EPB of the program owning the shared area, namely AAA's EPB.
3. Exits 1 and 4 are associated with these exit programs.
4. For Exit 1, exit programs AAA, CCC, and BBB have been activated, in that order, as indicated by the EPL chain.
5. Exit program BBB has been activated for exit 4.

Figure 103. UEI control blocks

All user exit programs are executed in the AP domain. When exit programs are activated for exit points in other domains, control is passed from the domain to the AP domain's user exit service module, which creates the necessary environment to invoke the exit programs via the user exit subroutine.

User exit control modules

This section describes the function of the user exit control modules.

DFHUEM (user exit manager)

The user exit manager (DFHUEM) processes EXEC commands that are entered by an application program or the command interpreter to control user exit activity. DFHUEM contains three routines, corresponding to the three commands, as follows:

ENABLE
Checks whether an EPB already exists for the exit program specified in the PROGRAM operand.

- If an EPB is not found and the ENTRY operand is not specified, the exit program is loaded, and:
  1. A new EPB is obtained and added to the chain.
  2. The name and entry address of the exit program are placed in the EPB.
  3. If the GALENGTH operand is specified, a work area is obtained, and its address and length are placed in the EPB.
  4. If the GAPROGRAM operand is specified, the address of the EPB for the exit program specified in the GAPROGRAM operand is placed in the new EPB, thus allowing exit programs to share a global work area.
- If the EXIT operand is specified, the EPL chain for the specified exit point is found.
  1. A new EPL is obtained, if necessary, and added to the chain.
  2. The address of the EPB for the exit program specified in the PROGRAM operand is placed in the EPB.
  3. The activation count in the EPB is increased by 1.
  4. If the exit point is not in the AP domain, the domain is notified that the exit point is active.
- If the START operand is specified, the start flag in the EPB is set on.

DISABLE

Finds the EPB for the exit program specified in the PROGRAM operand.
- If the STOP or EXITALL operand is specified, the start-flag in the EPB is set off.
- If the EXIT operand is specified, the EPL chain for the specified exit point is found. The EPL pointing to the EPB for the exit program specified in the PROGRAM operand is removed from the chain and the activation count is reduced by 1.
- If the EXITALL operand is specified:
  1. All EPL chains are scanned.
  2. All EPLs pointing to the EPB for the exit program specified in the PROGRAM operand are removed from its chain.
  3. If the ENTRY operand was not specified when the exit program was enabled, the exit program is deleted.
  4. The EPB is removed from the chain.
  5. If a work area used by the exit program is not still being used by another exit program, it is released.
  6. Any EPB or EPL that is no longer required is moved to a free-chain anchored in the UETH.
- When EXIT or EXITALL is specified for exit points not in the AP domain, the domain is notified when there are no exit programs active.

EXTRACT-EXIT

Finds the EPB for the exit program specified in the PROGRAM operand. The work area's address and length are extracted from this EPB (or from the EPB that owns the work area) and placed in the user's fields specified in the GASET and GALENGTH operands.

DFHUEH (user exit handler)

The user exit handler module, DFHUEH, is used to process exit points in the AP domain.

At each exit in a control module, there is a branch to the DFHUEH program. This module scans the EPL chain for that exit and invokes each started exit program in the chain, passing it a parameter list and a register save area. On return from each exit program, the return code is checked and a current return code (maintained by DFHUEH for return to the control module) is set as appropriate.

DFHAPEX (user exit service module)

The user exit service module, DFHAPEX, is used to process exit points in domains other than the AP domain.

When an exit point is reached in a non-AP domain, control is passed to the user exit service module (DFHAPEX) in the AP domain, if the domain has previously been notified that there is an exit program activated for the exit point.

The user exit service module constructs the user exit parameter list, using special parameters from the domain, and invokes the user exit subroutine (DFHSUEX).

The return code from DFHSUEX is passed back to the calling domain.

DFHSUEX (user exit subroutine)

The DFHSUEX module invokes all started user exit programs for an exit point in a domain (other than the AP domain) by scanning the EPL chain, using the same processing as the user exit handler (DFHUEH). The parameter list defined by DFHAPEX is passed to the exit programs. Return codes from the exit programs are checked and returned to DFHAPEX.

Control blocks

The control blocks associated with the user exit interface are illustrated in Figure 104 on page 513 and listed below. Further information about the control blocks is given in the "Design overview" on page 509 and in Figure 103 on page 510.

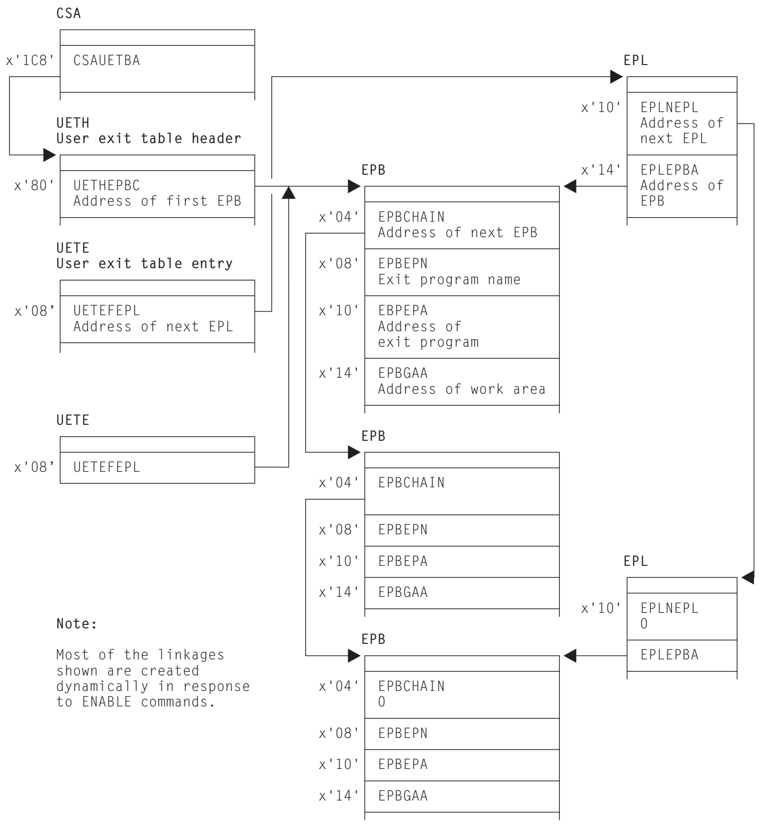


Figure 104. Control blocks associated with the user exit interface

The main control blocks are as follows:

UETH	User exit table header
UETE	User exit table entry—one for every exit point
EPB	Exit program block—one for every enabled user exit program, containing information about the location and activity of the program, and any global work area owned or shared by the program
EPL.	Exit program link—each EPL indicates one exit program to be invoked at an exit point and which EPL, if any, contains information about the next program to be invoked at that exit point.

See *CICS Data Areas* for a detailed description of these control blocks.

Modules

Module	Function
DFHAPEX	The interface between an exit point in a domain (other than the AP domain) and the AP domain.
DFHSUEX	Handles the invocation of user exit programs at exit points in CICS domains (other than the AP domain). Processing is similar to DFHUEH, passing a parameter list defined in DFHAPEX.
DFHUEH	Links an exit point in a CICS management module in the AP domain and the user code. DFHUEH invokes in turn each started exit program for that exit point, passing a parameter list defined in the CICS management module.

Module	Function
DFHUEM	The EXEC interface processor for the ENABLE, DISABLE, and EXTRACT user exit commands.

Exits

No global user exit points are provided for this function.

Trace

The following point IDs are provided for this function:

- AP D5xx, for which the trace levels are UE 1, AP 1, AP 2, and Exc.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

For user exit programs running at an exit point within the AP domain, UE level-1 trace entries are produced.

For user exit programs running at an exit point in a CICS domain other than the AP domain, the UE level-1 trace entries are not produced. Instead, the D5xx trace entries for AP level 1 and AP level 2 are available, providing more information than the UE trace. For AP level 1, the DFHUEPAR parameter list is traced, containing the addresses of fields special to that exit point. For AP level-2 tracing, the contents of the fields are printed, each field being truncated to 200 bytes if necessary.

Chapter 65. VTAM generic resource

This section describes how the generic resource support provided by VTAM is used by CICS.

A CICS system may register as a VTAM generic resource. It may then be known either by its unique applid or by the generic resource name which is shared by a number of CICS systems, all of which are registered to the same generic resource.

For more information about CICS support for VTAM generic resource consult the *CICS Intercommunication Guide*. Consult *VTAM Programming* for information about generic resource from the VTAM point of view.

Design Overview

If CICS is to register as a generic resource member, the GRNAME system initialization parameter must be specified.

If GRNAME is specified CICS attempts to register immediately after the ACB is open by issuing the VTAM SETLOGON OPTCD=GNAMEADD command.

If registration succeeds, CICS is then a member of the generic resource specified by the SIT GRNAME parameter and may be addressed either by its generic resource name or (subject to certain restrictions) by its unique applid. Use of the generic resource name allows VTAM to balance the workload by selecting whichever generic resource member is most lightly loaded.

If registration fails, CICS initialization continues but CICS will not be a generic resource member.

The registration status may be examined by means of the CEMT INQUIRE VTAM command.

CICS de-registers as a generic resource by means of the VTAM SETLOGON OPTCD=GNAMEDEL command immediately before the ACB is closed.

Generic resource and LU6.1/LU6.2

Although terminals may log on freely using either the generic resource name or the member name this is not the case with LU6.1 and LU6.2 connections which are more restricted in their use of member names.

LU6.2 GR to GR connections

For LU6.2 connections between generic resources the design makes use of LU6.2 autoinstall. Only connections which are intended to issue an ACQUIRE need be defined and these must all have the generic resource name specified as the NETNAME.

Two types of connection are possible.

- Generic resource name connections. These are connections which have the generic resource name as the NETNAME. NETNAMEs must be unique and so there can only be one of these per partner generic resource.

- Member name connections. These are connections which have the unique applid (member name) as the NETNAME.

Since there can only be one generic resource name connection for each partner generic resource it follows that most connections will be member name connections.

EXEC CICS INQUIRE CONNECTION or CEMT INQUIRE CONNECTION may be used to determine which is the generic resource name and which the member name.

When the first BIND from a different generic resource comes into the SCIP exit (DFHZBLX), a generic resource name connection will be established. If no predefined generic resource name connection exists one will be autoinstalled. Subsequent BINDs coming into DFHZBLX from different members of the same generic resource will cause member name connections to be autoinstalled. A member name connection should never be defined for a member of a different generic resource because this creates the possibility of having two definitions (TCSE's) for the same connected system.

Communications between members of the same generic resource must be by member names only.

Two new bits TCSE_GR and TCSE_GRNAME_CONN have been introduced to indicate the different connection types. They are only valid for LU6.2 connections between generic resources.

The table shows different values of TCTENNAM, TCSESID and TCSEX62N for LU6.2 connections between generic resources, depending on the settings of TCSE_GR and TCSE_GRNAME_CONN:

TCSE_GR TCSE_GRNAME_CONN	ON ON	ON OFF
TCTENNAM TCSESID TCSEX62N	GRname GRname membername	membername membername GRname

LU6.2 GR to non-GR connections

If a single (non-generic resource) system has an LU6.2 connection to a generic resource member it may use either the generic resource name or the member name as the NETNAME.

If the member name is used the initial acquire of the connection must be done by the non-generic resource partner. This means that the generic resource side must not have autoconnect set on. This is because the generic resource partner relies on VTAM to tell it if it is to known by its member name. VTAM does this by setting a bit which is valid for the first BIND only. Sessions can be acquired by either partner once the SNASVCMG sessions have bound.

For these connections TCSE_GR is always set off and TCSE_GRNAME_CONN has no meaning on both systems. The rule here is that TCSESID always contains the NETNAME (as defined in the RDO connection definition) and TCSEX62N always contains the member name (unique applid). The table illustrates this:

TCSE_GR TCSE_GRNAME_CONN RDO_HOSTNAME	OFF not applicable GRname	OFF not applicable membername
TCTENNAM TCSESID TCSEX62N	GRname GRname membername	membername membername membername

If the generic resource name is to be used, the single system may itself be made into a generic resource allowing it to exploit the design for communications between generic resources. If this is not possible the solution is to use a "hub" or code a generic resource resolution exit to ensure that not more than one member of a generic resource communicates with the single system at any one time using the generic resource name. (The use of "hubs" is described in the CICS Intercommunications Guide).

LU6.1

There is no autoinstall for LU6.1, and so less flexibility is allowed for LU6.1 connections between generic resources. CICS-CICS LU6.1 connections can only communicate by generic resource names and must use a "hub" or a generic resource resolution exit.

TCSE_GR and TCSE_GRNAME_CONN do not apply to LU6.1. For LU6.1 connections with a generic resource the generic resource name is in TCTENNAM and TCSESID and the member name is in TCSEX61N.

Ending affinities

Affinities are records held by VTAM to show it where to direct data flows within a generic resource. Some of these affinities are "owned" by CICS. These are affinities for LU6.2 synclevel 2, LU6.2 limited resources and LU6.1 connections. They may be ended by means of the SET CONNECTION ENDAFFINITY and PERFORM ENDAFFINITY commands.

Generic resource and ATI

This section applies only to those terminals which are logged on using the generic resource name.

When an ATI request is issued in an AOR for a terminal that is logged on to a TOR, CICS uses the terminal definition in the AOR to determine the identity of the TOR to which the request should be shipped. If there is no terminal definition in the AOR, the “terminal-not-known” global user exits (XICTENF and XALTENF) may be used to supply the name of the TOR.

However, if the TOR in question is a member of a generic resource and the user has logged on using the generic resource name, VTAM will have connected the terminal to the generic resource member which was most lightly loaded at the time. If the user then logs off and on again the terminal may be connected to a different generic resource member. If this happens, the TOR which is to receive the ATI request cannot be determined from the terminal definition in the AOR or the “terminal-not-known” user exit.

CICS solves the problem in the following manner:

1. The ATI request is first shipped to the TOR specified in the terminal definition in the AOR (or by the “terminal-not-known” exit). If the terminal is logged on to this TOR (the “first-choice” TOR) the ATI request completes as normal.
2. If the terminal is not logged on to the first-choice TOR, the TOR issues a VTAM INQUIRE OPTCODE=SESSNAME to find which generic resource member, if any, the terminal is now logged on to. This information is passed back to the AOR and the request is then shipped to the correct TOR.
3. If the first-choice TOR is not available, the AOR issues a VTAM INQUIRE OPTCODE=SESSNAME to find where the terminal is now logged on. The INQUIRE is not attempted in the following situations:
   - The VTAM in the AOR is a pre-4.2 version and does not support generic resource.
   - The AOR was started with the VTAM system initialization parameter set to NO.

   The INQUIRE will not succeed if the TORs and the AOR are in different networks.

   If the INQUIRE is successful the ATL request is shipped to the TOR where the terminal is logged on.

Modules

DFHZBLX

DFHZBLX is a new module which has been created to deal with LU6.2 BIND processing. Part of its function was formerly part of DFHZSCX. It is link-edited with DFHZSCX and is still logically part of it, but it returns directly to VTAM, not via DFHZSCX.

There is a new part of the module, apart from that which was once contained in DFHZSCX, which deals with generic resource BIND processing. If CICS is registered as a generic resource and the partner is also a generic resource, DFHZBLX has to decide on the appropriate type of connection. This may be either a generic resource name connection, in which the NETNAME is the partner's generic resource name, or a member name connection, in which the NETNAME is the partner's member name.

DFHZBLX is also responsible for setting the bits in the connection entry which are specific to generic resource.

If CICS is not registered as a generic resource, the generic resource code is not invoked.

DFHZGCH

DFHZGCH is a domain subroutine which is called by DFHEIQSC after one of the following commands.

- EXEC CICS SET CONNECTION ENDAFFINITY
- CEMT SET CONNECTION ENDAFFINITY
- EXEC CICS PERFORM ENDAFFINITY
- CEMT PERFORM ENDAFFINITY

Its function is to issue the VTAM CHANGE OPTCD=ENDAFFINITY command.

If the affinity is ended successfully,

- the connection is deleted if it is autoinstalled.
- If the connection is defined,
  - the generic resource specific information in the connection entry is reset,
  - the catalog entry is updated,
  - the connection is deleted from the TCSM index.

The VTAM return codes are reflected back to DFHEIQSC.

DFHZGIN

DFHZGIN is a domain subroutine.

In a TOR it is called by DFHCRS when a request has been shipped from a remote system, if a terminal cannot be located.

In an AOR it is called by DFHALP when the schedule of an AID fails because the TOR has gone away.

It has two functions:

1. INQUIRE_NQN

   A VTAM INQUIRE OPTCD=NQN is issued to find the fully qualified NETNAME of a terminal given the NETNAME as input. The fully qualified NETNAME is required for INQUIRE OPTCD=SESSNAME.
2. INQUIRE_SESSNAME

   A VTAM INQUIRE OPTCD=SESSNAME is issued to find which member of a generic resource a terminal is logged on to given a fully qualified NETNAME as input.

The following responses are returned to the caller:

- OK - VTAM return code was X'00' fdb2 X'00'
- NOT FOUND - VTAM return code X'14' fdb2 X'88'
- EXCEPTION - The call was rejected for some other reason than not found.

For the exception case an exception trace is written and a message in the range DFHZC0182 - DFHZC0185 is output to the CSNE log giving the VTAM return codes.

Problem solving for generic resource

Trace TC level 1, 2 & exception in the ranges AP FA50-FA59, FAB0-FABA and FB87-FB8F.

Messages DFHZC0170 to DFHZC0185 are written to the console and CSNE logs.

Information output by DFHZNAC following BIND failures.

If a dump is produced examine the generic resource status and generic resource flag bytes.

The following symptoms may indicate that an affinity should be ended and has not been.

- Sessions failing to acquire with message DFHZC2405 "Node not activated". This may also indicate a setup error.

- Sessions failing to acquire with various instances of DFHZC2411. This may also indicate that a rule has been violated.
- CICS fails to register as a generic resource when it has previously been a member of a different generic resource. Message DFHZC0171 is written to the console with VTAM rtncd X'14' fdb2 X'86'.
- Connections autoinstalling unexpectedly. If a non-generic resource is addressing a generic resource member by its member name this may also indicate that the first ACQUIRE was issued from the generic resource side.

Generic resource status byte (TCTV_GRSTATUS)

TCTV_GR_REGD (X'80')
This CICS is registered as a member of a generic resource.

TCTV_GR_REGERR (X'40')
This CICS attempted to register as a generic resource member (SIT GRNAME parameter specified) but the attempt was rejected by VTAM.

TCTV_GR_NOTAVAIL (X'20')
This CICS attempted to register as a generic resource member (SIT GRNAME parameter specified) but the level of VTAM was not 4.2 or above.

TCTV_GR_DREGD (X'08')
This CICS was previously a member of a generic resource but has successfully de-registered.

TCTV_GR_DREGERR (X'04')
This CICS attempted to de-register as a member of a generic resource by issuing SETLOGON OPTCD=GNAMEDEL but the attempt was rejected by VTAM.

TCTV_GR_NOTAPPL (X'02')
The GRNAME system initialization parameter was not specified.

TCTV_GR_NOTREG (X'00')
CICS is not registered as a generic resource and has not attempted to register. (Holds this value before registration is attempted, if required.)

Generic resource flag byte (TCSEI_GR)

TCSE_GR (X'80)
Both partners are registered as generic resources. Valid from initial acquire to ENDAFFINITY.

TCSE_GR_NAME_CONN (X'40')
Set on for a generic resource name connection in which TCSESID contains the generic resource name and TCSEX62N contains the member name.

Set off for a member name connection in which TCSESID contains the member name and TCSEX62N contains the generic resource name.

This bit is only meaningful if TCSE_GR is set on.

TCSE_USE_OUR_MEMBER_NAME (X'20')
The partner is using our member name. (An indication that the member name, not the generic resource name must be passed in the BIND).

TCSE_MSG179_ISSUED (X'10')
Message DFHZC0179 has been issued. This message is issued when the

secondary SNASVCMG session binds if TCSE_GR is set. It makes clear which is the generic resource name and which the member name of the partner session.

TCSE_CATLG_DONE (X'08')
A defined connection with an affinity has been catalogued.

TCSE_MSG177_ISSUED (X'04')
Message DFHZC0177 has been issued. This message is output whenever an LU6.2 limited resources, LU6.2 synclevel 2 or LU6.1 connection is acquired. It is output when the secondary SNASVCMG session binds. It is intended to alert the user to the fact that acquiring the connection has caused an affinity to be created and gives the NETNAME and NETID of the partner.

Trace

Trace point ids

- FA50 - FA59

  are provided for problem determination during ENDAFFINITY processing. (Module DFHZGCH)
- FAB0 - FABA

  are provided for problem determination during INQUIRE SESSNAME processing. (Module DFHZGIN)
- FB87 - FB8F

  are provided for problem determination during generic resource registration and de-registration. (Module DFHZGSL)

Waits

Module	Type	Resource Name	Resource Type	ECB	Function
DFHZGCH	MVS	CHANGECB	ZC_ZGCH	CHANGECB	Wait for completion of INQUIRE SESSNAME
DFHZGIN	MVS	INQ_ECB	ZC_ZGIN	INQ_ECB	Wait for ENDAFFINITY to complete

Chapter 66. VTAM LU6.2

This section describes the layer of CICS that manages the interface to VTAM for LU6.2 communication. VTAM LU6.2 provides advanced program-to-program communication (APPC) between transaction-processing systems, and enables device-level products (APPC terminals) to communicate with host-level products and with each other. APPC sessions can therefore be used for CICS-to-CICS communication, and for communication between CICS and other APPC systems (for example, AS/400®) or terminals.

For information about the CICS functions that you can use to exploit LU6.2 communication, see Chapter 13, “Distributed program link,” on page 121, Chapter 14, “Distributed transaction processing,” on page 123, Chapter 26, “Function shipping,” on page 301, Chapter 29, “Intersystem communication (ISC),” on page 329, Chapter 62, “Transaction routing,” on page 481.

Design overview

The main feature that distinguishes LU6.2 from other LU types is the support for parallel sessions i.e. many sessions (and conversations) between the two LUs at the same time. These sessions are further grouped by use of the class of service facility in VTAM. The TCT structure for LU6.2 reflects this. Under the system entry (TCTSE) are a series of mode group entries (TCTMEs). Within a mode group there are a number of sessions represented by terminal entries (TCTTEs).

All the sessions within a mode group have the same transmission characteristics, that is, the same class of service. When a request to ALLOCATE a session is made, a MODENAME can be specified, indicating which class of service is required.

When a session has been allocated and a conversation started, data can be received and sent between the connected LUs. This is more or less directly under the control of the CICS application in the case of DTP, or indirectly under the control of the user for the other ISC facilities.

CICS also supports LU6.2 single session connections. These are represented by a TCTSE, a single TCTME and a single TCTTE. They support the same functions as parallel session connections.

Detailed information about VTAM LU6.2 commands and macros is given in the relevant VTAM manuals.

Session management

Systems Network Architecture (SNA) defines several processes to be used in managing LU6.2 sessions. The CICS implementation provides transaction code for the following Transaction Program Names (TPNs) defined by LU6.2.

- X'06F1' = CHANGE_NUMBER_OF_SESSIONS (CNOS)
- X'06F2' = EXCHANGE_LOG_NAME (XLN)

The required transaction definitions are:

TRANSACTION	XTRANID	PROGRAM
CLS1	X'06F10000'	DFHZLS1
CLS2	X'06F20000'	DFHCLS3

These resource definitions are provided in the DFHISC group.

So that the SNA service transaction programs can always communicate with each other, even when all the sessions between two systems are busy, two extra sessions are always created whenever parallel sessions exist between two systems. CICS generates these two extra sessions (with a reserved MODENAME of SNASVCMG) unless SINGLESESS(YES) is specified for the connection. Only SNA service transaction programs are allowed to use these two sessions.

Change Number Of Sessions (CNOS)

When there are parallel sessions between two LU6.2 systems, it is possible to vary the number of sessions available using CEMT or EXEC CICS commands, either for the entire connection, or by modegroup. The number of available sessions for a modegroup is called the SESSION LIMIT. It corresponds to the number of in-service sessions in that modegroup. The two systems must agree on the session limit for a modegroup at any given time. To achieve this, the LU6.2 architecture defines a CNOS service transaction program which runs in each system, communicating with its counterpart using architected CNOS commands and replies. They negotiate the session limit and the numbers of contention winners and losers at each end. For CICS, the CNOS service transaction program is DFHZLS1.

CNOS commands are not required for the SNASVCMG modegroup on parallel session connections, or for single session connections, because the session limits are fixed.

Figure 105 shows the flow of control for CNOS operations.

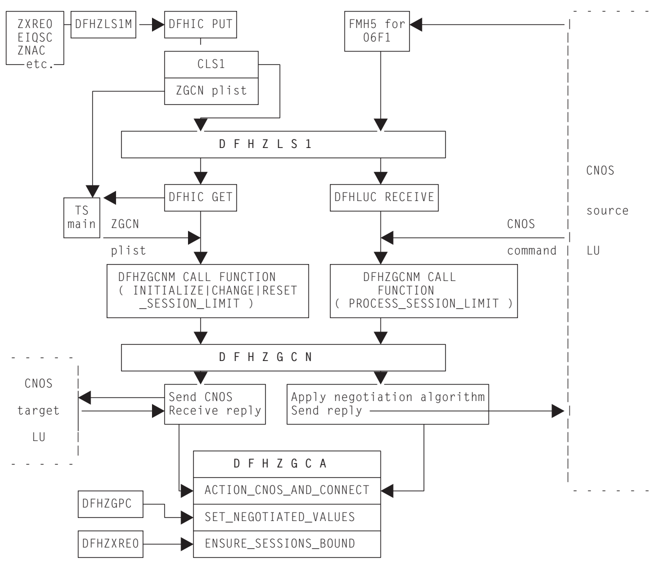


Figure 105. Flow of control for CNOS

Exchange Log Name (XLN)

When DFHZNAC determines that it is necessary to exchange log names with a remote system, it starts the syncpoint resynchronization transaction, using the DFHCRERI macro specifying FUNCTION(XLN). The main program for this transaction is DFHCRRSY (in load module DFHLUP). When DFHCRRSY determines that resynchronization is required it will schedule other instances of itself to perform the resynchronization.

When TPN X'06F2' is received from a remote system, DFHCRRSY is called to handle the inbound Exchange Log Names and resynchronization.

LU6.2 session states

The following CICS modules maintain specific states of LU6.2 sessions.

Module	State	Macro
DFHZBKT	SNA bracket state	DFHZBSM
DFHZCNT	Contention state	DFHZCNM
DFHZCHS	Chain state	DFHZCHM
DFHZCRT	RPL_B state	DFHZCRM

These modules are invoked via the macros shown in the last column. Any query or change to the states is performed using these macros.

The LU6.2 states for each session are stored in the TCTTE for that session. The modules and associated TCTTE field are usually referred to as **state machines**. When a module, such as DFHZARL, wants to check that the session is in a suitable state to perform a given operation, it uses the appropriate state machine to perform the check by invoking the CHECK function of the relevant macro. If the operation subsequently causes a change in the state of the session, the SET function of the relevant macro is invoked to record the new state.

LU6.2 SEND and RECEIVE processing

LU6.2 SEND processing is done by DFHZSDL, using POST=SCHED to drive the VTAM exit DFHZSLX asynchronously when the request has been passed to VTAM.

DFHZRVL does LU6.2 RECEIVE processing, issuing the request to VTAM for asynchronous processing which drives the VTAM exit DFHZRLX on completion. DFHZRLX queues completed RPLs for further processing by DFHZRLP to a chain anchored off TCTVRPLQ in the TCT prefix. Entries are removed from the queue by DFHZDSP, and passed to the program designated to process the completed RPL. When authorized path VTAM support is used, the SEND and RECEIVE requests use the CICS high performance option (HPO) routines.

SEND and RECEIVE processing for LU6.2 use different RPLs:

- RECEIVE uses the receive RPL (also known as RPL_B, and addressed by TCTERPLB in the TCTTE LUC extension).
- SEND uses the send RPL (addressed by TCTERPLA in the TCTTE).

There are two exceptions when a SEND uses the receive RPL instead of the send RPL:

1. DFHZSDL sending a response
2. DFHZRLP sending DR1 response via synchronous SEND.

The processing state of the receive RPL is maintained in the LU6.2 RPL_B state machine field (TCTERPBS in the TCTTE LUC extension) by the DFHZCRT module and DFHZCRM macro combination, thus allowing rapid identification of the stage and type of RECEIVE being processed.

LU6.2 state machine transitions for contention, bracket, and chain states are performed via the DFHZCNM, DFHZBSM, and DFHZCHM macros as part of SEND and RECEIVE processing for LU6.2 sessions.

Limited resources

For efficient use of some network resources (for example, switched lines), SNA allows for such resources to be defined in the network as **limited resources**. Whenever a session is bound, VTAM indicates to CICS whether the bind is over a limited resource. Both single and parallel sessions may use limited resources.

The limited resources (LR) function is part of the LU6.2 base option set. When communicating over switched lines, it may be important to stop using this expensive resource as soon as possible. LR provides this facility. A bit in the BIND image is copied into the TCTTE to indicate LR usage. This bit (TCTE_LR) is used to determine whether CICS should UNBIND the link when the TCTTE is freed and no outstanding tasks are using the link.

SNASVCMG (parallel) sessions are not scheduled to be unbound until the initial CNOS exchange has been performed for all mode groups in the connection. They are then treated in the same way as user sessions.

Two bits in the terminal control table are used to reflect LR: TCTE_LR in the terminal entry (TCTTE) and TCSE_LR in the system entry (TCTSE). The following table shows the meanings of the TCTE_LR bit (ON or OFF) in combination with the TCTENIS 'node now in session' bits (YES or NO).

TCTE_LR	TCTENIS	Meaning
ON	YES	Current session over LR
ON	NO	Previous session over LR
OFF	YES	Current session not LR
OFF	NO	Never bound, or previous session not LR

TCSE_LR (in the system entry) is set ON when the first LR session is bound, and OFF as a result of CNOS negotiation to release the connection. If TCSE_LR is ON and there are no bound sessions, the connection state is then 'available'.

Modules

The modules listed below handle the VTAM LU6.2 support in CICS.

Session management state machines

- DFHZBKT
- DFHZCHS
- DFHZCNT
- DFHZCRT

Send and Receive processing

- DFHZRLP
- DFHZRLX

- DFHZRVL
- DFHZSDL
- DFHZSLX

CNOS

- DFHZLS1
- DFHZGCN
- DFHZGCA

Persistent Verification

- DFHCLS3

XLN and Resynchronization

- DFHCRRSY

DFHZRVL

DFHZRVL is invoked to issue an LU6.2 receive specific request to receive:

- Data
- Commands
- Responses
- Purge to end-chain (used by DFHZERH to clear incoming data)
- A single RU.

Two broad categories of RECEIVE data are recognized by CICS; both are processed as RECEIVE_WAIT requests to VTAM:

1. RECEIVE_WAIT, where CICS waits until input is received from VTAM before returning control to the caller. This applies to all RECEIVE response and command requests, and to data requests where the minimum length to be received is greater than zero.
2. RECEIVE_IMMEDIATE, where CICS immediately returns control to the caller without waiting for VTAM to complete the request unless the data is already in the VTAM buffer, in which case it processes the data in the same way as for RECEIVE_WAIT before returning to the caller. This is requested via a minimum length of zero. It is used by the RECEIVE_IMMEDIATE call for the SAA communications interface, by a LOOK_AHEAD call, and in support of timely receipt of responses, ensuring earlier detection of an ISSUE_ERROR response from the partner LU.

The receive buffer is set up to receive the data, and the address of the receive exit DFHZRLX (driven on completion of the request) is stored into the receive RPL (RPL_B) before the RECEIVE macro is issued to VTAM. DFHZRVL is used by DFHZERH to determine the state of the session.

DFHZRLP

This module completes the LU6.2 receive specific processing for LU6.2 requests.

RECEIVE_IMMEDIATE requests are processed in two phases, that is, on two passes through DFHZRLP:

1. The RPL_B state machine (TCTERPBS) is set to indicate that the RECEIVE has been completed by VTAM; then the exit is taken from DFHZRLP.
2. This phase corresponds to the single phase used for processing RECEIVE_WAIT requests, that is, the requests are checked for successful

completion, examined to determine whether data, a command, or a response has been received, and parameters indicating what has been received are then returned to the caller.

Data received

When data is received, DFHZRLP:

1. Sets the bracket and chain state machines, and returns indicators to DFHZARL according to the DFC flags received with the data:
   - Response type
   - CD
   - EC
   - CEB
   - FMH
2. If more data is required, DFHZRLP recalls DFHZRVL via the activate scan routine (DFHZACT) to reissue the RECEIVE, for example when:
   - End-chain has not yet been received, and there is still room in the receive buffer. If the minimum length requested has already been received, the type of RECEIVE is altered from RECEIVE_WAIT to RECEIVE_IMMEDIATE resulting in a READ_AHEAD call in anticipation of there being more data available, and any data already in the VTAM buffer is processed by DFHZRLP before returning to the caller.
   - The original request was for data, and what has been received and processed is a command (only LUSTAT or BIS can validly be processed by DFHZRLP).
3. Returns control to DFHZARL when:
   - Sufficient data has been received for a BUFFER or LL type request.
   - End-chain has been received because of CD, RQD2, or CEB.
   - FMH has been received.
   - The call was incomplete, but insufficient space remains in the receive buffer for further data.

If the data was received with RQD1, a response is sent synchronously by DFHZRLP using the receive RPL.

Command received

When a command is received, the actions of DFHZRLP depend on the command:

- For LUSTAT6 received, the command is treated as data. If BB is included, then an exception response is sent (sense X'0813' or X'0814').
- For BIS received, CLSDST is requested and the receive re-driven.

All other commands are incorrect.

Response received

When a response is received, DFHZRLP:

1. Carries out checks:
   - Does the sequence number match the number of the BB request?
   - If it is a definite response, was it expected?
   - If it is an exception response, was it a session-level error?
2. Sets the state machines.
3. Passes back the return code to the caller.

DFHZSDL

This module issues the SEND request to VTAM to transmit data, commands, and responses on LU6.2 sessions.

DFHZSDL transmits:

- Data from a send buffer or an application area
- The commands:
  - LUSTAT
  - RTR
  - BIS
- Responses.

Data transmission

If a SEND LAST command is issued, any outstanding completed receive RPL is first processed by queuing the TCTTE for RECEIVE processing by DFHZRLP, and any incomplete receive RPL is canceled via RESETSR.

For data transmission, DFHZSDL uses:

LMPEO
: Large message performance enhancement outbound. VTAM slices large messages into RUs.

BUFFLST
: Buffer list. VTAM accepts data from non-contiguous buffers.

USERRH
: User request header. The request header is passed in BUFFLST.

A maximum of two buffer list entries are used. The first buffer list entry addresses the data in the send buffer, and the second the data in the application area.

The request header is built in the first buffer list entry using parameters passed from DFHZARL. If an implicit send was requested, then CD, RQD2, and CEB are not checked. The first-in-chain (FIC) indicator is set after checking the chain state machine, and last-in-chain (LIC) is set whenever CD, RQD2, or CEB is included. Null data sent only-in-chain (OIC) is converted to an LUSTAT6 command. The address of the send exit DFHZSLX is stored in the send RPL, and the VTAM SEND macro is issued. On completion of the SEND request, the bracket and chain state machines are set according to the DFC indicators. These state machines are used extensively by DFHZERH to determine the state of the session before executing an error request.

Command transmission

The LUSTAT6 command is sent with:

- CEB to terminate the BIND_in_bracket state
- Null data for OIC
- CB, RQD1 to BID for bracket.

The RTR command requests BB after a BID request is rejected with sense code X'0814'.

The BIS command shows bracket termination before CLSDST.

On completion of the SEND request, the exit DFHZSLX is invoked. LUSTAT causes the bracket and chain state machines to be set as for normal data flow.

Response transmission

DFHZSDL transmits ER1 and DR2 responses. The sequence number associated with the response is that of the path information unit (PIU) that initiated the current bracket. DFHZSDL uses the receive RPL (RPL_B) to send responses thus ensuring that the RU is returned with the response, unless the response is an ISSUE_ERROR request, in which case the send RPL is used. The response is sent synchronously, and POST=SCHED is included in the VTAM command, so that an exit routine is not involved. On return from VTAM, DFHZSDL sets the bracket and chain state machines accordingly.

DFHZSLX

The DFHZSLX module is the VTAM exit that is driven on completion of a SEND request. If the request completed successfully, the bracket and chain state machines are set to show the new state of the session. If the SEND request was data DR1, DFHZRVL is invoked via DFHZACT to receive the response.

DFHZRLX

The DFHZRLX module is the VTAM exit that is scheduled on completion of an LU6.2 RECEIVE_SPECIFIC request. DFHZRLX queues the completed RPL to a chain anchored from TCTVRLPQ in the TCT prefix. DFHZDSP dequeues the RPLs for further processing by DFHZRLP.

DFHCLS3

In the local CICS system, DFHCLS3 is invoked using the DFHLUS macro, which issues a DFHIC TYPE=PUT macro to start the appropriate transaction (CLS3) with data recorded on temporary storage indicating the requested operation.

The DFHLUS operations can be:

SIGNOFF
Sign off a user on the other LU

TIMEOUT
Time out users.

The SIGNOFF and TIMEOUT operations apply to persistent verification signons only.

DFHCLS3 retrieves the temporary-storage record.

The SIGNOFF and TIMEOUT operations are performed directly by DFHCLS3. These operations are supported outbound only.

For SIGNOFF, DFHCLS3 is started by DFHZCUT when a user on the other LU must be signed off.

For TIMEOUT, DFHCLS3 is started by DFHZCUT during time-out processing of a **persistent verification signed-on-from list**, also known to CICS as a local userid table (LUIT).

DFHCLS3 performs the following actions:

1. Calls DFHZCUT to find a userid that needs to be timed out
2. Makes a sign-off call to the other LU

3. Calls DFHZCUT to remove the userid from the LUIT.

This sequence is repeated until there are no more userids to be timed out.

If DFHCLS3 abends during time-out processing, control passes to a SETXIT routine in DFHCLS3, which calls DFHZCUT to tidy up the relevant LUIT.

DFHZLS1

DFHZLS1 is the main program for the CICS implementation of the CNOS SNA service transaction. When acting as the initiator of a CNOS request (the CNOS source), it is invoked by the DFHZLS1M macro issuing a DFHIC TYPE=PUT for transaction id CLS1. The possible commands on the CNOS source system are:-

- INITIALIZE_SESSION_LIMIT

  Acquire the specified connection, using the MAXIMUM values from the RDO SESSIONS definitions (for the required session limit and number of winner sessions) on the CNOS command for each modegroup.
- CHANGE_SESSION_LIMIT

  Negotiate a change of the current session limit for a specified modegroup.
- RESET_SESSION_LIMIT

  Release the connection, negotiating all modegroups to a session limit of zero.

When acting as the receiver of a CNOS request (the CNOS target), DFHZLS1 is invoked by an attach FMH for TPN X'06F1' sent from the CNOS source system, which is not necessarily CICS. The CNOS command sent with the attach FMH requests changes to the sessions in specified modegroups. In SNA terms, DFHZLS1 is handling a PROCESS_SESSION_LIMIT command. It issues a DFHLUC RECEIVE for the CNOS GDS that contains the details of the required command.

DFHZLS1 passes the parameters for each of the above commands through to DFHZGCN, where the detailed processing takes place.

DFHZGCN

DFHZGCN is an AP domain subroutine. It handles the four architected CNOS functions, as described below.

INITIALIZE_SESSION_LIMIT

This is a two pass function in CICS. First time through, DFHZGCN initiates the bind of the SNASVCMG winner session and returns. The bind processing eventually causes the “session started” routine in DFHZNAC to run. This re-issues the DFHZLS1M INITIALIZE_SESSION_LIMIT request, and the CNOS negotiation can then take place.

DFHZGCN performs the following actions:

1. Does a ‘privileged’ allocate (for a SNASVCMG session).
2. Builds an attach header.
3. Completes the building of the CNOS command, using MAXIMUM values in the TCTME.
4. Issues a SEND INVITE WAIT.
5. Issues a RECEIVE LLID.
6. Analyzes the responses to the command; SNA decrees that the CNOS source must accept the values returned.
7. Calls DFHZGCA to action the new values.

8. Sends messages DFHZC4900 and DFHZC4901 as appropriate.
9. Frees the session.

The above steps are repeated for each user modegroup in the connection.

RESET_SESSION_LIMIT

A connection release request is passed via DFHZLS1 to DFHZGCN.

DFHZGCN performs the following actions:

1. Does a 'privileged' allocate.
2. Builds an attach header.
3. Completes the building of one CNOS command, setting MAX, WIN, and LOS values to zero, and mode names affected to ALL.
4. Issues SEND INVITE WAIT.
5. Issues RECEIVE LLID.
6. Analyzes the response to the command; the CNOS target must accept zero sessions (DRAIN can be changed from ALL to NONE).
7. Calls DFHZGCA to action the new values.
8. Sends message DFHZC4900.
9. Frees the session.

CHANGE_SESSION_LIMIT

DFHZLS1 is started from the EXEC API or CEMT via DFHEIQSM to change the session limit for a specific modegroup.

DFHZGCN performs the following actions:

1. Does a 'privileged' allocate.
2. Builds an attach header.
3. Completes the building of one CNOS command, setting MAX and WIN values.
4. Issues SEND INVITE WAIT.
5. Issues RECEIVE LLID.
6. Analyzes the responses to the command; SNA decrees that the CNOS source must accept the values returned.
7. Calls DFHZGCA to action the new values.
8. Sends messages DFHZC4900 and DFHZC4901 as appropriate.
9. Frees the session.

PROCESS_SESSION_LIMIT

DFHZLS1 is attached, and calls DFHZGCN.

DFHZGCN performs the following actions:

1. Addresses the CNOS command that DFHZLS1 passed.
2. For each mode group specified, determines whether the values for session limit, source contention winners and source contention losers are acceptable. If not, the values are adjusted (negotiated) according to rules laid down by SNA.
3. If this system is currently performing shutdown, negotiates down to session limit zero.
4. Calls DFHZGCA to action the new values.
5. Sends the CNOS reply containing the negotiated values.
6. Sends messages DFHZC4900 and DFHZC4901 as appropriate.

DFHZGCA

DFHZGCA is an AP domain subroutine. It has three separate functions, as described below.

ACTION_CNOS_AND_CONNECT

After a CNOS negotiation DFHZGCA is responsible for changing the state of a specified modegroup to reflect the new values. There are three types of action required.

1. Put sessions in/out of service for session limit increase/decrease.
2. Set sessions to winner/loser in line with negotiated values.
3. Bind/unbind sessions for session limit decrease, autoconnect processing or contention polarity switch.

SET_NEGOTIATED_VALUES

This function is used by DFHZGPC during persistent sessions restart to set the saved CNOS values in the modegroup without any binding/unbinding of sessions.

ENSURE_SESSIONS_BOUND

DFHZXRE0 invokes this function during persistent sessions restart because recovery processing can lead to LU6.2 sessions becoming unbound. It is important to ensure that they are re-bound in accordance with the autoconnect setting.

Exits

No global user exit points are provided for this function.

Trace

All of the above mentioned modules have entry and exit trace points. Several of them also have exception and level 2 trace points. All of these trace points are from the AP domain and have ids in the range FB00-FCFF.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 67. VTAM persistent sessions support

This diagnosis information describes in detail how CICS handles VTAM persistent sessions support. When persistent sessions support is exploited by a CICS region, sessions can be recovered if CICS, VTAM, or z/OS fails, depending on the type of support.

For an introduction to this topic from the VTAM point of view, see the *VTAM Network Implementation Guide*.

Design overview

CICS support of persistent sessions includes the support of all LU-LU sessions, except LU0 pipeline and LU6.1 sessions. With multinode persistent sessions support, if VTAM fails, LU62 synclevel 1 sessions are restored, but LU62 synclevel 2 sessions are not restored.

The CICS system initialization parameter **PSTYPE** specifies the type of persistent sessions support for a CICS region:

SNPS, single-node persistent sessions
: Persistent sessions support is available, so that VTAM sessions can be recovered after a CICS failure and restart. This setting is the default.

MNPS, multinode persistent sessions
: In addition to the SNPS support, VTAM sessions can also be recovered after a VTAM or z/OS failure in a sysplex.

NOPS, no persistent sessions
: Persistent sessions support is not required for the CICS region. For example, a CICS region that is used only for development or testing might not require persistent sessions.

The time specified by the **PSDINT** system initialization parameter for the region determines how long the sessions are retained. If CICS, VTAM, or z/OS fails, if a connection to VTAM is reestablished within this time, CICS can use the retained sessions immediately; there is no need for network flows to rebind them.

You can change the persistent sessions delay interval using the **CEMT SET VTAM** command, or the **EXEC CICS SET VTAM** command. The changed interval is not stored in the CICS global catalog, and therefore is not restored in an emergency restart.

If CICS fails or undergoes immediate shutdown (by means of a **PERFORM SHUTDOWN IMMEDIATE** command), VTAM holds the CICS LU-LU sessions in recovery pending state, and they can be recovered during startup by a newly starting CICS region. With multinode persistent sessions support, sessions can also be recovered if VTAM or z/OS fails in a sysplex.

During an emergency restart of CICS, CICS restores those sessions pending recovery from the CICS global catalog and the CICS system log to an in-session state. This process of persistent sessions recovery takes place when CICS opens its VTAM ACB. With multinode persistent sessions support, if VTAM or z/OS fails, sessions are restored when CICS reopens its VTAM ACB, either automatically by the COVR transaction, or by a CEMT or **EXEC CICS SET VTAM OPEN** command. Although sessions are recovered, any transactions inflight at the time of the failure are abended and not recovered.

Subsequent processing depends on the LU. Cleanup and recovery for non-LU6 persistent sessions is similar to that for non-LU6 backup sessions under XRF. Cleanup and recovery for LU6.2 persistent sessions maintains the bound session when possible, but in some cases it might be necessary to unbind and rebind the sessions, for example, where CICS fails during a session resynchronization.

When a terminal user enters data during persistent sessions recovery, CICS appears to hang. The screen that was displayed at the time of the failure remains on display until persistent sessions recovery is complete. You can use options on the TYPETERM and SESSIONS resource definitions for the CICS region to customize CICS so that either a successful recovery can be transparent to terminal users, or terminal users can be notified of the recovery, allowing them to take the appropriate actions.

If APPC sessions are active at the time of the CICS, VTAM or z/OS failure, persistent sessions recovery appears to APPC partners as CICS hanging. VTAM saves requests issued by the APPC partner, and passes them to CICS when recovery is complete. When CICS reestablishes a connection with VTAM, recovery of terminal sessions is determined by the settings for the PSRECOVERY option of the CONNECTION resource definition and the RECOVOPTION option of the SESSIONS resource definition. You must set the PSRECOVERY option of the CONNECTION resource definition to the default value SYSDEFAULT for sessions to be recovered. The alternative, NONE, means that no sessions are recovered. If you have selected the appropriate recovery options and the APPC sessions are in the correct state, CICS performs an **ISSUE ABEND** to inform the partner that the current conversation has been abnormally ended.

Situations in which sessions are not reestablished

When VTAM persistent sessions support is in use for a CICS region, CICS does not always reestablish sessions that are being held by VTAM in a recovery pending state. In the situations listed here, CICS or VTAM unbinds and does not rebind recovery pending sessions.

- If CICS does not restart within the persistent sessions delay interval, as specified by the **PSDINT** system initialization parameter.
- If you perform a COLD start after a CICS failure.
- If CICS restarts with XRF=YES, when the failed CICS was running with XRF=NO.
- If CICS cannot find a terminal control table terminal entry (TCTTE) for a session; for example, because the terminal was autoinstalled with AIRDELAY=0 specified.
- If a terminal or session is defined with the recovery option (RECOVOPTION) of the TYPETERM or SESSIONS resource definition set to RELEASESESS, UNCONDREL or NONE.
- If a connection is defined with the persistent sessions recovery option (PSRECOVERY) of the CONNECTION resource definition set to NONE.
- If CICS determines that it cannot recover the session without unbinding and rebinding it.

The result in each case is as if CICS has restarted following a failure without VTAM persistent sessions support.

In some other situations APPC sessions are unbound. For example, if a bind was in progress at the time of the failure, sessions are unbound.

With multinode persistent sessions support, if a VTAM or z/OS failure occurs and the TPEND failure exit is driven, the autoinstalled terminals that are normally deleted at this point are retained by CICS. If the session is not reestablished and the terminal is not reused within the AIRDELAY interval, CICS deletes the TCTTE when the AIRDELAY interval expires after the ACB is reopened successfully.

Situations in which VTAM does not retain sessions

When VTAM persistent sessions support is in use for a CICS region, in some circumstances VTAM does not retain LU-LU sessions.

- If you close VTAM with any of the following CICS commands:
  - `SET VTAM FORCECLOSE`
  - `SET VTAM IMMCLOSE`
  - `SET VTAM CLOSED`
- If you close the CICS node with the VTAM command `VARY NET INACT ID`=*applid*.
- If your CICS system performs a normal shutdown, with a `PERFORM SHUTDOWN` command.

If single-node persistent sessions support (SNPS), which is the default, is specified for a CICS region, sessions are not retained after a VTAM or z/OS failure. If multinode persistent sessions support (MNPS) is specified, sessions are retained after a VTAM or z/OS failure.

Persistent sessions restart flow

Diagnostic information about the process of persistent sessions recovery.

Enabling of persistence

CICS requests persistent sessions support when it opens the VTAM ACB.

Summary

1. VTAM ACB opened with PARM=PERSIST=YES
2. VTAM levels checked.
3. VTAM SETLOGON OPTCD=PERSIST or NPERSIST

More detail

Persistence is enabled as follows:

1. The VTAM ACB is opened with PARM=PERSIST=YES, specified in DFHTCTPX.
2. DFHZSLS calls DFHZGSL to issue SETLOGON OPTCD=PERSIST/NPERSIST. DFHZSLS copies 8 bytes of VTAM information into the TCT prefix. These bytes contain details of the VTAM level and the functions that it supports. Releases of CICS that did not support persistent sessions copied only 4 bytes of VTAM data.

The use of persistent sessions depends on the level of VTAM being at least V3R4.1 for single-node persistent sessions support. This level of VTAM returns more function bit data to CICS than previous versions and supports the use of persistent sessions. Checks are made by CICS of the current VTAM level and the VTAM level against which the TCT was generated. If either level is not high enough, parameters relating to the use of persistent sessions are not used when macros are called.

Sessions that persist at CICS startup

These tasks and modules are involved when VTAM persistent sessions are restored on a CICS restart.

Summary

1. Task CGRP runs DFHZCGRP.
2. DFHZCGRP calls DFHZGRP.
3. DFHZGRP issues VTAM INQUIRE.
4. DFHZGRP performs one of these actions:
   - Terminates session via DFHZGUB issuing CLSDST/TERMSESS.
   - Restores the session with OPNDST TYPE=RESTORE.
5. DFHZGRP queues restored sessions for further processing.
6. DFHZGRP issues RECEIVE_ANY commands.
7. DFHZGRP does some CNOS work.
8. DFHZGRP does some URD work.
9. Queued sessions are restored.

More detail

Sessions that persist at startup time are processed in this way:

1. Attach task CGRP - program DFHZCGRP in DFHSII1 after TCRP is attached.
2. DFHZCGRP calls DFHZGRP with a START_TYPE of one of the following:
   - COLD
   - WARM
   - EMER_XRF
   - EMER
3. DFHZGRP issues VTAM INQUIREs in 'chunks'; that is, VTAM is passed an area with a size defined in the TCT prefix.

   The area is filled with NIBs by VTAM. DFHZGRP scans the NIBs and determines whether to UNBIND or OPNDST each session.

   For COLD, WARM, and EMER_XRF, all sessions are unbound.

   For EMER, some sessions are unbound and some restored depending on the circumstances.
4. Restored sessions are queued to DFHZACT for further processing by DFHZXRC or DFHZXPS.
5. RECEIVE_ANY initialization done.
6. CNOS records are processed by making calls to DFHZGPC.
7. URDS are reset to AWAITING RE_SYNCHRONIZATION for EMER only.
8. DFHZACT calls DFHZXRC or DFHZXPS for each session queued by DFHZGRP.

Task and module flow diagram

```
-> indicates an ATTACH

  TASK
                             TCRP
   1     TCP      III      CSSY           CGRP
```

```
       ---      ---      ----           ----
.
.
SII1->ZCSTP
       ZDSP
       .ZSLS
       . ZGSL
       Spin on
       TCTV_RA_DONE
       .
SII1---------->SII1 --->TCRP
               SII1----------------->   ZCGRP
       .       .        . install       .ZGRP
       .       .        . TCTTEs        .  INQUIRE on
       .       .        . etc           .  persistent sessions
       .       .        .               .  wait on TCTVCECB (EMER)
       .       .        . Post TCTVCECB
       .       .        task end        .
       .       .                        .  process persistent
       .       .                        .  sessions
       .       .                        .  RECEIVE_ANY processing
       ZDSP continues <------------------- set TCTV_RA_DONE
               .                           post TCTV_ZGRP_FIN_ECB
               .                        task end
               . Wait on
               . TCTV_ZGRP_FIN_ECB
               SIJ1
               . SETLOGON START
               . Start CXRE task
               . Control is Given to CICS
       ZACT
       . ZXRC
       . ZXPS
```

Task and module flow: more detail

1. Startup runs as normal until DFHSII1 has started the TCP (CSTP) task and DFHZDSP runs.
2. DFHZDSP calls DFHZSLS.
   - If VTAM is at least V3R4.1, DFHZSLS calls DFHZGSL to issue SETLOGON OPTCD=PERSIST if the value of the system initialization parameter PSDINT is a valid nonzero value.
   - If the VTAM level is V3R4.0 or PSDINT is 0 or defaulted with higher levels of VTAM, DFHZSLS calls DFHZGSL to issue SETLOGON OPTCD=NPERSIST.
   - If the VTAM level is lower than V3R4.0, the SETLOGON OPTCD call is not made because PERSIST and NPERSIST are not supported for these VTAM releases.

   DFHZSLS does *not* issue RECEIVE OPTCD=ANY. It returns to DFHZDSP, which "spins" until TCTV_RA_DONE is set by DFHZGRP when the RECEIVE_ANY commands have been successfully issued.
3. DFHSII1 attaches the III task which continues to run code in DFHSII1.
4. DFHSII1 (III) attaches and calls DFHTCRP as a system task and then attaches task CGRP, which runs program DFHZCGRP which calls ZGRP.
5. DFHZGRP calls DFHZGUB if there are any sessions to unbind.
6. DFHZGRP queues any sessions to be restored to DFHZACT.
7. DFHZGRP sets TCTV_RA_DONE after issuing RECEIVE_ANY commands to allow DFHZDSP to continue.
8. DFHZGRP posts TCTV_ZGRP_FIN_ECB.

9. When DFHZGRP finishes, control is returned to code in DFHZCGRP.

   DFHZCGRP checks the RESPONSE and REASON code. It sets TCTV_ZGRP_FAILED off if RESPONSE(OK) or RESPONSE(EXCEPTION) with REASON(ACB_CLOSED|INQUIRE_FAILED). Otherwise, it sets TCTV_ZGRP_FAILED on.
10. DFHSII1 waits on TCTV_ZGRP_FIN_ECB and checks if TCTV_ZGRP_FAILED was set on by DFHSII1.

    If TCTV_ZGRP_FAILED is off, DFHSII1 continues. Otherwise, it sets INITDERR, which causes CICS to stop when the other tasks have finished.
11. Just before CONTROL IS GIVEN to CICS, DFHSIJ1 attaches the CXRE task to run DFHZXRE0, which does some additional PRSS processing.
12. DFHZXRC or DFHZXPS are then called to process any TCTTEs queued to DFHZACT.
13. DFHZXRC is called by DFHZACT to process non-APPC sessions that have not been unbound by DFHZGRP. It takes one of the following actions depending on the state of the session, the terminal type, and how the TYPETERM for the session has been defined to CICS:
    - Send END_BRACKET.
    - Send CLEAR (followed by START_DATA_TRAFFIC for SNA devices which support it).
    - Unbind.

    For those devices for which the cleanup action is not to unbind, the TCTTE is queued to DFHZNAC and message DFHZC0146 is issued for the session.

    As part of the processing for message DFHZC0146, any recovery notification requested for the session is initiated:
    - If the requested recovery notification is MESSAGE, DFHZNCA sends a BMS map to the terminal.
    - If the requested recovery notification is TRANSACTION, DFHZNCA initiates the requested transaction.
14. DFHZXPS is called by DFHZACT to process APPC sessions.

    DFHZXPS takes one of the following courses of action depending on the setting of TCTE_PRSS on entry.
    - Examines the data pointed to by TCTV_PRSS_CV29_PTR to determine the state of the session at system failure.
      a. If a task is attached, calls DFHZGDA to issue DEALLOCATE,ABEND for the task still running on the partner.
      b. If no task is attached but there is further recovery to be done, for example, bid recovery or outstanding responses, sets the TCTTE to a state which allows this further recovery to proceed. If the existing mechanism will carry out the recovery without further intervention by DFHZXPS, removes the TCTTE from the DFHZACT queue; otherwise, requeues the TCTTE to DFHZACT and DFHZXPS will be recalled at a later stage to finish recovery processing.
      c. If no task is attached and there is no further recovery to be done, removes the TCTTE from the DFHZACT queue because recovery is now complete.
    - Recalls DFHZGDA to continue with DEALLOCATE,ABEND or REJECT_ATTACH processing.
    - Requeues the TCTTE to DFHZACT if a SEND (for example, of an outstanding response), which was set in motion by an earlier instance of DFHZXPS, is still in progress.

- Issues CLSDST for the session if an error has occurred during the recovery process.
- Carries out further recovery as described above, if required, following successful completion of DEALLOCATE,ABEND processing.
- Removes the TCTTE from the DFHZACT queue when all recovery has completed.

Sessions that persist when CICS opens the VTAM ACB

These tasks and modules are involved when the VTAM ACB is dynamically opened by a SET VTAM OPEN command from a running CICS system. With single-node persistent sessions support (SNPS), if VTAM fails but CICS continues to run, sessions no longer exist.

Summary

With multinode persistent sessions support (MNPS), sessions do persist if VTAM or z/OS fails. CICS does not delete the autoinstalled resources, and resets all the terminal and connection sessions to unopened state.

1. CEMT SET VTAM OPEN.
2. DFHEIQVT calls DFHZOPA.
3. DFHZOPA calls DFHZSLS.
4. DFHZSLS call DFHZGSL.
5. DFHZGSL issues SETLOGON PERSIST or NPERSIST.
6. DFHZOPA calls DFHZGRP.
7. DFHZGRP issues INQUIRE PERSESS.
8. DFHZGRP terminates the session by means of DFHZGUB issuing CLSDST/TERMSESS. However, if MNPS is in use, the sessions are restored using OPNDST RESTORE instead.
9. DFHZGRP issues RECEIVE_ANY commands.
10. DFHZGRP deletes CNOS catalog records.
11. DFHZOPA issues SETLOGON START.

More detail

Sessions that persist after the ACB has been opened using a **SET VTAM OPEN** command are processed in this way:

1. CICS is running with the VTAM ACB closed. **CEMT SET VTAM OPEN** or **EXEC CICS SET VTAM OPEN** is issued.
2. DFHEIQVT calls DFHZOPA to open the ACB.
3. DFHZOPA calls DFHZSLS.
4. DFHZSLS calls DFHZGSL.
5. DFHZGSL issues VTAM macro calls dependent on the VTAM level and PSDINT value.
   - If VTAM is at least V3R4.1, DFHZGSL issues SETLOGON OPTCD=PERSIST if the value of the **PSDINT** system initialization parameter is a valid nonzero value.
   - If the VTAM level is V3R4.0 or PSDINT is 0 or defaulted with higher levels of VTAM, DFHZGSL issues SETLOGON OPTCD=NPERSIST.
   - If the VTAM level is lower than V3R4.0, the SETLOGON OPTCD call is not made because PERSIST and NPERSIST are not supported for these VTAM releases.

6. DFHZOPA calls DFHZGRP with startup type of DYNOPEN.
7. DFHZGRP issues INQUIRE PERSESS with a storage area that will take up to about 400 sessions. INQUIRE PERSESS is reissued until all the NIBs have been obtained from VTAM.
8. DFHZGRP calls DFHZGUB if there are any sessions to unbind. For MNPS, DFHZGRP instead issues OPNDST RESTORE for each session that persists.
9. DFHZGRP issues RECEIVE_ANY commands.
10. DFHZGRP calls DFHZGCC to delete CNOS records.
11. If ZGRP returns RESPONSE(OK) or RESPONSE(EXCEPTION) with REASON(ACB_CLOSED|INQUIRE_FAILED), DFHZOPA issues SETLOGON OPTCD=START. Otherwise, it causes DFHZSHU to close the VTAM ACB and then returns to DFHEIQVT.

TCB concurrency

When DFHZGRP is working on persistent sessions recovery, it switches to use the concurrent TCB if there are enough NIBs to process during an emergency start.

Summary

If SUBTSKS = 1 is specified as a system initialization parameter, this processing takes place:

- DFHZGRP switches to concurrent TCB if enough NIBs to process.
- INQUIRE PERSESS work done concurrently with TCRP ZC INSTALL.
- DFHZGUB switches to concurrent TCB if enough NIBs to process. (Emergency start only).
- OPNDST RESTORE and CLSDST/TERMSESS done concurrently.

More detail

During startup, DFHZGRP is attached as a task and runs at the same time as other startup tasks such as DFHTCRP and DFHRCRP. However, DFHZGRP also switches to use the CONCURRENT TCB if there are enough NIBs to process during an emergency start.

The use of the CONCURRENT TCB allows DFHZGRP to issue INQUIRE OPTCD=PERSESS as many times as is necessary, concurrently with the TCTTEs being restored by DFHTCRP.

When DFHZGRP finishes issuing INQUIRE OPTCD=PERSESS, it waits for DFHTCRP to finish before matching each persisting NIB with the restored TCTTEs.

Each NIBLIST is then restored using the OPNDST OPTCD=RESTORE command and while this command is running asynchronously DFHZGUB is called to run under the concurrent TCB if there are enough NIBs to be unbound in the NIBLIST.

Persistent sign-on under persistent sessions

If CICS has persistent verification defined, the sign-on is not active under persistent sessions until the first input is received by CICS from the terminal.

1. After the persistent session has been recovered, the TCTTE is marked to indicate that the sign-on will persist.
2. The RECOVNOTIFY message or transaction is processed. Because RECOVNOTIFY is processed before persistent sign-on is recovered, only the

first transaction specified in the RMTRAN system initialization parameter is processed; the second transaction specified cannot be processed because security has not yet been restored.

3. The user presses an Attention IDentifier (AID) key.
4. CICS runs the CPSS transaction to recover the sign-on.

Modules

These modules are involved in VTAM persistent sessions recovery.

ZC (terminal control) together with the following modules:

Module	Function
DFHZCGRP	Program initiated by task CGRP to set up the start type and to call DFHZGRP during initialization. It then analyses the response from DFHZGRP and decides if CICS can continue or not.
DFHZGCA	Sets the appropriate ZC control blocks to reflect the currently agreed Change Number Of Session (CNOS) values for an LU6.2 connection.
DFHZGCC	Performs catalog and retrieval of CNOS data. This module is called when CICS needs either to store or to recover CNOS values. During a CICS run, all CNOS values are written to the global catalog. Under normal circumstances they are not needed. However, if a persistent sessions restart is performed, it is necessary to recover the CNOS values that were in operation at the time of the CICS failure. This recovery is achieved by having a record on the global catalog that can be read in during PRSS restart and used to restore the sessions to their state before failure. This module handles the maintenance of the CNOS records during normal CICS operation and the recovery of the records during PRSS recovery.
DFHZGCN	Handles the process of LU6.2 Change Number Of Sessions (CNOS) negotiation, acting as either the source or target end of the conversation, and calls DFHZGCA to action the resulting changes.
DFHZGDA	Takes control of APPC conversations that have persisted across a CICS failure, and ensures that they are ended cleanly, by issuing a Deallocate(Abend) informing the partner LU that the CICS transaction has abended. If DFHZGDA is working correctly the CICS failure and restart is transparent to the partner LU, which understands only that the CICS transaction with which it was communicating has ended. DFHZGDA also performs REJECT_ATTACH processing for synclevel 2 conversations that are started by the partner before Exchange Lognames has been done after a persistent sessions restart.
DFHZGPC	Performs recovery of CNOS values for modegroups. This module is called when CICS is performing a persistent sessions (PRSS) restart. When a PRSS restart is performed, it is not enough to recover the sessions. It is also necessary to recover the CNOS state that the sessions had before the CICS failure. DFHZGCC will have maintained a record of the CNOS state on the global catalog. This record is now used in this module in an attempt to restore CNOS values.

Module	Function
DFHZGPR	The role of DFHZGPR is to update the global catalog whenever it is necessary to add, delete, or test for a record indicating that an APPC connection has a Persistent Resource associated with it. A Persistent Resource can be defined as some session state, or piece of work upon which the partner LU depends, and which will be lost if CICS fails. The only Persistent Resource so far identified is a shipped AID. Before persistent sessions, the failure of the APPC session tells the partner that these resources have been lost, and drives his recovery. With the advent of persistent sessions, it is necessary for a persisting CICS to know that an APPC session had a Persistent Resource associated with it, so that the connection can be unbound (to drive the partner's cleanup) and then rebound.
DFHZGRP	Initialize VTAM persistent sessions. DFHZGRP is a domain subroutine but is called by DFHZCGRP (task CGRP) during initialization. DFHZGRP is called during ZC initialization or when the VTAM ACB is opened dynamically by CEMT SET VTAM OPEN or EXEC CICS SET VTAM OPEN by DFHEIQVT. The module performs these tasks: 1. OPNDST RESTOREs or CLSDST/TERMSESS any session that VTAM has held persisting, depending on startup type and session parameters. 2. It calls DFHZGPC to reinstate CNOS records during an emergency restart, or calls DFHZGCC to delete CNOS catalog records. 3. It initializes the RECEIVE_ANY RPLs and issues the RECEIVE_ANYs.
DFHZGSL	Informs VTAM whether sessions are to persist or not. This module is called when CICS needs to set, unset, or change the Persistent Sessions PSTIMER value.
DFHZGUB	Issue CLSDST or TERMSESS for individual NIBs in a NIBLIST. This module is called by DFHZGRP to unbind NIBs in a NIBLIST in two ways: • Unbind the entire NIBLIST for COLD, WARM, EMER+XRF and dynamic open. • Unbind only the NIBs with NIBUSER = 0 for EMER starts.

Module	Function
DFHZXPS	DFHZXPS handles Persistent Sessions recovery for APPC sessions. It does not deal with non-APPC sessions, which are dealt with by DFHZXRC. DFHZXPS is called by DFHZACT after OPNDST OPTCD=RESTORE has been issued successfully for a persisting APPC session. Both single and parallel APPC sessions are dealt with, but there is no difference in the processing. The task of DFHZXPS is to examine VTAM session tracking data which was hung off TCTE_PRSS_CV29_PTR by DFHZGRP following a Persistent Sessions restart, and, if possible, to update the TCTTE to allow work to continue on the session. If it is not possible to determine the state of the session before system failure, or the session was not in a state which allows it to be recovered, the session is unbound.
DFHZXRC	DFHZXRC analyses the Session State Vector data that is hung off TCTE_PRSS_CV29_PTR by DFHZGRP during an emergency restart, for each persisting session. The necessary action to clean up and recover the session is then initiated.

Diagnosing persistent sessions problems

Consult this data when diagnosing problems with VTAM persistent sessions support.

- Trace, TC level 1, 2, and exception in the range of AP FB10-FBFF.
- | CEMT INQUIRE VTAM showing the PSTYPE and PSDINT values. The setting NOPS for PSTYPE means that persistent sessions support was not requested at startup of the CICS region. A zero setting for PSDINT means that sessions are not retained.
- Console and CSNE logs:
  - Persistent session messages (DFHZC0001 to DFHZC0162)
  - Information produced by DFHZNAC
- Dumps taken by some of the above messages. If a NIBLIST was present at the time the dump was taken, you can examine it by printing the TCP section of the dump.
- Last flow information, that is, the CV29, FMH5, BIS, and BID information, is useful if a session is in the wrong state after a persistent session restart. This might have been diagnosed by an error message, or maybe missed and message DFHZC0146 or DFHZC0156 issued.

  TCTE_PRSS_CV29_PTR points to the CV29, FMH5, BIS, and BID information which was created by DFHZGRP and used by DFHZXPS or DFHZXRC. It is freed when DFHZNAC issues message DFHZC0146 or DFHZC0156. Otherwise, it is freed when the session is unbound.

  The last flow information is traced by DFHZXPS as a TC level 1 trace. If you have a dump, but no trace level 1 available, it is dumped in the TCP section for each TCTTE for which it still exists.
- The contents of byte TCTE_PRSS are useful. Values other than X'00' and X'FF' indicate that something went wrong during the PRSS recovery. The possible values are listed in the *CICS Data Areas*. If a value is left in this byte, the meaning can indicate where the recovery went wrong. The values are described in “Persistent sessions status byte (TCTE_PRSS)” on page 547.

- The contents of the state machines are useful.
  - TCTECNTS, contention state machine
  - TCTEBKTS, bracket state machine
  - TCTECHSS, chain state machine
  - TCTEUSRS, user state machine
- The contents of TCTE_BID_STATUS are useful. They are described in “Bid status byte (TCTE_BID_STATUS)” on page 550.

Here are some possible problems:

- DFHZGRP can cause CICS to stop during initialization for the following reasons:
  - DFHZGRP has been called with invalid parameters.
  - DFHZGRP cannot complete the receive any process.
  - DFHZGRP has had a loop or abend.
  - DFHZGRP cannot switch back to the QR TCB.
  - DFHZGRP has failed before any NIBs have been obtained from VTAM (with INQUIRE OPTCD=PERSESS).
  - DFHZGRP or DFHZGUB has issued a VTAM request that failed to respond within 5 minutes. Issued with message DFHZC0128 and a system dump.

  In each case DFHZGRP or a function it has called issues a message giving a reason for the failure.
- Sessions might be unbound by DFHZGRP for the following reasons:
  - The restart is COLD, WARM, or EMER + XRF.
  - The open of the ACB is dynamic, for example, CEMT SET VTAM OPEN. However, if MNPS is in use, sessions are normally restored at this point.
  - The TCTTE has not been found, probably because it has not been cataloged. Either the terminal was autoinstalled with AIRDELAY=0, or it was an APPC clone. No message is written because this state is considered to be normal.
  - CICS does not support recovery for LU61 or pipeline sessions.
  - The TCTTE does not match the NIB, possibly because of an operational failure. Has the correct global catalog data set been used?
  - A terminal or session had RECOVOPT UNCONDREL|NONE specified.
  - A connection had PSRECOVERY NONE specified.
  - A matching mode group was not found. Have you got the right global catalog data set?
  - A suitable session was not found, perhaps because the CNOS values created many “up for grabs” sessions which were in use when CICS failed. This situation would occur if the session limit was high and the contention winners was low. The situation might also occur if CICS was in the process of CNOSing from a high session limit to a low session limit at the time CICS failed. Message DFHZC0111 is issued in this case.
  - An URD was found for the session so the entire connection is unbound to allow the connection to recover correctly.
- APPC Sessions might be unbound by DFHZXPS for the following reasons. Some of the reasons are known states for which the session cannot be recovered. Others are unexpected errors.

  Known states for which the session cannot be recovered are as follows:
  - The last flow was a positive response to a bid with data.
  - Exchange log names (transaction CLS2) was running when the system failed.

  - A bind or bind security had not completed when the system failed.
  - Because of the last thing to flow, for example, SIGNAL, the state of the session at the time of system failure cannot be determined.

  Unexpected errors are as follows:
  - A bad return code was received from a call to DFGZGDA.
  - An attempt to reset the session from CS mode to CA mode or vice versa failed.
  - The TCTE_PRSS byte contained an unexpected value on entry to DFHZXPS.
  - The BIS, BID, or CV29 data pointed to by TCTV_PRSS_CV29_PTR contained an unknown value or was inconsistent.
  - An error occurred during some other part of the recovery process.
  - An internal logic error occurred in DFHZXPS.
- Sessions might be unbound by DFHZGDA for the following reasons:
  - A SEND issued as part of Deallocate(Abend) processing has failed.
  - A RECEIVE issued as part of Deallocate(Abend) processing has failed.
  - A logic error is detected during Deallocate(Abend) processing.
- Sessions might be unbound by DFHZXRC for the following reasons:
  - The user has specified RECOVOPT(RELEASESESS) and the session was in bracket at the time CICS failed.
  - End-Bracket and Clear/SDT cannot be used to clean up the session.
  - Cold Start has been requested for the session.
- Message DFHZC0124 can be issued with inconsistent counts if these conditions occur::
  - DFHZGRP loops or abends.
  - The ACB is closed by VTAM operator commands while DFHZGRP is in control.
- LU6.2 connections, which might be expected to persist, might be unbound if a persistent resource is associated with the connection when CICS fails (that is, there was an asynchronous processing request in progress at the time CICS failed).
- Following a persistent sessions restart, LU6.2 partners might experience a series of unexpected abends with sense code 08640001 from the persisting CICS. This condition can occur either because there was a conversation in progress at the time CICS failed, and CICS has ended the conversation with this code, or for synclevel 2 conversations, the partner has attempted to initiate a conversation before Exchange Lognames has run following a persistent sessions restart.
- Some APPC sessions might hang following a persistent sessions restart because CICS has determined that it was in RECEIVE state at the time of the CICS failure, and issued a RECEIVE for the expected data, but the partner has not sent the expected data; the RECEIVE will not time out in this situation, because RTIMOUT does not apply to sends issued by DFHZGDA.

Persistent sessions status byte (TCTE_PRSS)

The byte TCTE_PRSS in the TCTTE tracks the stage reached in the persistent sessions recovery of a session. If, for some reason, persistent sessions recovery does not complete, this field can give a useful indication of the stage reached in recovery when the problem occurred.

TCTE_NO_PRSS_RECOVERY (X'00')
X'00' is the value that TCTE_PRSS normally contains. It means one of the following:
- Persistent sessions are not being used.
- The session was successfully recovered following a persistent sessions restart.
- The session has been closed using CLSDST and restarted since a persistent sessions restart.
- The session was started after any persistent sessions restart.

If this session was a persisting VTAM session, TCTE_PRSS has been set to this value on completion of recovery notification for non-LU6.2 (see NAPES84 and NAPES83 routines), or in the session restarted logic of NAPES51 for LU6.2 sessions.

TCTE_NIB_MATCHED (X'01')
Placed in TCTE_PRSS by DFHZGRP after a TCTTE has been found which matches the NIB of a persisting VTAM session. This value is a transient value, because the OPNDST OPTCD=RESTORE is issued soon after, which causes TCTE_PRSS to be updated.

TCTE_OPNDST_RESTORE_COMPLETED (X'02')
Placed in TCTE_PRSS after an OPNDST OPTCD=RESTORE has been successfully issued for a VTAM Session by DFHZGRP. After this value has been placed in TCTE_PRSS, the TCTTE is put onto the activate scan queue to await processing by DFHZXRC or DFHZXPS.

TCTE_ZXRC_CLEANUP (X'20')
Placed in TCTE_PRSS by DFHZXRC when it begins processing a TCTTE. All TCTE_PRSS values relating to DFHZXRC processing are X'2x'. This value remains in TCTE_PRSS until the TCTTE is queued to DFHZNAC for the issuing of message DFHZC0146. If, for some reason, the TCTTE is not recovered and TCTE_PRSS contains this value, DFHZXRC might have a problem.

TCTE_ZXRC_ISSUE_RECOVERY_MSG (X'21')
DFHZXRC has identified the cleanup and recovery actions required, and has queued the TCTTE to DFHZNAC for recovery message processing (message DFHZC0146). If any problem occurs with the recovery notification processing in DFHZNCA, TCTE_PRSS is likely to contain this value; possibly, the TCTTE has been taken off the DFHZACT or DFHZNAC queues for an unexpected reason.

TCTE_ZXPS_CLEANUP (X'30')
All TCTE_PRSS values beginning (X'3x') indicate that DFHZXPS is doing its recovery and cleanup processing for this TCTTE. TCTE_PRSS is updated to this value on entering DFHZXPS for the first time. DFHZXPS only processes LU6.2 sessions.

TCTE_ZXPS_DEALLOCATE_ABEND (X'31')
DFHZXPS places this value into TCTE_PRSS before calling DFHZGDA for the first time. It indicates that DFHZXPS has determined that an APPC conversation was taking place at the time CICS failed, and that DFHZXPS is calling DFHZGDA to stop that conversation. Again, this value is transient, because DFHZGDA updates TCTE_PRSS as it proceeds with its DEALLOCATE(ABEND) processing.

TCTE_ZXPS_SEND_IN_PROGRESS (X'32')
DFHZXPS has determined that bidding activity was taking place at the

time CICS failed, and that some kind of SEND is required to complete the bid flows. If the session hangs with this value in TCTE_PRSS, a problem might have occurred with unexpected bid flows taking place.

TCTE_ZXPS_ISSUE_RECOVERY_MSG (X'33')
When DFHZXPS has completed recovery and cleanup for the session, it puts this value into TCTE_PRSS before queueing the TCTTE to DFHZNAC for recovery message processing.

TCTE_ZGDA_FMH7_SEND (X'41')
All TCTE_PRSS values with X'4x' indicate that DFHZGDA is stopping the APPC conversation that was in progress on the session at the time CICS failed. This value indicates that DFHZGDA is in the process of issuing a SEND for the FMH7 that is to stop the conversation.

TCTE_ZGDA_FMH7_COMP (X'42')
DFHZGDA has completed its Deallocate(Abend) processing. This value in TCTE_PRSS indicates to DFHZXPS that it can continue with any outstanding recovery and cleanup processing of its own.

TCTE_ZGA_FMH7_REC (X'43')
DFHZGDA has determined that CICS was in RECEIVE state at the time CICS failed, and has issued a RECEIVE for the RU expected from the partner. This value might appear in sessions that appear to be in an endless loop following a persistent sessions restart. If the partner does not issue the expected SEND, the RECEIVE is not run. Because this RECEIVE is issued under the TCP task, the RECEIVE is not subject to any RTIMEOUT.

TCTE_ZGDA_REC_EOC (X'44')
Placed in TCTE_PRSS if the first RECEIVE of the DFHZGDA module following the persistent sessions reveals that the partner is in the middle of sending a chain of RUs. If TCTE_PRSS contains this value, DFHZGDA has issued a RECEIVE_PURGE for the session. Again, depending on how quickly the partner sends the expected data, this session might appear to stop.

TCTE_ZGDA_SEND_RESP (X'45')
Placed in TCTE_PRSS if DFHZGDA has to issue a SEND for a response during Deallocate(Abend) processing.

TCTE_PRSS_CLSDST_SCHEDULED (X'FF')
This value is placed in TCTE_PRSS if an error occurs, or if, in the course of persistent sessions recovery, it is decided to stop the persisting session for one of a number of reasons:

- An error occurred issuing a SEND or RECEIVE during persistent sessions recovery.
- RECOVOPT(NONE) or RECOVOPT(UNCONDREL) was specified for the session.
- The only recovery action that DFHZXRC could take was to end the session.

The X'FF' value remains in TCTE_PRSS as an indicator that the session was ended during PRSS recovery. Only when the session is restarted is the value overwritten with X'00'.

Bid status byte (TCTE_BID_STATUS)

DFHZXPS uses a byte in the TCTTE, TCTE_BID_STATUS, to track the various stages of recovery. You can examine this byte to determine the stage of recovery reached by DFHZXPS.

The byte values have the following meanings:

- X'00'

  This session has not been processed by DFHZXPS.
- X'01' TCTE_SEND_POSITIVE_RESPONSE

  A positive response is to be sent to a bid that was received before system failure. This value is changed to X'07' TCTE_SENT_POSITIVE_RESPONSE before the TCTTE is requeued to DFHZACT for the SEND and so is only seen if DFHZXPS abends. When the response is sent DFHZXPS is recalled.
- X'02' TCTE_SEND_NEGATIVE_RESPONSE

  A negative response is to be sent to a bid with data that was sent before system failure. This response must be followed by RTR and so the status byte is changed to X'03' SEND_RTR before the TCTTE is requeued to DFHZACT for the SEND. This value is seen only if DFHZXPS abends. DFHZXPS is recalled when the response has been sent.
- X'03' TCTE_SEND_RTR

  Recovery is complete apart from the need to send RTR. This send is done by DFHZDET and DFHZXPS is not recalled.
- X'04' TCTE_SENT_RTR

  RTR was sent before system failure. No recovery is required. DFHZXPS is not recalled.
- X'05' TCTE_SEND_LUSTAT_EB

  Either a positive response to a bid was received, or a positive response was sent to RTR before the system failed. The bid now must be canceled. DFHZDET performs the cancellation and DFHZXPS is not recalled.
- X'06' TCTE_AWAITING_BB_RESPONSE

  A bid was sent before the system failed. No further recovery is required. When the response arrives from the partner, the bid is canceled. DFHZXPS is not recalled.
- X'07' TCTE_SENT_POSITIVE_RESPONSE

  Either a positive response has been sent to a bid or one is about to be sent (see TCTE_SEND_POSITIVE_RESPONSE). In the former case, DFHZXPS is not recalled, in the latter case, it is.
- X'08' TCTE_0814_RECEIVED

  A negative response was sent to a bid before the system failed. Any further recovery is carried out by DFHZDET and DFHZXPS will not be recalled.
- X'09' TCTE_0813_RECEIVED

  As for TCTE_0814_RECEIVED, except that no RTR is expected in this case. No further recovery processing is needed from either DFHZXPS or DFHZDET.
- X'0A' TCTE_SEND_RECOVERY_MESSAGE

  All recovery is now complete.
- X'0B' TCTE_DR1_OUTSTANDING

The last flow was inbound with CEB,RQD1 and so, although there is no task to ABEND, a response is still expected by the partner. DFHZSDL sends the response and any further recovery processing is done by DFHZDET. DFHZXPS is not recalled.

- X'0C' TCTE_DR1_EXPECTED

  As for TCTE_DR1_OUTSTANDING except that the last flow was inbound. DFHZDET arranges for the response to be received. DFHZXPS is not recalled.

TCTE_BID_STATUS must be used with TCTE_PRSS to determine the state of the recovery. If TCTE_PRSS is set to TCTE_ZXPS_ISSUE_RECOVERY_MESSAGE, or to a state that indicates that recovery is complete, DFHZXPS has finished processing. If not, DFHZXPS is recalled at a later stage.

Summary of persistent session waits

The DFHDSSRM waits are summarized here. They are all posted by DFHZGRP apart from PSUNBECB.

```
Module  Type Resource_name Resource_type ECB

DFHSII1 MVS  ZGRPECB       AP_INIT       TCTV_ZGRP_FIN_ECB

DFHZGUB OLDC PSUNBECB      ZC_ZGUB       WAIT_RPL_ECB

DFHZGRP MVS  PSOP1ECB      ZC_ZGRP       OPNDST_ECB

DFHZGRP MVS  PSOP2ECB      ZC_ZGRP       OPNDST_ECB

DFHZGRP MVS  PSINQECB      ZC_ZGRP       INQUIRE_ECB

DFHZGRP OLDC TCTVCECB      ZC_ZGRP       TCTVCECB
```

where the waits are issued for the following reasons:

ZGRPECB
Wait for DFHZGRP to complete.

PSUNBECB
Wait for free unbind RPL from RPL pool anchored from TCTV_PRSS_RPL_POOL_PTR.

PSOP1ECB
Wait for OPNDST RESTORE to complete.

PSOP2ECB
Wait for OPNDST RESTORE to complete after UNBINDs have failed.

PSINQECB
Wait for INQUIRE PERSESS to complete.

TCTVCECB
Wait for TCTTEs to finish installing (DFHTCRP).

VTAM exits

The VTAM exits SYNAD (DFHZSYX) or LERAD (DFHZLEX) might be driven during persistent sessions recovery.

In DFHZGRP, before INQUIRE OPTCD=PERSIST is issued, or in DFHZGUB before CLSDST or TERMSESS are issued, CICS sets the RPL user field to -2 to indicate to the exits that they must do *no* processing at all, because these macros might be issued under the concurrent TCB.

In DFHZGRP, before OPNDST OPTCD=RESTORE is issued, CICS sets the RPL user field to -1 to indicate to the exits that they must try minimum recovery; that is, they set the return code to TCZSYXPR if an error can be retried, or TCZSYXCF if it is a permanent error.

If an error occurs in DFHZGSL for SETLOGON OPTCD=PERSIST, DFHZSYX returns immediately (as for RPL user field = -2).

If MNPS is in use and VTAM crashes, DFHZTPX is driven with a code of 8. If the system initialization parameter PSTYPE=MNPS was specified, DFHZTPX does *not* schedule the autoinstalled TCTTEs for deletion. They are scheduled for CLSDST CLEANUP instead by DFHZSHU.

See *OS/390 eNetwork Communications Server: SNA Programming* for general VTAM exit information.

Trace

The trace point IDs AP FB10 through AP FBFF, for which the trace levels are TC 1 and TC 2, are provided for persistent sessions recovery.

These trace point IDs relate to the persistent sessions recovery modules DFHZGCA, DFHZGCC, DFHZGCN, DFHZGDA, DFHZGPC, DFHZGPR, DFHZGRP, DFHZGSL, DFHZGUB, DFHZCGRP, DFHZXPS, and DFHZXRC.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Statistics

The following statistics are produced by DFHZGRP. They are treated in the same way as other terminal control VTAM statistics.

A03_PRSS_NIB_COUNT
: The number of active VTAM sessions when INQUIRE OPTCD=COUNTS was issued; this value represents the number of persisting sessions.

A03_PRSS_INQUIRE_COUNT
: The number of times DFHZGRP issues INQURE OPTCD=PERSESS. Each INQUIRE is given about 400 sessions.

A03_PRSS_UNBIND_COUNT
: The number of times CLSDST or TERMSESS were issued by DFHZGUB.

A03_PRSS_OPNDST_COUNT
: The number of sessions that OPNDST RESTORE restored successfully.

A03_PRSS_ERROR_COUNT
: The number of sessions, with NIBUSER=tctte address, that VTAM failed to restore with OPNDST RESTORE. This value is incremented if VTAM operator commands are issued while DFHZGRP is in control and sessions are closed as a result.

Chapter 68. WTO and WTOR

Design overview

The DFHSUWT module provides the following support for executing MVS WTO and WTOR SVCs:

SEND supports Write To Operator (WTO):
- A single-line message up to 113 characters, or a multiline message consisting of a control line and up to nine lines of 69 characters
- Route code specification (route code list of 1 through 28 numbers, each in the range 1 through 28)
- Descriptor code specification (descriptor code list of 1 through 16 numbers, each in the range 1 through 16).

CONVERSE
supports Write To Operator With Reply (WTOR):
- A single-line message up to 121 characters
- Route code specification (route code list of 1 through 28 numbers, each in the range 1 through 28)
- Descriptor code specification (descriptor code list of 1 through each in the range 1 through 28) 16 numbers, each in the range 1 through 16)
- A reply with maximum length of 119 characters.

The DFHWTO macro may be used to send a message, normally to the system operator, when neither the CICS message domain nor the old message program (DFHMGP) can be used. The message domain cannot be used during certain phases of initialization and XRF processing, because it requires a kernel stack environment. DFHMGP cannot be used during initialization, nor during any sort of abend or dump processing, because it uses task LIFO storage and may therefore invoke the storage control program.

The DFHWTO macro may also be used to terminate CICS abnormally or to request a reply from the operator.

Any WTO or WTOR macros that are issued by CICS might be intercepted by the console message handling facility described under "Console message handling" on page 389. This service optionally inserts the CICS region's applid into CICS messages before they are displayed on the console.

Modules

DFHSUWT and DFHWTO

Exits

No global user exit points are provided for this function.

Trace

The following point IDs are provided for this function:
- AP FF0x, for which the trace levels are AP 1 and Exc.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Chapter 69. CICS Web support and the CICS business logic interface

CICS Web support is a collection of CICS services that enable a CICS region to act both as an HTTP server, and as an HTTP client. When CICS is an HTTP server, Web clients can use transaction processing services by calling CICS programs or by running CICS transactions. When CICS is an HTTP client, a user application program in CICS can initiate a request to an HTTP server, and receive a response from it. Web clients use TCP/IP to communicate with CICS Web support.

The CICS business logic interface allows other external users to use transaction processing services.

Control blocks

Figure 106 on page 556 shows the control blocks used by CICS Web support for 3270 display applications.

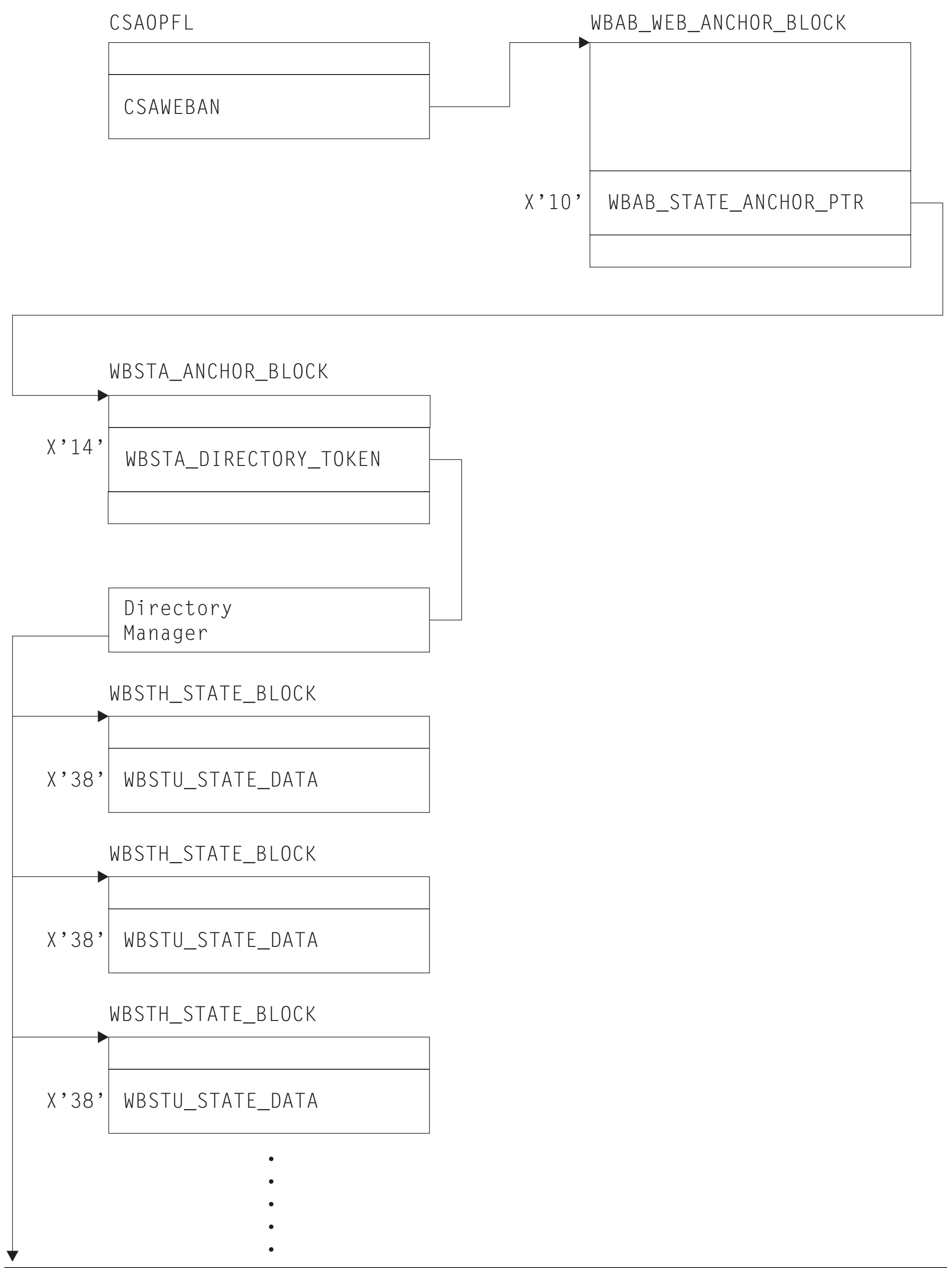


Figure 106. Web support module list

Modules

CICS Web support includes modules used for:

1. Initialization
2. Web attach processing
3. Default analyzer program
4. Alias transaction

5. Web error program
6. HTTP client processing
7. CICS business logic interface
8. CICS Web 3270 support
9. Unescaping function

Initialization, DFHWBIP

DFHWBIP initializes the Web environment at CICS startup.

Web attach processing, DFHWBXN

DFHWBXN is the Web attach processing module. It is the initial program invoked for transaction CWXN (or an alias of CWXN), which is attached for a new sockets connection received on a port associated with a TCPIPSERVICE definition with PROTOCOL(HTTP). It is also invoked for transaction CWXU (or alias), which is attached when the TCPIPSERVICE definition specifies PROTOCOL(USER). It calls the Web domain WBSR gate to process the incoming data.

Default analyzer program, DFHWBAAX

DFHWBAAX is the default analyzer program for a TCPIPSERVICE definition that specifies PROTOCOL(HTTP). It does not carry out further processing when a matching URIMAP definition has been found for the request, even if the URIMAP specifies ANALYZER(YES). It tests for the presence of a URIMAP definition, and if the result is positive, returns without performing any analysis on the request URL. This means that the settings specified in the URIMAP definition for the alias transaction, converter program and application program are automatically accepted and used to determine subsequent processing stages.

If no matching URIMAP definition is found, DFHWBAAX gives control to the user-replaceable Web error application program DFHWBERX to produce an error response. This is achieved by setting DFHWBERX as the application program to handle the request.

An alternative analyzer program that has been specified on the TCPIPSERVICE definition, such as the CICS-supplied sample analyzer program DFHWBADX, might carry out analysis on the request and specify alternative settings for the alias transaction, converter program and application program.

When the TCPIPSERVICE definition specifies PROTOCOL(USER), an analyzer program is always required to determine processing for requests (which are treated as non-HTTP requests). DFHWBAAX is not suitable for PROTOCOL(USER). The CICS-supplied sample analyzer program DFHWBADX or a customized analyzer program must be used instead. URIMAP definitions are not used with PROTOCOL(USER).

Alias transaction, DFHWBA

DFHWBA is the alias program. An alias transaction is started by Web attach processing for each request received from TCP/IP. The transaction ID can be selected by a URIMAP definition or an analyzer program, and the default is CWBA. For CICS Web support, DFHWBA calls the user application program that is specified to process the request. This application program could be specified in a URIMAP definition, or by an analyzer program or converter program. For the CICS business logic interface, DFHWBA calls the CICS business logic interface program.

HTTP client processing, DFHWBCL

DFHWBCL is the HTTP client processing module. It is called by the command interface DFHEIWB (when EXEC CICS WEB commands with the SESSTOKEN option are used in application programs), and the COMMAREA interface DFHWBCLI, to handle outbound HTTP functions, such as opening a session and writing a request to the socket.

CICS business logic interface, DFHWBBLI

DFHWBBLI is the CICS business logic interface program. The interface to the CICS business logic interface program is described in .

The CICS business logic interface program is called by DFHWBA. It calls the **Decode** function of a converter program, a CICS application program, or the **Encode** function of a converter program, according to what is specified in its parameter list, and passes the data back to the caller.

DFHWBA1 is the business logic compatibility interface program. In earlier releases, it was the business logic interface program, but it is now a compatibility layer on DFHWBBLI. It accepts data from an old-format business logic interface parameter list, copies it to the new format parameter list, then links to DFHWBBLI.

CICS Web support for 3270 display applications

The modules used by CICS Web support for handling 3270 display applications (sometimes referred to as the CICS Web bridge) are:

DFHWBGB
: Removes redundant state data from the system.

DFHWBST
: Manages the state data.

DFHWBTC
: Performs conversion between 3270 and HTML.

DFHWBTTA
: The Web terminal translation application, which sets up the parameters for bridging to transactions from CICS Web support. The program has two aliases, DFHWBTTB and DFHWBTTC.

DFHWBLT
: The CICS Web bridge exit.

Unescaping function, DFHWBUN

DFHWBUN provides an unescaping function for data which has been transmitted to CICS in its escaped form, but which the application needs to manipulate in its unescaped form.

Exits

Three global user exit points are provided in CICS Web support for HTTP client requests:

XWBAUTH, HTTP client send exit
: XWBAUTH is called during processing of an EXEC CICS WEB SEND or EXEC CICS WEB CONVERSE command. It allows you to specify basic authentication credentials (username and password) for a target server.

XWBAUTH passes these to CICS on request, to create an Authorization header. The host name and path information are passed to the user exit, with an optional qualifying realm.

XWBOPEN, HTTP client open exit
XWBOPEN is called during processing of an EXEC CICS WEB OPEN or **EXEC CICS INVOKE SERVICE** command. It allows you to specify proxy servers that should be used for HTTP requests by CICS as an HTTP client, and to apply a security policy to the host name specified for those requests.

XWBSNDO, HTTP client send exit
XWBSNDO is called during processing of an EXEC CICS WEB SEND or EXEC CICS WEB CONVERSE command. It allows you to specify a security policy for HTTP requests, in particular for the path component of the request.

Trace

The trace point IDs for this function are of the form WB xxxx. The trace levels are WB 1, WB 2, and Exc.

For more information about the trace points, see *CICS Trace Entries*. For more information about using traces in problem determination, see the *CICS Problem Determination Guide*.

Part 3. CICS domains

A description of the domains into which CICS is organized, and the functions within these domains.

Chapter 70. Application Manager Domain (AP)

The principal components of the application domain are described in Application domain.

Application Manager Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the AP domain.

ABAB gate, CREATE_ABEND_RECORD function

The CREATE_ABEND_RECORD function of the ABAB gate is used to create an abend record (TACB).

Input Parameters

ABEND_CODE
Optional parameter

The four-character transaction abend code.

ACCESS_REGISTERS
Optional parameter

The contents of the access registers at the time of a program check or operating system abend.

ALET
Optional parameter

The access list entry token (ALET) at the time of a program check or operating system abend.

ALL_FP_REGISTERS
Optional parameter

The contents of the floating point register values in the order 0-15 at the time of a program check or operating system abend.

BEAR
Optional parameter

Contains the value of the Breaking Event Address at the time of a program check or operating system abend.

CURRENT_ACCESS_VALUES
Optional parameter

The current access register values are saved in the TACB.

CURRENT_FP_VALUES
Optional parameter

The current FP register values are saved in the TACB. If the task has not used the additional FP registers only the original FP registers are saved in the TACB. If any of the additional FP registers have been used by the task all the FP registers (0-15) and the FPC register are saved in the TACB.

ERROR_MESSAGE
Optional parameter

The error message sent from the remote system if the abend was raised by DFHZAND.

ERROR_OFFSET
Optional parameter

The offset of a program check or operating system abend in the failing application program or CICS(R) AP domain program.

EXECUTION_KEY
Optional parameter

A code indicating the execution key at the time the abend was issued, or at the time the operating system abend or program check occurred.

FAILING_PROGRAM
Optional parameter

The name of the program in which the abend occurred.

FAILING_RESOURCE
Optional parameter

The name of the system TCTTE (the connection) if the abend was raised by DFHZAND.

FLOATING_POINT_REGISTERS
Optional parameter

The contents of the original floating point registers at the time of a program check or operating system abend.

FPC_REGISTER
Optional parameter

Contains the value of the floating point control register at the time of a program check or operating system abend.

GENERAL_REGISTERS
Optional parameter

The contents of the general purpose registers at the time of a program check or operating system abend.

GENERAL64_REGISTERS
Optional parameter

The contents of the 64-bit general purpose registers at the time of a program check or operating system abend. This is an alternative parameter to GENERAL_REGISTERS. H64G_REGISTERS parameter cannot be used if GENERAL64_REGISTERS is specified.

GREG_ORDER
Optional parameter

An indication of the order of the registers passed in the GENERAL_REGISTERS and GENERAL64_REGISTERS parameters. DFHSRP saves the registers in the abend record in the order 0-15, and INQUIRE_ABEND_RECORD will always return them in this order.

Values for the parameter are:

`R0TOR15`
`R14TOR13`

H64G_REGISTERS
Optional parameter

The contents of the high order words of the 64-bit general purpose registers at the time of a program check or operating system abend. GENERAL64_REGISTERS parameter can not be used if H64G_REGISTERS is specified.

INTERRUPT_DATA
Optional parameter

The interrupt code and instruction length code etc, at the time of a program check or operating system abend.

PSW
Optional parameter

The contents of the PSW at the time of a program check or operating system abend.

REMOTE_SYSTEM
Optional parameter

The name of the remote system if the abend was raised in the client transaction to reflect an abend occurring in the DPL server.

REQUEST_ID
Optional parameter

The request ID from the TCTTE for a terminal-oriented task.

SENSE_BYTES
Optional parameter

The SNA sense bytes if the abend was raised by DFHZAND.

SPACE
Optional parameter

An indication whether the task was in SUBSPACE or BASESPACE mode at the time of a program check or operating system abend.

Values for the parameter are:
BASESPACE
NOSPACE
SUBSPACE

STATUS_FLAGS
Optional parameter

The status flags at the time of the abend.

STOKEN
Optional parameter

The subspace token (STOKEN) at the time of a program check or operating system abend.

STORAGE_TYPE
Optional parameter

A code indicating the storage hit on an OC4.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND

ABEND_TOKEN
The token allocated by ABAB for this abend. The token must be passed on subsequent UPDATE_ABEND_RECORD and START_ABEND requests to ABAB. The token is no longer valid after a START_ABEND request.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ABAB gate, INQUIRE_ABEND_RECORD function

The INQUIRE_ABEND_RECORD function of the ABAB gate is used to inquire about an abend record (TACB).

Input Parameters

ABEND_TYPE
Optional parameter

Indicates which abend record the information is to be extracted from.

Values for the parameter are:
`FIRST`
`LASTASRA`
`LATEST`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`

The following values are returned when RESPONSE is EXCEPTION:
`NO_ABEND_RECORD`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ABEND_CODE
Optional parameter

The four-character transaction abend code.

ACCESS_REGISTERS
Optional parameter

The contents of the access registers at the time of a program check or operating system abend.

ALET
Optional parameter

The access list entry token (ALET) at the time of a program check or operating system abend.

| **ALL_FP_REGISTERS**
| Optional parameter

| The contents of the floating point register values in the order 0-15 at the time
| of a program check or operating system abend.

| **BEAR**
| Optional parameter

| Contains the value of the Breaking Event Address at the time of a program
| check or operating system abend.

DUMP
Optional parameter

Indicates whether a dump was requested for this abend.

Values for the parameter are:
`NO`
`YES`

ERROR_MESSAGE
Optional parameter

The error message sent from the remote system if the abend was raised by DFHZAND.

ERROR_OFFSET
Optional parameter

The offset of a program check or operating system abend in the failing application program or CICS(R) AP domain program.

EXECUTION_KEY
Optional parameter

A code indicating the execution key at the time the abend was issued, or at the time the operating system abend or program check occurred.

FAILING_PROGRAM
Optional parameter

The name of the program in which the abend occurred.

FAILING_RESOURCE
Optional parameter

The name of the system TCTTE (the connection) if the abend was raised by DFHZAND.

FLOATING_POINT_REGISTERS
Optional parameter

The contents of the original floating point registers at the time of a program check or operating system abend.

FPC_REGISTER
Optional parameter

Contains the value of the floating point control register at the time of a program check or operating system abend.

GENERAL_REGISTERS
Optional parameter

The contents of the general purpose registers at the time of a program check or operating system abend.

GENERAL64_REGISTERS
Optional parameter

The contents of the 64-bit general purpose registers at the time of a program check or operating system abend.

H64G_REGISTERS
Optional parameter

The contents of the high order words of the 64-bit general purpose registers at the time of a program check or operating system abend.

IGNORE_HANDLES
Optional parameter

indicates whether this abend should be passed to any EXEC CICS HANDLE routines that are active. IGNORE_HANDLES(YES) results in EXEC CICS HANDLE being ignored at all levels of the program stack.

Values for the parameter are:
- NO
- YES

INTERRUPT_DATA
Optional parameter

The interrupt code and instruction length code etc, at the time of a program check or operating system abend.

PSW
Optional parameter

The contents of the PSW at the time of a program check or operating system abend.

REMOTE_SYSTEM
Optional parameter

The name of the remote system if the abend was raised in the client transaction to reflect an abend occurring in the DPL server.

REQUEST_ID
Optional parameter

The request ID from the TCTTE for a terminal-oriented task.

SENSE_BYTES
Optional parameter

The SNA sense bytes if the abend was raised by DFHZAND.

SPACE
Optional parameter

An indication whether the task was in SUBSPACE or BASESPACE mode at the time of a program check or operating system abend.

Values for the parameter are:
BASESPACE
NOSPACE
SUBSPACE

STATUS_FLAGS
Optional parameter

The status flags at the time of the abend.

STOKEN
Optional parameter

The subspace token (STOKEN) at the time of a program check or operating system abend.

STORAGE_TYPE
Optional parameter

A code indicating the storage hit on an OC4.

ABAB gate, START_ABEND function

The START_ABEND function of the ABAB gate is used to start transaction abend processing.

Input Parameters

ABEND_TOKEN
is the token allocated by ABAB for this abend (on a preceding CREATE_ABEND_RECORD request).

DUMP
Optional parameter

indicates whether a transaction dump should be produced for this abend.

Values for the parameter are:
NO
YES

IGNORE_HANDLES
Optional parameter

indicates whether this abend should be passed to any EXEC CICS HANDLE routines that are active. IGNORE_HANDLES(YES) results in EXEC CICS HANDLE being ignored at all levels of the program stack.

Values for the parameter are:

NO
YES

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND

The following values are returned when RESPONSE is EXCEPTION:
INVALID_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RETRY_ADDRESS
If an XPCTA exit requests retry, control returns to the point of invocation of start_abend, passing the retry address. This address includes the AMODE indicator in the first bit; it can be used as the target address in a DFHAM TYPE=BRANCH by the caller of START_ABEND GENERAL_REGISTERS is also set to point to the list of registers to be used for the retry, and SPACE to indicate the subspace. START_ABEND GENERAL64_REGISTERS and H64G_REGISTERS are also set to point to the list of registers to be used for the retry if this information is available.

GENERAL_REGISTERS
Optional parameter

The contents of the general purpose registers at the time of a program check or operating system abend.

GENERAL64_REGISTERS
Optional parameter

The contents of the 64-bit general purpose registers at the time of a program check or operating system abend.

H64G_REGISTERS
Optional parameter

The contents of the high order words of the 64-bit general purpose registers at the time of a program check or operating system abend.

SPACE
Optional parameter

An indication whether the task was in SUBSPACE or BASESPACE mode at the time of a program check or operating system abend.

Values for the parameter are:
BASESPACE
NOSPACE
SUBSPACE

ABAB gate, TAKE_TRANSACTION_DUMP function

The TAKE_TRANSACTION_DUMP function of the ABAB gate is used to take a transaction dump.

The TRANSACTION resource definition must specify dump and DUMP(YES) must be specified or defaulted on the associated START_ABEND call.

A transaction dump is not taken if any of the following is true:

- The application is going to handle the abend; that is, there is an active handle at this level and IGNORE_HANDLES(NO) is specified or defaulted on the associated START_ABEND call.
- The application is Language Environment/370 enabled, in which case the language interface deals with the abend.
- A transaction dump is currently in progress.

Input parameters

None

Output parameters

None

ABAB gate, UPDATE_ABEND_RECORD function

The UPDATE_ABEND_RECORD function of the ABAB gate is used to update an abend record (TACB).

Input Parameters

ABEND_TOKEN
is the token allocated by ABAB for this abend (on a preceding CREATE_ABEND_RECORD request).

ABEND_CODE
Optional parameter

The four-character transaction abend code.

ACCESS_REGISTERS
Optional parameter

The contents of the access registers at the time of a program check or operating system abend.

ALET
Optional parameter

The access list entry token (ALET) at the time of a program check or operating system abend.

ALL_FP_REGISTERS
Optional parameter

The contents of the floating point register values in the order 0-15 at the time of a program check or operating system abend.

BEAR
Optional parameter

Contains the value of the Breaking Event Address at the time of a program check or operating system abend.

CURRENT_ACCESS_VALUES
Optional parameter

The current access register values are saved in the TACB.

CURRENT_FP_VALUES
Optional parameter

The current FP register values are saved in the TACB. If the task has not used the additional FP registers only the original FP registers are saved in the TACB. If any of the additional FP registers have been used by the task all the FP registers (0-15) and the FPC register are saved in the TACB.

ERROR_OFFSET
Optional parameter

The offset of a program check or operating system abend in the failing application program or CICS(R) AP domain program.

EXECUTION_KEY
Optional parameter

A code indicating the execution key at the time the abend was issued, or at the time the operating system abend or program check occurred.

FAILING_PROGRAM
Optional parameter

The name of the program in which the abend occurred.

FLOATING_POINT_REGISTERS
Optional parameter

The contents of the original floating point registers at the time of a program check or operating system abend.

FPC_REGISTER
Optional parameter

Contains the value of the floating point control register at the time of a program check or operating system abend.

GENERAL_REGISTERS
Optional parameter

The contents of the general purpose registers at the time of a program check or operating system abend.

GENERAL64_REGISTERS
Optional parameter

The contents of the 64-bit general purpose registers at the time of a program check or operating system abend. This is an alternative parameter to GENERAL_REGISTERS. H64G_REGISTERS parameter cannot be used if GENERAL64_REGISTERS is specified.

GREG_ORDER
Optional parameter

A indication of the order of the registers passed in the GENERAL_REGISTERS GENERAL64_REGISTERS parameters. DFHSRP saves the registers in the abend record in the order 0-15, and INQUIRE_ABEND_RECORD will always return them in this order.

Values for the parameter are:

```
R0TOR15
R14TOR13
```

H64G_REGISTERS
Optional parameter

The contents of the high order words of the 64-bit general purpose registers at the time of a program check or operating system abend. GENERAL64_REGISTERS cannot be used if H64G_REGISTERS is specified.

INTERRUPT_DATA
Optional parameter

The interrupt code and instruction length code etc, at the time of a program check or operating system abend.

PSW
Optional parameter

The contents of the PSW at the time of a program check or operating system abend.

REMOTE_SYSTEM
Optional parameter

The name of the remote system if the abend was raised in the client transaction to reflect an abend occurring in the DPL server.

REQUEST_ID
Optional parameter

The request ID from the TCTTE for a terminal-oriented task.

SPACE
Optional parameter

An indication whether the task was in SUBSPACE or BASESPACE mode at the time of a program check or operating system abend.

Values for the parameter are:
`BASESPACE`
`NOSPACE`
`SUBSPACE`

STATUS_FLAGS
Optional parameter

The status flags at the time of the abend.

STOKEN
Optional parameter

The subspace token (STOKEN) at the time of a program check or operating system abend.

STORAGE_TYPE
Optional parameter

A code indicating the storage hit on an OC4.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`

The following values are returned when RESPONSE is EXCEPTION:
`INVALID_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APAC gate, REPORT_CONDITION function

This function reports exceptional conditions encountered during transaction execution either to the principal facility terminal or to the CSMT destination or to both, as appropriate.

Input Parameters

CONDITION
Optional Parameter

The nature of the exceptional condition.

Values for the parameter are:
`ROLLBACK`
`ROLLBACK_TERMINATE`

ROLLBACK_NOT_SUPPORTED
LOCAL_NO_VOTE
REMOTE_NO_VOTE
REMOTE_NO_DECISION
INDOUBT_FAILURE
HEURISTIC_COMMIT
HEURISTIC_BACKOUT
COMMIT_FAILURE
BACKOUT_FAILURE
REMOTE_COMMIT_ABENDED
HEURISTIC_READONLY_COMMIT
HEURISTIC_READONLY_BACKOUT
LINKS_INVALID

CONTINUE
Optional Parameter

This parameter is not used.

Values for the parameter are:
NO
YES

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND

The following values are returned when RESPONSE is EXCEPTION:
TRANSACTION_ABEND

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ABEND_CODE
Optional Parameter

The abend code issued for the condition specified.

APAP gate, TRANSFER_SIT function

The TRANSFER_SIT function of the APAP gate is used to transfer the address of DFHSIT to the AP domain after a GET_PARAMETERS call from this domain to the parameter manager domain.

Input Parameters

SIT
specifies the address and length of the system initialization table (DFHSIT).

Output Parameters

REASON
The values for the parameter are:
INCONSISTENT_RELEASE
INVALID_ADDRESS
INVALID_FUNCTION
INVALID_SIT_LENGTH

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APCR gate, ESTIMATE_ALL function

The ESTIMATE_ALL function of the APCR gate is used to estimate the size of terminal input/output area (TIOA) needed to ship a channel.

Input Parameters

CHANNEL_NAME
is the name of the channel.

CHANNEL_TOKEN
is a token referencing the channel.

COMMAND
is the type of API command that caused the channel to be shipped.

Values for the parameter are:
`LINK`
`RETURN`
`START_ISC`
`START_MRO`

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`CHANNEL_ERROR`

BYTES_NEEDED
is the total size, in bytes, of the exported channel, including channel and container headers and the overall length of the data in the containers. This total includes all bytes for all containers.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CHANNEL_TOKEN_OUT
Optional Parameter

contains, if CHANNEL_NAME was specified on input, a token referencing the channel.

APCR gate, ESTIMATE_CHANGED function

The ESTIMATE_CHANGED function of the APCR gate is used to obtain the size of the channel data structure that will be used to ship the containers that have been modified since the IMPORT_ALL call. Only new, modified, or deleted containers are shipped, with deleted containers being shipped as container headers only.

Input Parameters

CHANNEL_TOKEN
is a token referencing the channel.

COMMAND
is the type of API command that caused the channel to be shipped.

Values for the parameter are:
`LINK`
`RETURN`
`START_ISC`
`START_MRO`

CONTAINER_LIST
: is a list of all the containers in the channel, obtained from an earlier IMPORT_ALL call.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `CHANNEL_ERROR`

BYTES_NEEDED
: is the total size, in bytes, of the exported channel, including channel and container headers and the overall length of the data in the containers. This total includes all bytes for all containers.

NEW_CONTAINER_LIST
: is a list of all the containers in the channel that have been created, modified, or deleted since the last IMPORT_ALL call. This list must be passed to a subsequent EXPORT_CHANGED call.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APCR gate, EXPORT_ALL function

The EXPORT_ALL function of the APCR gate is used to export the complete contents of a channel.

Input Parameters

CHANNEL_TOKEN
: is a token referencing the channel.

COMMAND
: is the type of API command that caused the channel to be shipped.

  Values for the parameter are:
  `LINK`
  `RETURN`
  `SIBUS`
  `START_ISC`
  `START_MRO`

CORRELATION_ID
: Optional Parameter

  If CORRELATION_ID is specified, the channel is exported from an AOR by request streams. (RZTA SEND_REPLY is used.)

TERMINAL_TOKEN
: Optional Parameter

  is a token referencing the terminal with which the channel is associated. If TERMINAL_TOKEN is specified, CICS terminal control is used to export the channel.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `CHANNEL_ERROR`
  `TERMINAL_ERROR`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TC_ABEND
Optional Parameter

is the terminal control abend code.

TC_RESPONSE
Optional Parameter

is the terminal control response code.

TC_SENSE
Optional Parameter

is the terminal sense code.

APCR gate, EXPORT_CHANGED function

The EXPORT_CHANGED function of the APCR gate is used to return only those parts of a channel that have changed since IMPORT_ALL was issued.

Input Parameters

CHANNEL_TOKEN
is a token referencing the channel.

COMMAND
is the type of API command that caused the channel to be shipped.

Values for the parameter are:
LINK

CONTAINER_LIST
is a list of all the containers in the channel, obtained from an earlier IMPORT_ALL call.

TERMINAL_TOKEN
is a token referencing the terminal with which the channel is associated. If TERMINAL_TOKEN is specified, CICS terminal control is used to export the channel.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
CHANNEL_ERROR
DATA_ERROR
TERMINAL_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TC_ABEND
is the terminal control abend code.

TC_RESPONSE
is the terminal control response code.

TC_SENSE
is the terminal sense code.

APCR gate, IMPORT_ALL function

The IMPORT_ALL function of the APCR gate is used to import the complete contents of a channel.

Input Parameters

COMMAND
is the type of API command that caused the channel to be shipped.

Values for the parameter are:
 `LINK`
 `RETURN`
 `SIBUS`
 `START_ISC`
 `START_MRO`

CHANNEL_TOKEN_IN
 Optional Parameter

 is a token referencing an existing channel into which the channel data is to be imported.

DATA_START
 Optional Parameter

 is the position of the beginning of the channel data in the inbound TIOA.

RS_TOKEN
 Optional Parameter

 is a token referencing the request stream with which the channel is associated. If RS_TOKEN is specified, the channel is exported from a listener region by request streams. (RZSO SEND_REQUEST is used).

TERMINAL_TOKEN
 Optional Parameter

 is a token referencing the terminal with which the channel is associated. If TERMINAL_TOKEN is specified, CICS terminal control is used to export the channel.

Output Parameters

REASON
 The following values are returned when RESPONSE is EXCEPTION:
 `DATA_ERROR`
 `TERMINAL_ERROR`

RESPONSE
 Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CHANNEL_NAME
 Optional Parameter

 is the name of the channel that has been created.

CHANNEL_TOKEN
 Optional Parameter

 is a token referencing the channel that has been created.

CONTAINER_LIST
 Optional Parameter

 is the address of a control block that identifies the initial state of the channel. It can be passed to a subsequent EXPORT_CHANGED call, when it is used to identify what changes have been made by comparing the initial state of the channel to the current state. This allows CICS to re-export only the changed containers.

CORRELATION_ID
 Optional Parameter

DATA_END
 Optional Parameter

SIZE
 Optional Parameter

TC_ABEND
Optional Parameter

is the terminal control abend code.

TC_RESPONSE
Optional Parameter

is the terminal control response code.

TC_SENSE
Optional Parameter

is the terminal sense code.

APCR gate, IMPORT_CHANGED function

The IMPORT_CHANGED function of the APCR gate is used to import those parts of a channel that have been modified since an EXPORT_ALL call. Any modified containers are either replaced or deleted. New containers are added. Unchanged containers are not received on the connection.

Input Parameters

CHANNEL_TOKEN
is a token referencing the channel.

COMMAND
is the type of API command that caused the channel to be shipped.

Values for the parameter are:

`LINK`

DATA_START
is the position of the beginning of the channel data in the inbound TIOA.

TERMINAL_TOKEN
is a token referencing the terminal with which the channel is associated. If TERMINAL_TOKEN is specified, CICS terminal control is used to export the channel.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

`CHANNEL_ERROR`
`DATA_ERROR`
`TERMINAL_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

TC_ABEND
is the terminal control abend code.

TC_RESPONSE
is the terminal control response code.

TC_SENSE
is the terminal sense code.

DATA_END
Optional Parameter

SIZE
Optional Parameter

APEX gate, INVOKE_USER_EXIT function

The INVOKE_USER_EXIT function of the APEX gate is used to invoke the user exit at a specified exit point.

Input Parameters

`EXIT_POINT`
is the name of the exit.

`TRACE`
indicates whether or not user exits are to be traced.

Values for the parameter are:
`NO`
`YES`

`EXIT_PARAMETER_`*n*
Optional Parameter

is the parameter (number *n*) required by the exit. The nature of the parameter varies from one exit to another.

Output Parameters

`REASON`
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`CHANGE_MODE_FAILURE`
`EXIT_PROGRAM_FAILURE`

The following values are returned when RESPONSE is INVALID:
`INVALID_EXIT_POINT`
`INVALID_FUNCTION`

`EXIT_RETURN_CODE`
is the return code, if any, issued by the exit.

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

APID gate, PROFILE function

The PROFILE function of the APID gate extracts information from the AP domain profile for timeout.

Input Parameters

`NAME`
Optional Parameter

is the name of the profile

Output Parameters

`REASON`
The values for the parameter are:
`NOT_FOUND`
`TM_LOCATE_FAILED`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

`RTIMEOUT`
Optional Parameter

is the read timeout value.

APID gate, QUERY_NETNAME function

The PROFILE function of the APID gate extracts information from the AP domain profile for timeout.

Input Parameters

SYSID
: is the name of the sysid

Output Parameters

REASON
: The values for the parameter are:
  `NOT_FOUND`
  `TM_LOCATE_FAILED`

NETNAME
: is the value of the netname for the given sysid.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APIQ gate, INQ_APPLICATION_DATA function

The INQ_APPLICATION_DATA function of the APIQ gate is used to inquire about application data owned by the application domain.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `INQ_FAILED`
  `LOOP`

  The following values are returned when RESPONSE is EXCEPTION:
  `DPL_PROGRAM`
  `NO_TRANSACTION_ENVIRONMENT`
  `TRANSACTION_DOMAIN_ERROR`
  `USXM_FAILURE`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACEE
: Optional Parameter

  is the address of the access control environment element (ACEE)

DSA
: Optional Parameter

  is the address of the head of the chain of dynamic storage for reentrant programs.

EIB
: Optional Parameter

  is the address of the EXEC Interface Block.

RSA
: Optional Parameter

  is the address of the apllication's register save area.

SYSEIB
: Optional Parameter

is the address of the System EXEC Interface Block.

TCTUA
Optional Parameter

is the address of the Task Control Table User Area.

TCTUASIZE
Optional Parameter

is the length (in bytes) of the Task Control Table User Area.

TWA
Optional Parameter

is the address of the Task Work Area.

TWASIZE
Optional Parameter

is the length (in bytes) of the Task Work Area.

APIQ gate, INQ_SIT_PARM function

Return the value of a system initialization parameter.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

INFOCENTER
Optional Parameter

The value of the INFOCENTER system initialization parameter.

APJC gate, WRITE_JOURNAL_DATA function

The WRITE_JOURNAL_DATA function of the APJC gate is used to write a single record into a named journal.

Input Parameters

FROM
is the address of the record.

JOURNAL_RECORD_ID
is the system type record identifier.

JOURNALNAME
is the journal identifier name.

WAIT
specifies whether or not CICS is to wait until the record is written to auxiliary storage before returning control to the exit program.

Values for the parameter are:
`NO`
`YES`

RECORD_PREFIX
Optional Parameter

is the journal record user prefix.

Output Parameters

REASON
: The values for the parameter are:
  INVALID_FORMAT
  INVALID_FUNCTION
  IO_ERROR
  JOURNAL_NOT_FOUND
  JOURNAL_NOT_OPEN
  LENGTH_ERROR
  STATUS_ERROR

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APLI gate, ESTABLISH_LANGUAGE function

The ESTABLISH_LANGUAGE function of the APLI gate is used to establish the language of a conventional compiled program.

Input Parameters

DATA_LOCATION
: defines whether the program can handle only 24-bit addresses (data located below the 16MB line) can handle 31-bit addresses (data located above or below the 16MB line).

  Values for the parameter are:
  ANY
  BELOW

DEFINED_LANGUAGE
: is the language defined for the program.

  Values for the parameter are:
  ASSEMBLER
  COBOL
  C370
  LE370
  NOT_DEFINED
  PLI

ENTRY_POINT
: is the entry point address of the program.

EXECUTION_KEY
: is a code indicating the execution key at the time the abend was issued, or at the time the operating system abend or program check occurred.

  Values for the parameter are:
  CICS
  USER

LANGUAGE_BLOCK
: is a token identifying the current language block for the program.

LOAD_POINT
: is the load point address of the program.

PROGRAM
: is the 8-character name of the program whose language is to be determined

PROGRAM_LENGTH
: is the length of the program.

REQUEST_TYPE
: identifies the call of establish language. If the caller has a request type of link and establish language fails, then abend. Do not abend for a request type of load.

  Values for the parameter are:
  `LINK`
  `LOAD`

THREADSAFE
: indicates whether whether the program is quasi-reentrant (and must execute on the QR TCB) or threadsafe (and can execute on the QR TCB or an OPEN TCB).

  Values for the parameter are:
  `NO`
  `OPENAPI`
  `YES`

JVM_CLASS_PTR
: Optional Parameter

  is a token addressing the JVM class name length and value.

JVM_DEBUG
: Optional Parameter

  An enumerated type indicating whether JVM debug is to be used

  Values for the parameter are:
  `NO`
  `YES`

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `LOOP`

  The following values are returned when RESPONSE is EXCEPTION:
  `TRANSACTION_ABEND`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_FUNCTION`

CICSVAR_THREADSAFE
: is the threadsafe value established for the program.

  Values for the parameter are:
  `CICSVAR_NO`
  `CICSVAR_OPENAPI`
  `CICSVAR_YES`
  `NOT_DEFINED`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ABEND_CODE
: Optional Parameter

  is the four-character transaction abend code.

LANGUAGE_ESTABLISHED
: Optional Parameter

  is the language established for the program.

Values for the parameter are:
`ASSEMBLER`
`ASSEMBLER_CICS`
`COBOL`
`COBOL2`
`C370`
`JVM`
`LE370`
`MVSLE370`
`NOT_DEFINED`
`PLI`

NEW_BLOCK
Optional Parameter

is a new token identifying the new language block for the program.

RUNTIME_ENVIRONMENT
Optional Parameter

is the runtime environment established for the program.

Values for the parameter are:
`JVM_RUNTIME`
`LE370_RUNTIME`
`NON_LE370_RUNTIME`
`XPLINK_RUNTIME`

APLI gate, START_PROGRAM function

The START_PROGRAM function of the APLI gate is used to start a program.

Input Parameters

CEDF_STATUS
indicates whether or not the EDF diagnostic screens are displayed when the program is running under the control of the execution diagnostic facility (EDF).

Values for the parameter are:
`CEDF`
`NOCEDF`

COMMAREA
is an optional token identifying the communications area for the program.

EXECUTION_SET
indicates whether you want CICS to link to and run the program as if it were running in a remote CICS region (with or without the API restrictions of a DPL program).

Values for the parameter are:
`DPLSUBSET`
`FULLAPI`

LANGUAGE_BLOCK
is a token identifying the current language block for the program.

LINK_LEVEL
is the 16-bit value indicating the link-level of the program.

PROGRAM
is the 8-character name of the program whose language is to be determined

DEFERRED_ABEND_FOR_XCTL
Optional Parameter

indicates whether a Runaway type abend should be started on completion of the current START_PROGRAM.

Values for the parameter are:
NO
YES

ENVIRONMENT_TYPE
Optional Parameter

is the environment type of the program.

Values for the parameter are:
EXEC
GLUE
PLT
SYSTEM
TRUE
URM

JVM_PROG
Optional Parameter

indicates whether the request is for establish language for a JVM program.

Values for the parameter are:
NO
YES

PARMLIST_PTR
Optional Parameter

is an optional token identifying the parameter list for the program.

SYNCONRETURN
Optional Parameter

defines whether or not a syncpoint is to be taken on return from the linked program.

Values for the parameter are:
NO
YES

SYSEIB_REQUEST
Optional Parameter

indicates whether or not an EXEC CICS LINK or EXEC CICS XCTL had the SYSEIB translator option specified.

Values for the parameter are:
NO
YES

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
AUTOSTART_DISABLED
JVM_PROFILE_NOT_FOUND
JVM_PROFILE_NOT_VALID
JVMPOOL_DISABLED
SYSTEM_PROPERTIES_NOT_FND
TRANSACTION_ABEND
USER_CLASS_NOT_FOUND

The following values are returned when RESPONSE is INVALID:

`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ABEND_CODE
Optional Parameter

is the four-character transaction abend code.

IGNORE_PENDING_XCTL
Optional Parameter

indicates whether or not a pending XCTL should be ignored by program manager.

Values for the parameter are:

`NO`
`YES`

APLJ gate, PIPI_CALL_SUB function

Provides an interface to the Language Environment preinitialization programming interface (PIPI) call_sub function.

Input Parameters

EXECUTION_KEY
The execution key used when a program runs in this PIPI environment.

Values for the parameter are:

`CICS`
`USER`

PIPI_CALL_PARAMETERS
The address of the parameter list to be passed to the called program.

PIPI_TABLE_INDEX
The row number in the PIPI table of the program to be called.

PIPI_TOKEN
A token returned by Language Environment's init_sub_dp function. The token identifies the PIPI environment, and is used on the PIPI call_sub and term functions.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:

`TRANSACTION_ABEND`

The following values are returned when RESPONSE is INVALID:

`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIPI_RETURN_CODE
Optional Parameter

The return code from the Language Environment function.

PIPI_SUB_FEEDBACK
Optional Parameter

The Language Environment feedback code

PIPI_SUB_RETURN_CODE
Optional Parameter

The Language Environment subroutine return code

APLI gate, PIPI_INIT_SUB_DP function

Provides an interface to the Language Environment preinitialization programming interface (PIPI) init_sub_dp function.

Input Parameters

EXECUTION_KEY
The execution key used when a program runs in this PIPI environment.

Values for the parameter are:
`CICS`
`USER`

PIPI_RUNTIME_OPTIONS
Address of the Language Environment runtime options to be used for the pre-initialized environment.

PIPI_SERVICE_RTNS
Address of the vector of service routines which CICS provides for the PIPI environment (LOAD, DELETE, GETSTORE, FREESTORE).

PIPI_TABLE_ADDRESS
Address of the PIPI table of routines to be executed in the PIPI environment.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`TRANSACTION_ABEND`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`

PIPI_TOKEN
A token returned by Language Environment's init_sub_dp function. The token identifies the PIPI environment, and is used on the PIPI call_sub and term functions.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIPI_RETURN_CODE
Optional Parameter

The return code from the Language Environment function.

APLI gate, PIPI_TERM function

Provides an interface to the Language Environment preinitialization programming interface (PIPI) term function.

Input Parameters

EXECUTION_KEY
The execution key used when a program runs in this PIPI environment.

Values for the parameter are:

`CICS`
`USER`

PIPI_TOKEN
A token returned by Language Environment's init_sub_dp function. The token identifies the PIPI environment, and is used on the PIPI call_sub and term functions.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`TRANSACTION_ABEND`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIPI_RETURN_CODE
Optional Parameter

The return code from the Language Environment function.

APLX gate, NOTIFY_REFRESH function

Notify AP domain that a program has been replaced by a new copy. AP domain cleans us some of its resources.

Input Parameters

PROGRAM
The 8-character name of the program that has been refreshed.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`TRANSACTION_ABEND`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ABEND_CODE
Optional Parameter

The four-character abend code which is to be issued by CICS when an exception response is given and the cause of the exception is a transaction abend.

APRA gate, RELAY_TERMINAL_REQUEST function

The RELAY_TERMINAL_REQUEST function of the APRA gate relays an API request, which has a surrogate TCTTE in use as the principal facility, to the routing region.

Input Parameters

MESSAGE_DATA
Contains the inbound message.

Output Parameters

SURROGATE
A token containing a pointer to the surrogate TCTTE.

REASON

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APRA gate, REMOTE_ATTACH function

The REMOTE_ATTACH function of the APRA gate attaches a transaction for a transaction routing session in the application region.

Input Parameters

MESSAGE_DATA
Contains the inbound message.

Output Parameters

SURROGATE
A token containing a pointer to the surrogate TCTTE.

REASON

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APRA gate, REMOTE_DETACH function

The REMOTE_DETACH function of the APRA gate detaches a transaction for a transaction routing session in the application region.

Input Parameters

SURROGATE
A token containing a pointer to the surrogate TCTTE.

Output Parameters

REASON

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APRD gate, END_ATOMS function

Commit outstanding atoms of recovery.

Input Parameters

DIRECTION
Indicates whether the atoms of recovery are committed or backed out.

Values for the parameter are:
`BACKWARD`
`FORWARD`

LOG
A bjnary value that indicates whether changes are to be logged.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`DISASTER_PERCOLATION`

The following values are returned when RESPONSE is EXCEPTION:
`PERCOLATE_ERROR`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RESULT
The result of the commit request.

Values for the parameter are:
`NO`
`READ_ONLY`
`YES`

APRD gate, INITIALISE function

Perform the second stage of initialization of resource definition recovery.

Input Parameters

START
The type of CICS startup.

Values for the parameter are:
`COLD`
`EMER`
`WARM`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`DISASTER_PERCOLATION`

The following values are returned when RESPONSE is EXCEPTION:
`PERCOLATE_ERROR`
`RECOVER_FAILED`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APRD gate, PRE_INITIALISE function

Perform the first stage of initialization of resource definition recovery.

- Build the resource definition anchor block (RDAB)
- Load TBSS and TONR
- Initialize the suspend tokens
- Tell RM about the APRD recovery gate address

Input Parameters

STORE_TOKEN
A token that identifies the storage subpool in which the anchor block is created.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
DISASTER_PERCOLATION

The following values are returned when RESPONSE is EXCEPTION:
PERCOLATE_ERROR

The following values are returned when RESPONSE is INVALID:
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

APRR gate, IPIC_ROUTE_TRANSACTION function

The IPIC_ROUTE_TRANSACTION function of the APRR gate routes a transaction for a transaction routing session in the routing region.

Input Parameters

IPCONN
Is the name of the IPCONN resource.

TRANS_REMOTENAME
Is the REMOTENAME attribute of the TRANSACTION resource

Output Parameters

REASON

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

APRS gate, ACQUIRE_SURROGATE function

The ACQUIRE_SURROGATE function of the APRS gate acquires a surrogate TCTTE for a remote terminal definition.

Input Parameters

OWNER_NETNAME
The NETNAME resource attribute of the terminal-owning region (TOR).

TERMID_IN_OWNER
The TERMID resource attribute of the terminal-owning region (TOR).

Output Parameters

SURROGATE
: A token containing a pointer to the surrogate TCTTE.

REASON

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APRS gate, RELEASE_SURROGATE function

The RELEASE_SURROGATE function of the APRS gate releases a surrogate TCTTE for a remote terminal definition.

Input Parameters

SURROGATE
: A token containing a pointer to the surrogate TCTTE.

Output Parameters

REASON

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APRT gate, ROUTE_TRANSACTION function

The ROUTE_TRANSACTION function of the APRT gate is used to dynamically route transactions (which are defined to be dynamic and not automatically initiated) based on decisions made by the dynamic transaction routing program. For transactions which are automatically initiated or are defined to be remote and not dynamic, DFHAPRT will statically route such transactions.

Input Parameters

DTRTRAN
: indicates whether or not dynamic transaction routing is available.

  Values for the parameter are:
  NO
  YES

DYNAMIC
: indicates whether or not the transaction is defined as dynamic.

  Values for the parameter are:
  NO
  YES

REMOTE
: indicates whether or not the transaction is defined as remote.

  Values for the parameter are:
  NO
  YES

REMOTE_NAME
: is the four-character transaction identifier by which this transaction is to be known on the remote CICS region.

REMOTE_SYSTEM
: is the name of the remote system if the abend was raised in the client transaction to reflect an abend occurring in the DPL server.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  - ABEND
  - LOOP

  The following values are returned when RESPONSE is EXCEPTION:
  - ALL_SESSIONS_BUSY
  - DTRTRAN_REJECTED
  - ISC_DISABLED
  - NOTAUTH
  - PROGRAM_NOT_FOUND
  - REMOTE_CONN_OOS
  - REMOTE_CONN_OOS_SYS_CHGD
  - ROUTE_FAILED
  - TRANSACTION_ABEND

ABEND_CODE
: is the four-character transaction abend code.

RAN_LOCALLY
: indicates whether or not the transaction ran on the local CICS region (that is, was not routed to a remote CICS region).

  Values for the parameter are:
  - NO
  - YES

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APRX gate, FLATTEN_REQUEST function

The FLATTEN_REQUEST function of the APRX gate flattens a transaction routing request message that is transmitted from a routing region to an application region.

Input Parameters

XTSTG
: Token containing a pointer to the transformer parameter list, DFHXTSTG.

FLAT_DATA
: Buffer for flattened message data.

Output Parameters

REASON

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APRX gate, FLATTEN_RESPONSE function

The FLATTEN_RESPONSE function of the APRX gate flattens a transaction routing response message that is transmitted from an application region to a routing region.

Input Parameters

XTSTG
: Token containing a pointer to the transformer parameter list, DFHXTSTG.

FLAT_DATA
: Buffer for flattened message data.

Output Parameters

REASON

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APRX gate, UNFLATTEN_REQUEST function

The UNFLATTEN_REQUEST function of the APRX gate unflattens a transaction routing request message that is transmitted from a routing region to an application region.

Input Parameters

XTSTG
: Token containing a pointer to the transformer parameter list, DFHXTSTG.

FLAT_DATA
: Buffer for flattened message data.

Output Parameters

REASON

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APRX gate, UNFLATTEN_RESPONSE function

The UNFLATTEN_RESPONSE function of the APRX gate unflattens a transaction routing response message that is transmitted from an application region to a routing region.

Input Parameters

XTSTG
: Token containing a pointer to the transformer parameter list, DFHXTSTG.

FLAT_DATA
: Buffer for flattened message data.

Output Parameters

REASON

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APTC gate, CANCEL function

The CANCEL function of the APTC gate invalidates the listening function.

Input Parameters

TOKEN
: is the token for the session TCTTE

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
: TC_ERROR
: TOKEN_UNKNOWN

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APTC gate, CLOSE function

The CLOSE function of the APTC gate is used in cleanup.

Input Parameters

TOKEN
: is the token for the session TCTTE

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `TC_ERROR`
  `TOKEN_UNKNOWN`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APTC gate, EXTRACT_PROCESS function

The EXTRACT_PROCESS function of the APTC gate extracts information for the request.

Input Parameters

TOKEN
: Optional Parameter

  is the token for the session TCTTE

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `TC_ERROR`
  `TOKEN_UNKNOWN`

CONVID
: is the conversation id (which is the session tctte termid).

PIPDATA
: Applicable only for LU6.2 conversations

PIPDATA_LEN
: Applicable only for LU6.2 conversations

PROCESS_NAME
: is the name of the process to be invoked

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SYNCLEVEL
: is the synclevel of the conversation

APTC gate, LISTEN function

The LISTEN function of the APTC gate is used to update the TCTTE with the user token.

Input Parameters

`TOKEN`
: is the token for the session TCTTE

`USER_TOKEN`
: is the token supplied the the person who is to be notified.

Output Parameters

`REASON`
: The following values are returned when RESPONSE is EXCEPTION:

    `TC_ERROR`
    `TOKEN_UNKNOWN`

`RESPONSE`
: Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

APTC gate, OPEN function

The OPEN function of the APTC gate is used to allocate a session to the specified AOR.

Input Parameters

`SYSID`
: is the name of the sysid

`TRANID`
: is the transaction name to be attached in the AOR.

`NETNAME`
: Optional Parameter

    specifies the netname or applid of the AOR.

`QUEUE`
: Optional Parameter

    is the queue option specified by the routing program.

    Values for the parameter are:

    `NO`
    `YES`

Output Parameters

`REASON`
: The following values are returned when RESPONSE is EXCEPTION:

    `OPEN_ERROR`

`RESPONSE`
: Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

`TOKEN`

`ERROR_CODE`
: Optional Parameter

    The code passed back from the allocate procedure.

APTC gate, RECEIVE function

The RECEIVE function of the APTC gate is used to receive data.

Input Parameters

`RECEIVE_BUFFER`
: is the buffer into which the reply is to be placed.

TOKEN
is the token for the session TCTTE

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- NO_TCTTE
- RECEIVE_BUFFER_TOO_SMALL
- TC_ERROR
- TOKEN_UNKNOWN

LAST
is an indicator to indicate if this is the last flow.

Values for the parameter are:
- NO
- YES

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APTC gate, SEND function

The SEND function of the APTC gate is used to send the request to the AOR.

Input Parameters

LAST
is an indicator to indicate if this is the last flow.

Values for the parameter are:
- NO
- YES

SEND_BLOCK
is the block data with the length and send data pointer.

TOKEN
is the token for the session TCTTE

PREFIX_AREA
Optional Parameter

specifies the requeststreams information.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- NO_TCTTE
- TC_ERROR
- TOKEN_UNKNOWN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APTC gate, SET_SESSION function

The SET_SESSION function of the APTC gate is used to send the request to the AOR.

Input Parameters

RECOVERY_STATUS
indicates if recovery is necessary.

Values for the parameter are:
`NECESSARY`
`UNNECESSARY`

TOKEN
is the token for the session TCTTE

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`TC_ERROR`
`TOKEN_UNKNOWN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APTD gate, DELETE_TRANSIENT_DATA function

The DELETE_TRANSIENT_DATA function of the APTD gate is used to delete the specified transient data queue.

Input Parameters

QUEUE
is the queue option specified by the routing program.

DISCARDING_DEFINITION
Optional Parameter

states whether this DELETEQ request is part of an attempt by Transient Data to discard a transient data queue definition.

Values for the parameter are:
`NO`
`YES`

RSL_CHECK
Optional Parameter

states whether resource-level checking is to be carried out.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The values for the parameter are:
`CSM_ERROR`
`DCT_ERROR`
`DIRECTORY_MGR_ERROR`
`INVALID_RSL_CHECK`
`IO_ERROR`
`JCP_ERROR`
`LOCKED`
`LOGIC_ERROR`
`NO_RECOVERY_TABLE`
`QUEUE_DISABLED`
`QUEUE_EXTRA`
`QUEUE_NOT_AUTH`
`QUEUE_NOT_FOUND`
`QUEUE_OMITTED`

QUEUE_REMOTE

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APTD gate, INITIALISE_TRANSIENT_DATA function

The INITIALISE_TRANSIENT_DATA function of the APTD gate is invoked as part of the initialization process for the transient data facility.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

ABEND
CSM_ERROR
DCT_ERROR
DIRECTORY_MGR_ERROR
JCP_ERROR
LOGIC_ERROR

The following values are returned when RESPONSE is EXCEPTION:

LOCKED
NO_RECOVERY_TABLE

The following values are returned when RESPONSE is EXCEPTION:

IO_ERROR
LENGTH_ERROR
NO_SPACE
QUEUE_BUSY
QUEUE_DISABLED
QUEUE_EMPTY
QUEUE_EXTRA
QUEUE_FULL
QUEUE_INDIRECT
QUEUE_INTRA
QUEUE_NOT_AUTH
QUEUE_NOT_FOUND
QUEUE_NOT_INPUT
QUEUE_NOT_OPEN
QUEUE_NOT_OUTPUT
QUEUE_REMOTE

The following values are returned when RESPONSE is INVALID:

FROM_LIST_OMITTED
INTO_OMITTED
INVALID_DATA_LOC
INVALID_FORMAT
INVALID_FROM_LIST_N
INVALID_FROM_LIST_P
INVALID_FROM_N
INVALID_FROM_P
INVALID_FUNCTION
INVALID_INTO_N
INVALID_INTO_P
INVALID_RSL_CHECK
INVALID_SUSPEND
QUEUE_OMITTED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APTD gate, READ_TRANSIENT_DATA function

The READ_TRANSIENT_DATA function of the APTD gate is used to read a single record from a named transient data queue.

Input Parameters

INTO
specifies a piece of storage into which the record is placed.

QUEUE
is the queue option specified by the routing program.

SUSPEND
specifies whether the caller wants to wait if the record to be read has not been committed to the queue yet.

Values for the parameter are:
`NO`
`YES`

DATA_KEY
Optional Parameter

if this is a READ TD SET rather than an INTO, DATA_KEY specifies whether Transient Data should obtain the required SET storage from CICS key or user key storage.

Values for the parameter are:
`CICS`
`USER`

DATA_LOC
Optional Parameter

if this is a READ TD SET rather than an INTO, DATA_LOC specifies whether Transient Data should obtain the required SET storage from above or below the 16MB line.

Values for the parameter are:
`ANY`
`BELOW`

RSL_CHECK
Optional Parameter

states whether resource-level checking is to be carried out.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The values for the parameter are:
`CSM_ERROR`
`DCT_ERROR`
`DIRECTORY_MGR_ERROR`
`INTO_OMITTED`
`INVALID_DATA_LOC`
`INVALID_INTO_N`
`INVALID_INTO_P`

INVALID_RSL_CHECK
INVALID_SUSPEND
IO_ERROR
JCP_ERROR
LENGTH_ERROR
LOCKED
LOGIC_ERROR
NO_RECOVERY_TABLE
QUEUE_BUSY
QUEUE_DISABLED
QUEUE_EMPTY
QUEUE_NOT_AUTH
QUEUE_NOT_FOUND
QUEUE_NOT_INPUT
QUEUE_NOT_OPEN
QUEUE_OMITTED
QUEUE_REMOTE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APTD gate, RESET_TRIGGER_LEVEL function

The RESET_TRIGGER_LEVEL function of the APTD gate is used to reset a transient data queue so that another trigger transaction can be attached. Sometimes it is necessary to include the RESET_TRIGGER_LEVEL function if a trigger transaction abends.

Input Parameters

QUEUE
is the queue option specified by the routing program.

Output Parameters

REASON
The values for the parameter are:
ABEND
QUEUE_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APTD gate, WRITE_TRANSIENT_DATA function

The WRITE_TRANSIENT_DATA function of the APTD gate is used to write a single record (or multiple records) to a named transient data queue.

Input Parameters

FROM_LIST
is a list specifying the address and the length of each record that is to be written to the specified queue.

QUEUE
is the queue option specified by the routing program.

RSL_CHECK
Optional Parameter

states whether resource-level checking is to be carried out.

Values for the parameter are:

NO
YES

Output Parameters

REASON
The values for the parameter are:
CSM_ERROR
DCT_ERROR
DIRECTORY_MGR_ERROR
FROM_LIST_OMITTED
INVALID_FROM_LIST_N
INVALID_FROM_LIST_P
INVALID_FROM_N
INVALID_FROM_P
INVALID_RSL_CHECK
IO_ERROR
JCP_ERROR
LENGTH_ERROR
LOCKED
LOGIC_ERROR
NO_RECOVERY_TABLE
NO_SPACE
QUEUE_DISABLED
QUEUE_FULL
QUEUE_NOT_AUTH
QUEUE_NOT_FOUND
QUEUE_NOT_OPEN
QUEUE_NOT_OUTPUT
QUEUE_OMITTED
QUEUE_REMOTE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TD_MAX_LENGTH
Optional Parameter

indicates the maximum allowable length of a transient data record if a RESPONSE of EXCEPTION, and a REASON of LENGTH_ERROR is returned.

TD_MIN_LENGTH
Optional Parameter

indicates the minimum allowable length of a transient data record if a RESPONSE of EXCEPTION, and a REASON of LENGTH_ERROR is returned.

TD_RECORD
Optional Parameter

indicates the number of records that were successfully written to the transient data queue.

APXM gate, BIND_XM_CLIENT function

This function is called from the transaction manager domain during transaction initialization. The AP domain sets its recovery manager token to a non-zero value to ensure it will be invoked at syncpoint.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APXM gate, INIT_XM_CLIENT function

Called from the transaction manager domain during transaction initialization. The AP domain allocates the AP domain transaction lifetime control blocks, and anchors them with the AP domain's transaction token.

Input Parameters

LOCATE_PROFILE
Indicates whether the TCA should be initialized with values from the transaction's profile, if it exists.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The values for the parameter are:
`GETMAIN_FAILURE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APXM gate, RELEASE_XM_CLIENT function

Called from the transaction manager domain during transaction termination. AP domain transaction lifetime resources are released.

Output Parameters

REASON
The values for the parameter are:
`FREEMAIN_FAILURE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APXM gate, RMI_START_OF_TASK function

The RMI_START_OF_TASK function of the APXM gate is called from transaction manager domain to the AP Domain during transaction initialization. The AP domain invokes any task-related user exits enabled for start of task.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BRAT gate, ATTACH function

The ATTACH function of the BRAT gate is called to attach a transaction with a bridge primary client.

Input Parameters

FACILITYTOKEN
: Facility token which references the BFB.

MESSAGE_TYPE
: An indication that the bridge mechanism will use an architected message type. A CICS subroutine is used in place of the bridge exit.

  Values for the parameter are:

  `BRIH`

STATE_TOKEN
: The message state token passed between the caller and the bridge subroutines responsible for the architected message.

TRANSACTION_ID
: The 4 byte transaction id of the user transaction to be attached.

BRDATA
: Optional Parameter

  The address and length of a block of storage containing data to be passed to the bridge exit. This is used as part of the primary client data.

BREXIT
: Optional Parameter

  The name of the program to be used as the bridge exit. If this is not specified, DFHBRAT will get the default value from transaction manager. If there is no default bridge exit, an error is returned.

PRIORITY
: Optional Parameter

  Transaction manager priority of the transaction.

USERID
: Optional Parameter

  The USERID that should be signed-on to the terminal. This is only set when no facility token is passed.

Output Parameters

REASON
: The values for the parameter are:

  `DISABLED`
  `GETMAIN_FAILED`
  `NO_BREXIT`
  `NO_STORAGE`
  `NO_XM_STORAGE`
  `NOT_ENABLED_FOR_SHUTDOWN`
  `NOT_FOUND`
  `STATE_SYSTEM_ATTACH`
  `USERID_NOT_AUTH_BREXIT`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BRIQ gate, INQUIRE_CONTEXT function

The INQUIRE_CONTEXT of the BRIQ gate is called to inquire on bridge state data.

Input Parameters

TRANSACTION_TOKEN
: Optional Parameter

The XM transaction token for the task to be inquired upon.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND

The following values are returned when RESPONSE is EXCEPTION:
BAD_TOKEN
NO_TRANSACTION_ENVIRONMENT

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BFB_TOKEN
Optional Parameter

The address of the BFB that was constructed or is to be re-used to satisfy this allocate.

BRDATA
Optional Parameter

Data passed to the bridge exit during attach.

BRIDGE_ENVIRONMENT
Optional Parameter

Indicates whether the task was started with a bridge facility.

Values for the parameter are:
NO
YES

BRIDGE_EXIT_PROGRAM
Optional Parameter

The name of the bridge exit program (if CONTEXT is BRIDGE or BREXIT).

BRIDGE_FORMATTER_PROGRAM
Optional Parameter

If CONTEXT(BREXIT) or CONTEXT(BRIDGE) is specified, the name of the bridge formatter user-replaceable program which is used to handle API commands emulated by the bridge.

BRIDGE_TRANSACTION_ID
Optional Parameter

The transaction that started the task running in a bridge environment.

CALL_EXIT_FOR_SYNC
Optional Parameter

Indicates if the bridge exit will be called for processing an explicit or implicit syncpoint

Values for the parameter are:
NO
YES

CONTEXT
Optional Parameter

The current program link level

Values for the parameter are:
`BREXIT`: a bridge exit or formatter is in control
`BRIDGE`: a task with a bridge exit is in control
`NORMAL`: the task is not running in a bridge environment.

FACILITYTOKEN
Optional Parameter

The 8 byte token used to represent the bridge session

IDENTIFIER
Optional Parameter

Data created by the bridge exit for problem determination purposes.

START_CODE
Optional Parameter

The emulated startcode of the user transaction

START_TYPE
Optional Parameter

Indicates how the task was started in the bridge environment.

Values for the parameter are:
`LINK`: the task was started using the Link3270 bridge.
`START`: the task was started using the START BREXIT mechanism.

CCNV gate, CONVERT_ADS function

Convert an application data structure (ADS) between a client and server code page.

Input Parameters

ADS_1
The application data structure to be converted.

RESOURCE_NAME
The name of the resource to be converted.

RESOURCE_TYPE
The type of resource to be converted.

Values for the parameter are:
`FC`
`IC`
`PC`
`TD`
`TS`

TARGET
The target code page for the data conversion.

Values for the parameter are:
`ASCII`
`EBCDIC`

ADS_2
Optional Parameter

A second application data structure to be converted, used only when RESOURCE_TYPE(FC) is specified.

BINARY_FORMAT
Optional Parameter

The binary format in which numeric data is represented.

Values for the parameter are:

BIG_ENDIAN
LITTLE_ENDIAN

CLIENT_CCSID
Optional Parameter

The Coded Character Set Identifier (CCSID) of the code page used by the client.

CLIENT_INDEX
Optional Parameter

Specifies the conversion table associated with the **CLIENT_CCSID** parameter.

CNV_ENTRY_TOKEN
Optional Parameter

A pointer to a DFHCNV TYPE=ENTRY record.

CNV_TABLE_TOKEN
Optional Parameter

The address at which DFHCNV is loaded.

SERVER_CCSID
Optional Parameter

The Coded Character Set Identifier (CCSID) of the code page used by the server.

SERVER_INDEX
Optional Parameter

Specifies the conversion table associated with the **SERVER_CCSID** parameter.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
KEDD_ERROR
LMLM_ERROR
LOCK_FAILURE
LOOP
MULTI_ERROR
SMAD_ERROR
SMGF_ERROR

The following values are returned when RESPONSE is EXCEPTION:
ADS_1_OMITTED
ADS_2_NOT_SUPP
CGCSGID_NOT_SUPP
CICS_CCSID_NOT_KNOWN
CLIENT_CCSID_NOT_KNOWN
CLIENT_CCSID_NOT_SUPP
COMBINATION_UNSUPPORTED
CONVERSION_NOT_REQUIRED
CONVERSION_NOT_SUPP
IANA_CCSID_NOT_KNOWN
IANA_CCSID_NOT_SUPP
IBM_CCSID_NOT_KNOWN
INSUFFICIENT_STORAGE
INTERNAL_CONVERSION_ERROR
SERVER_CCSID_NOT_KNOWN
SERVER_CCSID_NOT_SUPP
SERVER_UNSUPPORTED

SERVICE_NOT_AVAILABLE
SOURCE_CCSID_INVALID
SOURCE_DATA_INCOMPLETE
TARGET_BUFFER_EXHAUSTED
TARGET_CCSID_INVALID
ZOS_CONVERSION_ERROR

The following values are returned when RESPONSE is INVALID:
BINARY_FORMAT_INVALID
CNV_ENTRY_TOKEN_INVALID
CNV_TABLE_NOT_LOADED
CNV_TABLE_NOT_VALID
CNV_TABLE_TOKEN_INVALID
INVALID_FORMAT
INVALID_FUNCTION
RESOURCE_TYPE_INVALID
CONV_TOKEN_OMITTED
SOURCE_CCSID_OMITTED
TARGET_CCSID_OMITTED
TARGET_INVALID

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CCNV gate, CONVERT_DATA function

Convert a block of data between a client and server code page.

Input Parameters

SEGMENTED
A binary value that indicates whether the data to be converted is segmented or in a single buffer.

Values for the parameter are:
NO
YES

CONVERSION_TOKEN
Optional Parameter

A token that represents the server and client code page conversion tables.

SOURCE_BUFFER
A pointer to the buffer containing the data to be converted.

SOURCE_CCSID
Optional Parameter

The Coded Character Set Identifier (CCSID) of the code page used to encode the source data.

SOURCE_ORIGIN
Optional Parameter

Contains 64-bit origin address for the SOURCE_BUFFER parameter.

TARGET_BUFFER
A pointer to the buffer which will contain the converted data.

TARGET_CCSID
Optional Parameter

The Coded Character Set Identifier (CCSID) of the code page used to encode the target data.

TARGET_ORIGIN
Optional Parameter

Contains 64-bit origin address for the TARGET_BUFFER parameter.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
```
ABEND
KEDD_ERROR
LMLM_ERROR
LOCK_FAILURE
LOOP
MULTI_ERROR
SMAD_ERROR
SMGF_ERROR
```

The following values are returned when RESPONSE is EXCEPTION:
```
ADS_1_OMITTED
ADS_2_NOT_SUPP
CGCSGID_NOT_SUPP
CICS_CCSID_NOT_KNOWN
CLIENT_CCSID_NOT_KNOWN
CLIENT_CCSID_NOT_SUPP
COMBINATION_UNSUPPORTED
CONVERSION_NOT_REQUIRED
CONVERSION_NOT_SUPP
IANA_CCSID_NOT_KNOWN
IANA_CCSID_NOT_SUPP
IBM_CCSID_NOT_KNOWN
INSUFFICIENT_STORAGE
INTERNAL_CONVERSION_ERROR
SERVER_CCSID_NOT_KNOWN
SERVER_CCSID_NOT_SUPP
SERVER_UNSUPPORTED
SERVICE_NOT_AVAILABLE
SOURCE_CCSID_INVALID
SOURCE_DATA_INCOMPLETE
TARGET_BUFFER_EXHAUSTED
TARGET_CCSID_INVALID
ZOS_CONVERSION_ERROR
```

The following values are returned when RESPONSE is INVALID:
```
BINARY_FORMAT_INVALID
CNV_ENTRY_TOKEN_INVALID
CNV_TABLE_NOT_LOADED
CNV_TABLE_NOT_VALID
CNV_TABLE_TOKEN_INVALID
INVALID_FORMAT
INVALID_FUNCTION
RESOURCE_TYPE_INVALID
CONV_TOKEN_OMITTED
SOURCE_CCSID_OMITTED
TARGET_CCSID_OMITTED
TARGET_INVALID
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CONVERSION_TOKEN_OUT
Optional Parameter

A token that represents the server and client code page conversion tables.

SUBSTITUTION
Optional Parameter

A binary value that indicates whether substitution characters were present in the input data.

Values for the parameter are:
NO
YES

CCNV gate, CREATE_CONVERSION_TOKEN function

Create a conversion token that represents the Coded Character Set Identifier (CCSID) of the source data and of the target data.

Input Parameters

SOURCE_CCSID
The CCSID of the source data.

TARGET_CCSID
The CCSID of the target data.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
KEDD_ERROR
LMLM_ERROR
LOCK_FAILURE
LOOP
MULTI_ERROR
SMAD_ERROR
SMGF_ERROR

The following values are returned when RESPONSE is EXCEPTION:
ADS_1_OMITTED
ADS_2_NOT_SUPP
CGCSGID_NOT_SUPP
CICS_CCSID_NOT_KNOWN
CLIENT_CCSID_NOT_KNOWN
CLIENT_CCSID_NOT_SUPP
COMBINATION_UNSUPPORTED
CONVERSION_NOT_REQUIRED
CONVERSION_NOT_SUPP
IANA_CCSID_NOT_KNOWN
IANA_CCSID_NOT_SUPP
IBM_CCSID_NOT_KNOWN
INSUFFICIENT_STORAGE
INTERNAL_CONVERSION_ERROR
SERVER_CCSID_NOT_KNOWN
SERVER_CCSID_NOT_SUPP
SERVER_UNSUPPORTED

SERVICE_NOT_AVAILABLE
SOURCE_CCSID_INVALID
SOURCE_DATA_INCOMPLETE
TARGET_BUFFER_EXHAUSTED
TARGET_CCSID_INVALID
ZOS_CONVERSION_ERROR

The following values are returned when RESPONSE is INVALID:
BINARY_FORMAT_INVALID
CNV_ENTRY_TOKEN_INVALID
CNV_TABLE_NOT_LOADED
CNV_TABLE_NOT_VALID
CNV_TABLE_TOKEN_INVALID
INVALID_FORMAT
INVALID_FUNCTION
RESOURCE_TYPE_INVALID
CONV_TOKEN_OMITTED
SOURCE_CCSID_OMITTED
TARGET_CCSID_OMITTED
TARGET_INVALID

CONVERSION_TOKEN
A token that represents the CCSIDs of both source and target data.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CCNV gate, EXTRACT_ADS function

Obtain an application data structure (ADS) for data conversion.

Input Parameters

ADS_1
The application data structure to be converted.

RESOURCE_NAME
The name of the resource to be converted.

RESOURCE_TYPE
The type of resource to be converted.

Values for the parameter are:
FC
IC
PC
TD
TS

TARGET
The target code page for the data conversion.

Values for the parameter are:
ASCII
EBCDIC

ADS_2
Optional Parameter

A second application data structure to be converted, used only when RESOURCE_TYPE(FC) is specified.

BINARY_FORMAT
Optional Parameter

The binary format in which numeric data is represented.

Values for the parameter are:

BIG_ENDIAN
LITTLE_ENDIAN

CNV_ENTRY_TOKEN
Optional Parameter

A pointer to a DFHCNV TYPE=ENTRY record.

CNV_TABLE_TOKEN
Optional Parameter

The address at which DFHCNV is loaded.

SERVER_INDEX
Optional Parameter

Specifies the conversion table associated with the **SERVER_CCSID** parameter.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

ABEND
KEDD_ERROR
LMLM_ERROR
LOCK_FAILURE
LOOP
MULTI_ERROR
SMAD_ERROR
SMGF_ERROR

The following values are returned when RESPONSE is EXCEPTION:

ADS_1_OMITTED
ADS_2_NOT_SUPP
CGCSGID_NOT_SUPP
CICS_CCSID_NOT_KNOWN
CLIENT_CCSID_NOT_KNOWN
CLIENT_CCSID_NOT_SUPP
COMBINATION_UNSUPPORTED
CONVERSION_NOT_REQUIRED
CONVERSION_NOT_SUPP
IANA_CCSID_NOT_KNOWN
IANA_CCSID_NOT_SUPP
IBM_CCSID_NOT_KNOWN
INSUFFICIENT_STORAGE
INTERNAL_CONVERSION_ERROR
SERVER_CCSID_NOT_KNOWN
SERVER_CCSID_NOT_SUPP
SERVER_UNSUPPORTED
SERVICE_NOT_AVAILABLE
SOURCE_CCSID_INVALID
SOURCE_DATA_INCOMPLETE
TARGET_BUFFER_EXHAUSTED
TARGET_CCSID_INVALID
ZOS_CONVERSION_ERROR

The following values are returned when RESPONSE is INVALID:

BINARY_FORMAT_INVALID
CNV_ENTRY_TOKEN_INVALID
CNV_TABLE_NOT_LOADED
CNV_TABLE_NOT_VALID

CNV_TABLE_TOKEN_INVALID
INVALID_FORMAT
INVALID_FUNCTION
RESOURCE_TYPE_INVALID
CONV_TOKEN_OMITTED
SOURCE_CCSID_OMITTED
TARGET_CCSID_OMITTED
TARGET_INVALID

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

CLIENT_CCSID
Optional Parameter

The Coded Character Set Identifier (CCSID) of the code page used by the client.

SERVER_CCSID
Optional Parameter

The Coded Character Set Identifier (CCSID) of the code page used by the server.

CCNV gate, FREE_CONVERSION_TOKEN function

Free a conversion token

Input Parameters

C32_TOKEN
The 3270 data conversion token to be freed.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

ABEND
KEDD_ERROR
LMLM_ERROR
LOCK_FAILURE
LOOP
MULTI_ERROR
SMAD_ERROR
SMGF_ERROR

The following values are returned when RESPONSE is EXCEPTION:

ADS_1_OMITTED
ADS_2_NOT_SUPP
CGCSGID_NOT_SUPP
CICS_CCSID_NOT_KNOWN
CLIENT_CCSID_NOT_KNOWN
CLIENT_CCSID_NOT_SUPP
COMBINATION_UNSUPPORTED
CONVERSION_NOT_REQUIRED
CONVERSION_NOT_SUPP
IANA_CCSID_NOT_KNOWN
IANA_CCSID_NOT_SUPP
IBM_CCSID_NOT_KNOWN
INSUFFICIENT_STORAGE
INTERNAL_CONVERSION_ERROR
SERVER_CCSID_NOT_KNOWN

SERVER_CCSID_NOT_SUPP
SERVER_UNSUPPORTED
SERVICE_NOT_AVAILABLE
SOURCE_CCSID_INVALID
SOURCE_DATA_INCOMPLETE
TARGET_BUFFER_EXHAUSTED
TARGET_CCSID_INVALID
ZOS_CONVERSION_ERROR

The following values are returned when RESPONSE is INVALID:
BINARY_FORMAT_INVALID
CNV_ENTRY_TOKEN_INVALID
CNV_TABLE_NOT_LOADED
CNV_TABLE_NOT_VALID
CNV_TABLE_TOKEN_INVALID
INVALID_FORMAT
INVALID_FUNCTION
RESOURCE_TYPE_INVALID
CONV_TOKEN_OMITTED
SOURCE_CCSID_OMITTED
TARGET_CCSID_OMITTED
TARGET_INVALID

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CCNV gate, GET_CONVERSION_TOKEN function

Retrieve a conversion token.

Input Parameters

C32_TOKEN
The 3270 data conversion token.

CGCSGID_CP
Optional Parameter

The server code page

CGCSGID_CS
Optional Parameter

The server character set.

CICS_CCSID
Optional Parameter

The CICS code page.

CLIENT_INDEX
Optional Parameter

The client conversion table to use.

IBM_CCSID
Optional Parameter

The IBM-assigned number of a Coded Character Set Identifier (CCSID).

SERVER_INDEX
Optional Parameter

The server conversion table to use.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

```
ABEND
KEDD_ERROR
LMLM_ERROR
LOCK_FAILURE
LOOP
MULTI_ERROR
SMAD_ERROR
SMGF_ERROR
```

The following values are returned when RESPONSE is EXCEPTION:

```
ADS_1_OMITTED
ADS_2_NOT_SUPP
CGCSGID_NOT_SUPP
CICS_CCSID_NOT_KNOWN
CLIENT_CCSID_NOT_KNOWN
CLIENT_CCSID_NOT_SUPP
COMBINATION_UNSUPPORTED
CONVERSION_NOT_REQUIRED
CONVERSION_NOT_SUPP
IANA_CCSID_NOT_KNOWN
IANA_CCSID_NOT_SUPP
IBM_CCSID_NOT_KNOWN
INSUFFICIENT_STORAGE
INTERNAL_CONVERSION_ERROR
SERVER_CCSID_NOT_KNOWN
SERVER_CCSID_NOT_SUPP
SERVER_UNSUPPORTED
SERVICE_NOT_AVAILABLE
SOURCE_CCSID_INVALID
SOURCE_DATA_INCOMPLETE
TARGET_BUFFER_EXHAUSTED
TARGET_CCSID_INVALID
ZOS_CONVERSION_ERROR
```

The following values are returned when RESPONSE is INVALID:

```
BINARY_FORMAT_INVALID
CNV_ENTRY_TOKEN_INVALID
CNV_TABLE_NOT_LOADED
CNV_TABLE_NOT_VALID
CNV_TABLE_TOKEN_INVALID
INVALID_FORMAT
INVALID_FUNCTION
RESOURCE_TYPE_INVALID
CONV_TOKEN_OMITTED
SOURCE_CCSID_OMITTED
TARGET_CCSID_OMITTED
TARGET_INVALID
```

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CCNV gate, INITIALISE function

Initialize code page conversion services.

Input parameters

None.

Output parameters

REASON

The following values are returned when RESPONSE is DISASTER:

ABEND
KEDD_ERROR
LMLM_ERROR
LOCK_FAILURE
LOOP
MULTI_ERROR
SMAD_ERROR
SMGF_ERROR

The following values are returned when RESPONSE is EXCEPTION:

ADS_1_OMITTED
ADS_2_NOT_SUPP
CGCSGID_NOT_SUPP
CICS_CCSID_NOT_KNOWN
CLIENT_CCSID_NOT_KNOWN
CLIENT_CCSID_NOT_SUPP
COMBINATION_UNSUPPORTED
CONVERSION_NOT_REQUIRED
CONVERSION_NOT_SUPP
IANA_CCSID_NOT_KNOWN
IANA_CCSID_NOT_SUPP
IBM_CCSID_NOT_KNOWN
INSUFFICIENT_STORAGE
INTERNAL_CONVERSION_ERROR
SERVER_CCSID_NOT_KNOWN
SERVER_CCSID_NOT_SUPP
SERVER_UNSUPPORTED
SERVICE_NOT_AVAILABLE
SOURCE_CCSID_INVALID
SOURCE_DATA_INCOMPLETE
TARGET_BUFFER_EXHAUSTED
TARGET_CCSID_INVALID
ZOS_CONVERSION_ERROR

The following values are returned when RESPONSE is INVALID:

BINARY_FORMAT_INVALID
CNV_ENTRY_TOKEN_INVALID
CNV_TABLE_NOT_LOADED
CNV_TABLE_NOT_VALID
CNV_TABLE_TOKEN_INVALID
INVALID_FORMAT
INVALID_FUNCTION
RESOURCE_TYPE_INVALID
CONV_TOKEN_OMITTED
SOURCE_CCSID_OMITTED
TARGET_CCSID_OMITTED
TARGET_INVALID

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CCNV gate, INQUIRE_CONVERSION_SIZE function

Determine the size of the buffer that is required to receive the output from a data conversion operation.

Input Parameters

SEGMENTED
A binary value that indicates whether the data to be converted is segmented or in a single buffer.

Values for the parameter are:
NO
YES

SOURCE_BUFFER
A pointer to the buffer containing the data to be converted.

CONVERSION_TOKEN
Optional Parameter

A token that represents the server and client code page conversion tables.

SOURCE_CCSID
Optional Parameter

The Coded Character Set Identifier (CCSID) of the code page used to encode the source data.

SOURCE_ORIGIN
Optional Parameter

Contains 64-bit origin address for the SOURCE_BUFFER parameter.

TARGET_CCSID
Optional Parameter

The Coded Character Set Identifier (CCSID) of the code page used to encode the target data.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
KEDD_ERROR
LMLM_ERROR
LOCK_FAILURE
LOOP
MULTI_ERROR
SMAD_ERROR
SMGF_ERROR

The following values are returned when RESPONSE is EXCEPTION:
ADS_1_OMITTED
ADS_2_NOT_SUPP
CGCSGID_NOT_SUPP
CICS_CCSID_NOT_KNOWN
CLIENT_CCSID_NOT_KNOWN
CLIENT_CCSID_NOT_SUPP
COMBINATION_UNSUPPORTED
CONVERSION_NOT_REQUIRED
CONVERSION_NOT_SUPP
IANA_CCSID_NOT_KNOWN
IANA_CCSID_NOT_SUPP
IBM_CCSID_NOT_KNOWN

INSUFFICIENT_STORAGE
INTERNAL_CONVERSION_ERROR
SERVER_CCSID_NOT_KNOWN
SERVER_CCSID_NOT_SUPP
SERVER_UNSUPPORTED
SERVICE_NOT_AVAILABLE
SOURCE_CCSID_INVALID
SOURCE_DATA_INCOMPLETE
TARGET_BUFFER_EXHAUSTED
TARGET_CCSID_INVALID
ZOS_CONVERSION_ERROR

The following values are returned when RESPONSE is INVALID:

BINARY_FORMAT_INVALID
CNV_ENTRY_TOKEN_INVALID
CNV_TABLE_NOT_LOADED
CNV_TABLE_NOT_VALID
CNV_TABLE_TOKEN_INVALID
INVALID_FORMAT
INVALID_FUNCTION
RESOURCE_TYPE_INVALID
CONV_TOKEN_OMITTED
SOURCE_CCSID_OMITTED
TARGET_CCSID_OMITTED
TARGET_INVALID

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SIZE
The size of the buffer that is required to receive the output from a data conversion operation.

CONVERSION_TOKEN_OUT
Optional Parameter

A token that represents the server and client code page conversion tables.

CCNV gate, VERIFY_CGCSGID function

Verify that server code page and character set identifiers are valid.

Input Parameters

CGCSGID_CP
Optional Parameter

The server code page

CGCSGID_CS
Optional Parameter

The server character set.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

ABEND
KEDD_ERROR
LMLM_ERROR
LOCK_FAILURE
LOOP

MULTI_ERROR
SMAD_ERROR
SMGF_ERROR

The following values are returned when RESPONSE is EXCEPTION:

ADS_1_OMITTED
ADS_2_NOT_SUPP
CGCSGID_NOT_SUPP
CICS_CCSID_NOT_KNOWN
CLIENT_CCSID_NOT_KNOWN
CLIENT_CCSID_NOT_SUPP
COMBINATION_UNSUPPORTED
CONVERSION_NOT_REQUIRED
CONVERSION_NOT_SUPP
IANA_CCSID_NOT_KNOWN
IANA_CCSID_NOT_SUPP
IBM_CCSID_NOT_KNOWN
INSUFFICIENT_STORAGE
INTERNAL_CONVERSION_ERROR
SERVER_CCSID_NOT_KNOWN
SERVER_CCSID_NOT_SUPP
SERVER_UNSUPPORTED
SERVICE_NOT_AVAILABLE
SOURCE_CCSID_INVALID
SOURCE_DATA_INCOMPLETE
TARGET_BUFFER_EXHAUSTED
TARGET_CCSID_INVALID
ZOS_CONVERSION_ERROR

The following values are returned when RESPONSE is INVALID:

BINARY_FORMAT_INVALID
CNV_ENTRY_TOKEN_INVALID
CNV_TABLE_NOT_LOADED
CNV_TABLE_NOT_VALID
CNV_TABLE_TOKEN_INVALID
INVALID_FORMAT
INVALID_FUNCTION
RESOURCE_TYPE_INVALID
CONV_TOKEN_OMITTED
SOURCE_CCSID_OMITTED
TARGET_CCSID_OMITTED
TARGET_INVALID

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CLIENT_INDEX
Optional Parameter

The client conversion table to use.

IBM_CCSID
Optional Parameter

The IBM-assigned number of a Coded Character Set Identifier (CCSID).

SERVER_INDEX
Optional Parameter

The server conversion table to use.

CCNV gate, VERIFY_CICS_CCSID function

Verify that a CICS Coded Character Set Identifier (CCSID) is valid.

Input Parameters

CICS_CCSID

Optional Parameter

The CICS code page.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

ABEND
KEDD_ERROR
LMLM_ERROR
LOCK_FAILURE
LOOP
MULTI_ERROR
SMAD_ERROR
SMGF_ERROR

The following values are returned when RESPONSE is EXCEPTION:

ADS_1_OMITTED
ADS_2_NOT_SUPP
CGCSGID_NOT_SUPP
CICS_CCSID_NOT_KNOWN
CLIENT_CCSID_NOT_KNOWN
CLIENT_CCSID_NOT_SUPP
COMBINATION_UNSUPPORTED
CONVERSION_NOT_REQUIRED
CONVERSION_NOT_SUPP
IANA_CCSID_NOT_KNOWN
IANA_CCSID_NOT_SUPP
IBM_CCSID_NOT_KNOWN
INSUFFICIENT_STORAGE
INTERNAL_CONVERSION_ERROR
SERVER_CCSID_NOT_KNOWN
SERVER_CCSID_NOT_SUPP
SERVER_UNSUPPORTED
SERVICE_NOT_AVAILABLE
SOURCE_CCSID_INVALID
SOURCE_DATA_INCOMPLETE
TARGET_BUFFER_EXHAUSTED
TARGET_CCSID_INVALID
ZOS_CONVERSION_ERROR

The following values are returned when RESPONSE is INVALID:

BINARY_FORMAT_INVALID
CNV_ENTRY_TOKEN_INVALID
CNV_TABLE_NOT_LOADED
CNV_TABLE_NOT_VALID
CNV_TABLE_TOKEN_INVALID
INVALID_FORMAT
INVALID_FUNCTION
RESOURCE_TYPE_INVALID
CONV_TOKEN_OMITTED
SOURCE_CCSID_OMITTED

TARGET_CCSID_OMITTED
TARGET_INVALID

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CLIENT_INDEX
Optional Parameter

The client conversion table to use.

IBM_CCSID
Optional Parameter

The IBM-assigned number of a Coded Character Set Identifier (CCSID).

SERVER_INDEX
Optional Parameter

The server conversion table to use.

CCNV gate, VERIFY_IANA_CCSID function

Verify that an IANA Coded Character Set Identifier (CCSID) is valid.

Input Parameters

IANA_CCSID
The IANA CCSID to be verified.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
KEDD_ERROR
LMLM_ERROR
LOCK_FAILURE
LOOP
MULTI_ERROR
SMAD_ERROR
SMGF_ERROR

The following values are returned when RESPONSE is EXCEPTION:
ADS_1_OMITTED
ADS_2_NOT_SUPP
CGCSGID_NOT_SUPP
CICS_CCSID_NOT_KNOWN
CLIENT_CCSID_NOT_KNOWN
CLIENT_CCSID_NOT_SUPP
COMBINATION_UNSUPPORTED
CONVERSION_NOT_REQUIRED
CONVERSION_NOT_SUPP
IANA_CCSID_NOT_KNOWN
IANA_CCSID_NOT_SUPP
IBM_CCSID_NOT_KNOWN
INSUFFICIENT_STORAGE
INTERNAL_CONVERSION_ERROR
SERVER_CCSID_NOT_KNOWN
SERVER_CCSID_NOT_SUPP
SERVER_UNSUPPORTED
SERVICE_NOT_AVAILABLE
SOURCE_CCSID_INVALID

SOURCE_DATA_INCOMPLETE
TARGET_BUFFER_EXHAUSTED
TARGET_CCSID_INVALID
ZOS_CONVERSION_ERROR

The following values are returned when RESPONSE is INVALID:

BINARY_FORMAT_INVALID
CNV_ENTRY_TOKEN_INVALID
CNV_TABLE_NOT_LOADED
CNV_TABLE_NOT_VALID
CNV_TABLE_TOKEN_INVALID
INVALID_FORMAT
INVALID_FUNCTION
RESOURCE_TYPE_INVALID
CONV_TOKEN_OMITTED
SOURCE_CCSID_OMITTED
TARGET_CCSID_OMITTED
TARGET_INVALID

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CLIENT_INDEX
Optional Parameter

The client conversion table to use.

IBM_CCSID
Optional Parameter

The IBM-assigned number of a Coded Character Set Identifier (CCSID).

SERVER_INDEX
Optional Parameter

The server conversion table to use.

CCNV gate, VERIFY_IBM_CCSID function

Verify that an IBM Coded Character Set Identifier (CCSID) is valid.

Input Parameters

IBM_CCSID
Optional Parameter

The IBM-assigned number of a Coded Character Set Identifier (CCSID).

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

ABEND
KEDD_ERROR
LMLM_ERROR
LOCK_FAILURE
LOOP
MULTI_ERROR
SMAD_ERROR
SMGF_ERROR

The following values are returned when RESPONSE is EXCEPTION:

ADS_1_OMITTED
ADS_2_NOT_SUPP

CGCSGID_NOT_SUPP
CICS_CCSID_NOT_KNOWN
CLIENT_CCSID_NOT_KNOWN
CLIENT_CCSID_NOT_SUPP
COMBINATION_UNSUPPORTED
CONVERSION_NOT_REQUIRED
CONVERSION_NOT_SUPP
IANA_CCSID_NOT_KNOWN
IANA_CCSID_NOT_SUPP
IBM_CCSID_NOT_KNOWN
INSUFFICIENT_STORAGE
INTERNAL_CONVERSION_ERROR
SERVER_CCSID_NOT_KNOWN
SERVER_CCSID_NOT_SUPP
SERVER_UNSUPPORTED
SERVICE_NOT_AVAILABLE
SOURCE_CCSID_INVALID
SOURCE_DATA_INCOMPLETE
TARGET_BUFFER_EXHAUSTED
TARGET_CCSID_INVALID
ZOS_CONVERSION_ERROR

The following values are returned when RESPONSE is INVALID:
BINARY_FORMAT_INVALID
CNV_ENTRY_TOKEN_INVALID
CNV_TABLE_NOT_LOADED
CNV_TABLE_NOT_VALID
CNV_TABLE_TOKEN_INVALID
INVALID_FORMAT
INVALID_FUNCTION
RESOURCE_TYPE_INVALID
CONV_TOKEN_OMITTED
SOURCE_CCSID_OMITTED
TARGET_CCSID_OMITTED
TARGET_INVALID

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CLIENT_INDEX
Optional Parameter

The client conversion table to use.

DBCS_CODE
Optional Parameter

A binary value indicating whether the CCSID represent a double byte character set.

Values for the parameter are:
NO
YES

SERVER_INDEX
Optional Parameter

The server conversion table to use.

CQCQ gate, CLOSE_MVS_CIB_QUEUE function

Close the MVS console interface block (CIB) queue.

Input Parameters

CLOSE
Specifies whether the queue should be closed immediately.

Values for the parameter are:
`IMMEDIATE`
`NORMAL`

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CQCQ gate, DEFER_CIB function

This function moves the first CICS console interface block (CIB) from the QR TCB processed_n CIB queue to the QR TCB deferred CIB queue.

The function is invoked if a definition for the console has to be autoinstalled and the definition for another console is currently being autoinstalled.

CICS CIBs on the QR TCB deferred CIB queue will be returned to the QR TCB processed_n CIB queue at a time of the caller's choosing.

Input Parameters

CIB_TOKEN
The address of the first CICS CIB on the QR TCB processed_n queue.

MVS_CIB
The address of the MVS CIB embedded in the first CICS CIB on the QR TCB processed_n queue.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`CIB_TOKEN_INVALID`
`MVS_CIB_INVALID`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CQCQ gate, GET_CIB function

This function returns a pointer to the MVS console interface block (CIB) embedded in the first CICS CIB on the QR TCB processed_n CIB queue.

If the queue is empty then any CICS CIBs on the CQ TCB processed_n CIB queue are moved to the QR TCB processed_n CIB queue. If the queue is still empty then an exception response, either reason CIB_QUEUE_EMPTY or reason CIB_QUEUE_CLOSED is returned.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`CIB_QUEUE_CLOSED`
`CIB_QUEUE_EMPTY`

CIB_TOKEN
The address of the first CICS CIB on the QR TCB processed_n queue.

MVS_CIB
The address of the MVS CIB embedded in the first CICS CIB on the QR TCB processed_n queue.

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

CQCQ gate, GET_PROCESSED_CIB function

Return a pointer to the MVS console interface block (CIB) embedded in the first CICS CIB on the CQ TCB processed CIB queue.

If the queue is empty then any CICS CIBs on the QR TCB processed CIB queue are moved to the CQ TCB processed CIB queue.

If the queue is still empty then an exception response, either CIB_QUEUE_EMPTY or CIB_QUEUE_CLOSED, is returned.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`CIB_QUEUE_EMPTY`

MVS_CIB
The address of the MVS CIB embedded in the first CICS CIB on the QR TCB processed_n queue.

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

CQCQ gate, INITIALIZE function

This function initializes the CQ component.

Initialization consists of the following steps:

- Allocate storage for the anchor block for the CQ component
- Set the address of the anchor block in the CSA optional features list
- Allocate storage for 254 CICS console interface blocks (CIBs); MVS supports a maximum of 255 concurrent CIBS, however one CIB is effectively reserved for CEKL
- Attach the CQ TCB
- Attach the CQ system task, progam DFHCQSY

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
`SMAD_ERROR`
`SMGF_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

CQCQ gate, MERGE_CIB_QUEUES function

Concatenates the QR TCB deferred console interface block (CIB) queue and the QR TCB processed_n CIB queue to form an updated QR TCB processed_n CIB queue.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CQCQ gate, PUT_CIB function

Removes the first CICS console interface block (CIB) from the CQ TCB free CIB queue, create the CICS CIB from the MVS CIB, and add the CICS CIB to the head of the CQ TCB processed_n queue.

Input Parameters

MVS_CIB
The address of the MVS CIB embedded in the first CICS CIB on the QR TCB processed_n queue.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`CICS_BUSY`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CQCQ gate, PUT_PROCESSED_CIB function

Move the first CICS console interface block (CIB) from the QR TCB processed_n CIB queue to the QR TCB processed_y CIB queue.

Input Parameters

CIB_TOKEN
The address of the first CICS CIB on the QR TCB processed_n queue.

MVS_CIB
The address of the MVS CIB embedded in the first CICS CIB on the QR TCB processed_n queue.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`CIB_TOKEN_INVALID`
`MVS_CIB_INVALID`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CQCQ gate, TRACE_PUT_CQ function

Makes an entry in the CQ trace table. CQ trace entries are fixed length as the CQ trace table is held in main storage. Each trace entry can contain up to 128 bytes, the current limit, of data.

Input Parameters

MVS_CIB
The address of the MVS CIB embedded in the first CICS CIB on the QR TCB processed_n queue.

POINT_ID
The trace point identifier.

DATA1
Optional Parameter

The data to be traced.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ECIS gate, DISCARD_EVENTBINDING function

DISCARD_EVENTBINDING removes the definition of an event binding identified by the name passed by eb_name from the CICS system, so that the system no longer has access to the resource. The event binding must be disabled before it can be discarded.

Input Parameters

EB_NAME
The name of the event binding.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
IN_USE
NOT_FOUND

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ECIS gate, END_BROWSE_CAPTURESPEC function

END_BROWSE_CAPTURESPEC ends a browse of capture specifications.

Input Parameters

CS_BROWSE_TOKEN
The token that identifies the browse operation.

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ECIS gate, END_BROWSE_EVENTBINDING function

END_BROWSE_EVENTBINDING of the ECIS gate ends a browse of event bindings.

Input Parameters

EB_BROWSE_TOKEN
The token that identifies the browse operation.

Output Parameters

REASON
The following value is returned when RESPONSE is DISASTER:
UNKNOWN_DIRECTORY

The following values are returned when RESPONSE is INVALID:
INVALID_BROWSE_TOKEN
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ECIS gate, GET_NEXT_CAPTURESPEC function

GET_NEXT_CAPTURESPEC returns information about the next capture specification in the browse.

Input Parameters

CS_BROWSE_TOKEN
The token that identifies the current browse operation.

Output Parameters

CS_NAME
The name of the capture specification.

<CAPTURE_TYPE>
The capture point type.

The values of this parameter are:
PRECOMMAND
POSTCOMMAND
PROGRAMINIT

<CAPTURE_POINT>
The verb or adverb associated with this command or blank.

<EVENT_NAME>
The name of the event binding.

REASON
The following values are returned when RESPONSE is EXCEPTION:
BROWSE_END
BROWSE_END_EARLY

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ECIS gate, GET_NEXT_EVENTBINDING function

GET_NEXT_EVENTBINDING returns information about the next event binding in the browse.

Input Parameters

EB_BROWSE_TOKEN
The token that identifies the current browse object.

Output Parameters

EB_NAME
The name of the event binding.

<EB_STATUS>
The status of the event binding.

The values of this parameter are:
`DISABLED`
`ENABLED`

<EB_USERTAG>
The current usertag of the event binding.

REASON
The following value is returned when RESPONSE is DISASTER:
`UNKNOWN_DIRECTORY`

The following value is returned when RESPONSE is EXCEPTION:
`BROWSE_END`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`
`INVALID_BROWSE_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ECIS gate, INQ_CAPTURESPEC function

INQ_CAPTURESPEC retrieves information about a specified capture specification.

Input Parameters

CS_NAME
The name of the capture specification.

EB_NAME
The name of the event binding to be browsed for the associated capture specifications.

Output Parameters

<CAPTURE_TYPE>
The capture point type.

The values of this parameter are:
`PRECOMMAND`
`POSTCOMMAND`
`PROGRAMINIT`

<CAPTURE_POINT>
The verb or adverb associated with this command or blank.

<EVENT_NAME>
The name of the event binding.

REASON
The following values are returned when RESPONSE is EXCEPTION:
`CS_NOT_FOUND`
`EB_NOT_FOUND`

The following values are returned when RESPONSE is INVALID:

`INVALID_FORMAT`
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ECIS gate, INQ_EVENTBINDING function

INQ_EVENTBINDING retrieves information about a specified event binding.

Input Parameters

EB_NAME
The name of the event binding.

Output Parameters

<EB_STATUS>
The status of the event binding.

The values of this parameter are:
`ENABLED`
`DISABLED`

<EB_USERTAG>
The usertag of the event binding.

REASON
The following value is returned when RESPONSE is EXCEPTION:
`NOT_FOUND`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`
`INVALID_PARAMETER`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ECIS gate, INQ_EVENTPROCESS function

INQ_EVENTPROCESS retrieves the status of event processing.

Output Parameters

EP_STATUS
The current status of event processing.

The values of this parameter are:
`DRAINING`
`STARTED`
`STOPPED`

REASON
The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ECIS gate, SET_EVENTPROCESS function

SET_EVENTPROCESS sets the status of event processing.

Input Parameters

EP_STATUS
The new status of event processing.

The values of this parameter are:
`DRAIN`
`DRAINEND`
`START`
`STOP`

Output Parameters

REASON
The following value is returned when RESPONSE is EXCEPTION:
`ALREADY_DRAINING`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`
`INVALID_PARAMETER`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ECIS gate, SET_EVENTBINDING function

SET_EVENTBINDING sets the status of the specified event binding.

Input Parameters

EB_NAME
The name of the event binding.

EB_STATUS
The new status of the event binding.

The values of this parameter are:
`ENABLED`
`DISABLED`

Output Parameters

REASON
The following value is returned when RESPONSE is EXCEPTION:
`NOT_FOUND`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`
`INVALID_PARAMETER`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ECIS gate, START_BROWSE_CAPTURESPEC function

START_BROWSE_CAPTURESPEC starts a browse of capture specifications.

Input Parameters

EB_NAME
The name of the event binding to be browsed for the associated capture specifications.

Output Parameters

CS_BROWSE_TOKEN
: The token that identifies the browse operation.

REASON
: The following value is returned when RESPONSE is EXCEPTION:
  `EB_NOT_FOUND`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_FORMAT`
  `INVALID_FUNCTION`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ECIS gate, START_BROWSE_EVENTBINDING function

The START_BROWSE function of ECIS gate starts a browse of event bindings.

Input Parameters

Output Parameters

EB_BROWSE_TOKEN
: The token that identifies the browse operation.

REASON
: The following value is returned when RESPONSE is DISASTER:
  `UNKNOWN_DIRECTORY`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_FORMAT`
  `INVALID_FUNCTION`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ECSE gate, SIGNAL_EVENT function

SIGNAL_EVENT identifies a place in an application program where one or more events can be emitted.

Input Parameters

EVENT
: The name of the event.

<CHANNEL>
: A channel name containing the source of the event data. It is optional and must not be used with the data parameter.

<DATA>
: An address and a length of the area containing the source of the event data. It is optional and must not be used with the channel parameter.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `EVENT_ERROR`
  `CHANNEL_ERROR`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_FORMAT`

INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FCAT gate, INQ_BASEDSNAME function

This function is used only when the DSNB has not yet been validated.

Input Parameters

DSNAME
The 44-character name of the data set.

Output Parameters

BASEDSNAME
The 44–character name of the base data set.

REASON
The following values are returned when RESPONSE is EXCEPTION:
DATASET_NOT_KNOWN
DATASET_NOT_VSAM
SHOWCAT_ERROR
SHOWCAT_AIX_ERROR
ASSOC_NOT_FOUND
UNKNOWN_PATH_TYPE
LOCATE_ERROR
BASE_DATASET_NOT_KNOWN
DATASET_MIGRATED

The following value is returned when RESPONSE is DISASTER:
RECOVERY_ENTERED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

FCAT gate, INQ_CATALOG_QUIESCESTATE function

This function returns the quiesce state of the data set.

Input Parameters

DSNAME
The 44-character name of the data set.

Output Parameters

QUIESCESTATE
The quiesce state of the data set.

Values for the parameter are:
QUIESCED
UNQUIESCED

REASON
The following values are returned when RESPONSE is EXCEPTION:
`DATASET_NOT_KNOWN`
`BDAM_OR_PATH`
`IOERR`
`SYSTEM_BACK_LEVEL`

The following value is returned when RESPONSE is DISASTER:
`RECOVERY_ENTERED`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

FCAT gate, INQ_CATALOG_RECOV_REQD function

This function inquires on the catalog recovery required flag.

Input Parameters

DSNAME
The 44-character name of the data set.

Output Parameters

RECOV_REQD
The state of the catalog recovery required flag.

Values for the parameter are:
`YES`
`NO`

REASON
The following values are returned when RESPONSE is EXCEPTION:
`DATASET_NOT_KNOWN`
`BDAM_OR_PATH`
`IOERR`
`SYSTEM_BACK_LEVEL`

The following value is returned when RESPONSE is DISASTER:
`RECOVERY_ENTERED`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

FCAT gate, INQ_DATASET_STATE function

This function returns the state of the backup-while-open (BWO) bits for a named data set; the state is either fuzzy or sharp.

Input Parameters

DSNAME
The 44-character name of the data set.

Output Parameters

STATE
The state of the backup-while-open (BWO) bits for the data set.

Values for the parameter are:
`FUZZY`
`SHARP`

REASON
The following values are returned when RESPONSE is EXCEPTION:
`FORWARD_RECOVERY_NEEDED`
`RESTORE_AND_FRECOV_NEEDED`

The following values are returned when RESPONSE is DISASTER:
`RECOVERY_ENTERED`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

FCAT gate, SET_BWO_BITS_DISABLED function

This function sets the backup-while-open (BWO) bits to indicate that a data set is no longer eligible for fuzzy image copy.

Input Parameters

DSNAME
The 44-character name of the data set.

Output Parameters

REASON
The following value is returned when RESPONSE is EXCEPTION:
`SYSTEM_BACK_LEVEL`

The following values are returned when RESPONSE is DISASTER:
`RECOVERY_ENTERED`
`SET_BWO_DISABLED_FAILED`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`EXCEPTION`

DISASTER
INVALID
KERNERROR
PURGED

FCAT gate, SET_BWO_BITS_ENABLED function

This function sets the backout-while-open (BWO) bits to indicate that a data set is eligible for fuzzy image copy.

Input Parameters

DSNAME
The 44-character name of the data set.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
DATASET_NOT_KNOWN
FORWARD_RECOVERY_NEEDED
RESTORE_AND_FRECOV_NEEDED
SYSTEM_BACK_LEVEL
HSMDSS_BACK_LEVEL

The following value is returned when RESPONSE is DISASTER:
INQ_BWO_ENABLED_FAILED
RECOVERY_ENTERED
SET_BWO_ENABLED_FAILED

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

FCAT gate, SET_CATALOG_RECOV_POINT function

This function updates the recovery point in the catalog for a named data set.

Input Parameters

DSNAME
The 44-character name of the data set.

RECOVERY_POINT
The 8-character recovery point.

Output Parameters

REASON
The following value is returned when RESPONSE is EXCEPTION:
SYSTEM_BACK_LEVEL

The following values are returned when RESPONSE is DISASTER:
RECOVERY_ENTERED
SET_CATALOG_RECOV_FAILED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
```
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED
```

FCAT gate, SET_CATALOG_RECOV_REQD function

This function sets the recovery required flag in the catalog.

Input Parameters

DSNAME
The 44-character name of the data set.

RECOV_REQD
The catalog recovery required flag.

Values for the parameter are:
```
YES
NO
```

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
```
IOERR
SYSTEM_BACK_LEVEL
```

The following value is returned when RESPONSE is DISASTER:
```
RECOVERY_ENTERED
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
```
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED
```

FCAT gate, SET_CATALOG_RECOVERED function

This function sets the backup-while-open (BWO) bits of the catalog to a forward recovered state for a named data set.

Input Parameters

DSNAME
The 44-character name of the data set.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
```
DATASET_NOT_KNOWN
```

SYSTEM_BACK_LEVEL

The following values are returned when RESPONSE is DISASTER:
INQ_SMS_MANAGED_FAILED
RECOVERY_ENTERED
SET_CATALOG_RECOV_FAILED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

FCCA gate, CHECK function

This function returns the results of the previous operation.

Input Parameters

CHECK_TOKEN
The token that was returned on the previous request for which the results are being checked.

Output Parameters

ACCMETH_RETURN_CODE
A 2-byte code returned by SMSVSAM.

CONFLICTING_QUIESCE
Indicates the type of quiesce that conflicts with this request. Values for the parameter are:
QUIESCE
UNQUIESCE
NONBWO_END
BWO_END
NONBWO_START
BWO_START

REASON
The following values are returned when RESPONSE is EXCEPTION:
VSAM_REQUEST_ERROR
RLS_FAILURE

The following value is returned when RESPONSE is DISASTER:
ABEND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

FCCA gate, COLD_START_RLS function

This function performs a cold start for the control access method control block (ACB).

This request is issued as part of CICS cold start processing. CICS issues an IDARECOV TYPE=COLDSTART call to SMSVSAM to release all record-level sharing (RLS) locks owned by this CICS and to clear the lost locks status and the non-RLS update-permitted state, for all data sets in this CICS region.

Input Parameters

SUBSYSNM
A pointer to an IFGSYSNM structure.

Output Parameters

ACCMETH_RETURN_CODE
A 2-byte code returned by SMSVSAM.

REASON
The following values are returned when RESPONSE is EXCEPTION:
```
VSAM_REQUEST_ERROR
RLS_FAILURE
```
The following value is returned when RESPONSE is DISASTER:
```
ABEND
```
RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

Values for the parameter are:
```
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED
```

FCCA gate, DRAIN_CONTROL_ACB function

This function drains the control access method control block (ACB) when file control detects that an instance of the SMSVSAM server has failed.

DFHFCCA sets an indicator in file control static storage so that no other record-level sharing (RLS) activity can proceed and then DFHFCCA drains all existing RLS access. The server sequence number in file control static storage is incremented, all RLS ACBs are closed, and the control ACB is unregistered.

Input Parameters

None.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
```
DISASTER_PERCOLATION
ABEND
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

OK

EXCEPTION

DISASTER

INVALID

KERNERROR

PURGED

FCCA gate, INQUIRE_RECOVERY function

This function inquires on the record-level sharing (RLS) recovery state; it is issued as part of CICS startup processing. CICS makes an IDAINQRC request to VSAM to obtain the information necessary to determine the RLS recovery actions that are required by CICS.

Input Parameters

AREA_PTR
A fullword pointer to the address of the area where the IFGINQRC information is to be returned.

AREA_LENGTH
A fullword binary field indicating the length of the supplied area.

Output Parameters

ACCMETH_RETURN_CODE
A 2-byte code returned by SMSVSAM.

REQUIRED_LENGTH
A fullword binary field containing the length of the IFGINQRC area to be returned, if its length exceeds the length of the supplied area.

REASON
The following values are returned when RESPONSE is EXCEPTION:
AREA_TOO_SMALL
VSAM_REQUEST_ERROR
RLS_FAILURE

The following value is returned when RESPONSE is DISASTER:
ABEND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

FCCA gate, LOST_LOCKS_COMPLETE function

This function informs VSAM that lost locks (LL) recovery is complete.

CICS issues an IDARECOV TYPE=LL request to SMSVSAM when it has completed recovery processing for a data set that is in lost locks status. SMSVSAM resets the state of the data set in the sharing control data set to indicate that the data set is no longer in lost locks state with respect to this CICS.

Input Parameters

DATASET
The 44-character name of the base data set for which CICS has completed lost locks recovery.

RESTART
Optional Parameter

Indicates whether the call was issued by file control restart. Values for the parameter are:

```
YES
NO
```

Output Parameters

ACCMETH_RETURN_CODE
A 2-byte code returned by SMSVSAM.

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
VSAM_REQUEST_ERROR
RLS_FAILURE
```

The following value is returned when RESPONSE is DISASTER:

```
ABEND
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

```
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED
```

FCCA gate, QUIESCE_COMPLETE function

Quiesce processing is complete. When CICS has completed the processing required for a quiesce request from SMSVSAM, it issues an IDAQUIES call to SMSVSAM with a quiesce type of QUICMP.

Input Parameters

DATASET
The 44-character name of the base data set that has completed quiesce processing.

VSAM_QUIESCE_TOKEN
A token used to relate quiesce completion to the quiesce request that has been completed. This token is supplied by SMSVSAM when the quiesce request is received by CICS.

Output Parameters

ACCMETH_RETURN_CODE
A 2-byte code returned by SMSVSAM.

REASON

The following values are returned when RESPONSE is EXCEPTION:

`VSAM_REQUEST_ERROR`
`RLS_FAILURE`

The following value is returned when RESPONSE is DISASTER:

`ABEND`

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

FCCA gate, QUIESCE_REQUEST function

This function issues a record-level sharing (RLS) quiesce request.

DFHFCCA issues quiesce requests to SMSVSAM on behalf of the quiesce component of CICS; it issues IDAQUIES calls of the following types:

- QUICLOSE to request SMSVSAM to notify all CICS systems that have ACBs open against this data set that these ACBs are to be closed. In addition, the data set is marked in the VSAM catalog as being quiesced after these ACBs have been closed.
- QUIOPEN to request SMSVSAM to mark the data set as no longer quiesced; that is, it is unquiesced. In addition, QUIOPEN will cancel a QUICLOSE that is in progress.
- QUIBEND to request SMSVSAM to cancel a BWO backup of a data set that is in progress.
- QUICEND to request SMSVSAM to cancel a non-BWO backup of a data set that is in progress.

Input Parameters

DATASET

The 44-character name of the base data set to be quiesced.

IMMEDIATE

Optional Parameter

This parameter applies only when the **QUIESCE_TYPE** parameter is set to `QUIESCE`. This parameter indicates whether the quiesce will force files to close immediately, or will allow inflight units of work to reach sync point. Values for the parameter are:

`YES`
`NO`

QUIESCE_TYPE

The type of quiesce. Values for the parameter are:

`QUIESCE`
`UNQUIESCE`
`NONBWO_END`
`BWO_END`

Output Parameters

ACCMETH_RETURN_CODE
: A 2-byte code returned by SMSVSAM.

CHECK_TOKEN
: A token that will be used on the CHECK request.

CONFLICTING_QUIESCE
: Indicates the type of quiesce that conflicts with this request. Values for the parameter are:
  QUIESCE
  UNQUIESCE
  NONBWO_END
  BWO_END
  NONBWO_START
  BWO_START

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  VSAM_REQUEST_ERROR
  RLS_FAILURE

  The following value is returned when RESPONSE is DISASTER:
  ABEND

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

  Values for the parameter are:
  OK
  EXCEPTION
  DISASTER
  INVALID
  KERNERROR
  PURGED

FCCA gate, REGISTER_CONTROL_ACB function

This function registers the control access method control block (ACB). The control ACB is opened using an IDAREGP request to SMSVSAM. The control ACB must be registered before CICS can open any other ACBs for record-level sharing (RLS) access.

Input Parameters

None.

Output Parameters

VSAM_RETURN_CODE
: A fullword return code from VSAM.

VSAM_REASON_CODE
: A fullword 32-bit reason code from VSAM.

VSAM_ERROR_DATA
: An 8-byte field containing error data returned by VSAM.

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  VSAM_REQUEST_ERROR
  RLS_FAILURE

  The following values are returned when RESPONSE is DISASTER:
  DISASTER_PERCOLATION

ABEND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
- OK
- EXCEPTION
- DISASTER
- INVALID
- KERNERROR
- PURGED

FCCA gate, RELEASE_LOCKS function

This function releases all locks for the unit of work (UOW). CICS issues an IDALKREL request to SMSVSAM as part of commit processing at the end of every UOW. This request causes VSAM to release all locks owned by that UOW.

Input Parameters

LUWID
A fullword pointer to an IFGLUWID structure containing the ID for the unit of work.

RESTART
Optional Parameter

Indicates whether the call was issued by file control restart. Values for the parameter are:
- YES
- NO

Output Parameters

ACCMETH_RETURN_CODE
A 2-byte code returned by SMSVSAM.

REASON
The following values are returned when RESPONSE is EXCEPTION:
- VSAM_REQUEST_ERROR
- RLS_FAILURE

The following value is returned when RESPONSE is DISASTER:
- ABEND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
- OK
- EXCEPTION
- DISASTER
- INVALID
- KERNERROR
- PURGED

FCCA gate, RESET_NONRLS_BATCH function

Resets the state of the data set in the sharing control data set to indicate that the batch override, or non-RLS update permitted, state no longer needs to be reported to CICS when it opens the data set.

Input Parameters

DATASET
: The 44-character name of the base data set that is going to have its state cleared.

Output Parameters

ACCMETH_RETURN_CODE
: A 2-byte code returned by SMSVSAM.

REASON
: The following values are returned when RESPONSE is EXCEPTION:

```
VSAM_REQUEST_ERROR
RLS_FAILURE
```

The following value is returned when RESPONSE is DISASTER:

```
ABEND
```

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

```
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED
```

FCCA gate, RETAIN_DATASET_LOCKS function

Retains all the locks for the data set in this unit of work (UOW).

CICS issues an IDARETLK TYPE=SS call to SMSVSAM when a UOW has suffered a backout failure on a data set. This call requests SMSVSAM to mark all locks against the data set owned by the UOW for conversion into retained locks on a subsequent IDALKREL call.

Input Parameters

LUWID
: A fullword pointer to an IFGLUWID structure containing the ID for the unit of work.

DATASET
: The 44-character name of the base data set that has had a backout failure.

Output Parameters

ACCMETH_RETURN_CODE
: A 2-byte code returned by SMSVSAM.

REASON
: The following values are returned when RESPONSE is EXCEPTION:

```
VSAM_REQUEST_ERROR
RLS_FAILURE
```

The following value is returned when RESPONSE is DISASTER:

```
ABEND
```

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

FCCA gate, RETAIN_UOW_LOCKS function

Retains all the locks in this unit of work (UOW).

CICS issues an IDARETLK TYPE=IND call to SMSVSAM when a UOW has encountered an indoubt failure. This call requests VSAM to mark all locks owned by the UOW for conversion into retained locks on a subsequent IDALKREL call.

Input Parameters

LUWID
A pointer to an IFGLUWID structure containing the ID for the unit of work.

Output Parameters

ACCMETH_RETURN_CODE
A 2-byte code returned by SMSVSAM.

REASON
The following values are returned when RESPONSE is EXCEPTION:
VSAM_REQUEST_ERROR
RLS_FAILURE

The following value is returned when RESPONSE is DISASTER:
ABEND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

FCCA gate, UNREGISTER_CONTROL_ACB function

This function is used to unregister the control access method control block (ACB). The record-level sharing (RLS) control ACB is closed using an IDAUNRP request to SMSVSAM. The control ACB cannot be unregistered while any other ACBs are open for RLS access.

Input Parameters

None.

Output Parameters

VSAM_RETURN_CODE
A fullword return code from VSAM.

VSAM_REASON_CODE
A fullword reason code from VSAM.

REASON
The following values are returned when RESPONSE is EXCEPTION:
`VSAM_REQUEST_ERROR`
`RLS_FAILURE`

The following values are returned when RESPONSE is DISASTER:
`DISASTER_PERCOLATION`
`ABEND`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

FCCI gate, INQUIRE function

FCCI is the parameter list used by file control to communicate with the coupling facility data table (CFDT) cross-memory server, DFHCFMN, for the table inquire function.

Input Parameters

BROWSE
Optional Parameter

This parameter specifies whether the inquire is for a single table or for the first or next table in a browse. If this parameter is omitted, a single table inquire is performed. The `FIRST` option indicates a search for a table greater than or equal to the specified name, and `NEXT` indicates a search for a table greater than the specified name.

Values for the parameter are:
`FIRST`
`NEXT`

TABLE NAME
16-character table name; this name is typically the CICS file name padded with trailing blanks.

TRANSACTION_NUMBER
Optional Parameter

This 4-character string identifies the requesting task in the debug trace if used.

Output Parameters

ACCESS_MODE
Returned as `EXCLUSIVE` if the table is open for exclusive access; otherwise, `SHARED`.

This parameter can take the following values:
`EXCLUSIVE`
`SHARED`

AVAILABLE
Indicates whether new opens are currently allowed.

Values for the parameter are:

YES

NO

CURRENT_RECORDS
This fullword binary field indicates the number of records in the table the last time the current server accessed the table.

CURRENT_USERS
This fullword binary field indicates the number of user opens that are currently active against the table.

INITIAL_LOAD
Specifies whether initial load is required. If not, the first open creates an empty table.

Values for the parameter are:

YES

NO

KEY_LENGTH
This fullword binary field specifies the table key length in bytes, in the range 1 - 16.

LOADED
Indicates whether the table has been loaded. If the table was created as empty this is set to YES as if loading had already been done. If not, the value is set to YES using the SET function when loading is complete.

Values for the parameter are:

YES

NO

MAXIMUM_RECORDS
This fullword binary field specifies the maximum number of records that can be stored in the table. If no maximum limit is required, the maximum positive number (hex 7FFFFFFF) can be specified.

OPEN_MODE
Indicates whether the table is currently open and, if so, whether it is open for read-only or read/write access.

This parameter can take the following values:
NONE
READ_ONLY
READ_WRITE

REASON
The following values are returned when RESPONSE is EXCEPTION:
SERVER_CONNECTION_FAILED
TABLE_NOT_FOUND
CF_ACCESS_ERROR

RECORD_LENGTH
This fullword binary field specifies the table maximum record length, in the range 1 - 32767.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SHARED_ACCESS
If the table is currently open for exclusive access, this parameter indicates the

level of shared access permitted by the exclusive user. If the table is not open for exclusive access, this parameter normally indicates that read and write sharing is allowed.

Values for the parameter are:
```
NONE
READ_ONLY
READ_WRITE
```

TABLE_NAME
The 16-character table name; this name is typically the CICS file name padded with trailing blanks.

UPDATE_MODEL
Specifies the method to be used for updating the table. This parameter takes one of the following values:

CONTENTION
Indicates that version compare and swap is used for updating the table.

LOCKING
Indicates that normal update locking is used for updating the table.

RECOVERABLE
Indicates that backout support is included with normal update locking.

FCCR gate, DELETE function

This function deletes a record from a coupling facility data table (CFDT) following a read for update.

Input Parameters

KEY
The 16-byte key of the record to be deleted.

KEY_COMPARISON
The comparison condition; this parameter can take the following values:
```
LT
LTEQ
EQ
GTEQ
GT
```

KEY_MATCH_LENGTH
The key match length for generic key operations.

SUSPEND
Specifies whether to wait if the requested record is locked by an active lock. Values for the parameter are:
```
YES
NO
```

TABLE_NAME
This 16-character field contains the 8-character name of the CFDT and is padded with trailing blanks.

TABLE_TOKEN
The token returned by the OPEN function, which must be passed on all subsequent requests against that open table.

TRANSACTION_NUMBER
This 4-character string identifies the requesting task in the debug trace, if used.

UOW_ID
This 8-character string specifies the unit of work ID. The unit of work ID is required when updating using the locking model.

UPDATE_TOKEN
The token returned by the preceding read for update.

Output Parameters

KEY
The 16-byte key of the deleted record.

LOCK_OWNER_SYSTEM
This 8-character string identifies the MVS system from which the record lock was acquired for a RECORD_BUSY or RECORD_LOCKED condition. This parameter is also set when the wait exit is taken for a lock wait.

LOCK_OWNER_APPLID
This 8-character string identifies the applid of the region that owns the record lock for a RECORD_BUSY or RECORD_LOCKED condition. This parameter is also set when the wait exit is taken for a lock wait.

LOCK_OWNER_UOW_ID
This 8-character string identifies the unit of work that owns the record lock for a RECORD_BUSY or RECORD_LOCKED condition. This parameter is also set when the wait exit is taken for a lock wait.

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
SERVER_CONNECTION_FAILED
RECORD_NOT_FOUND
RECORD_CHANGED
RECORD_BUSY
RECORD_LOCKED
TABLE_LOADING
INVALID_REQUEST
UPDATE_TOKEN_INVALID
INCOMPLETE_UPDATE
TABLE_TOKEN_INVALID
TABLE_DESTROYED
UOW_FAILED
UOW_NOT_IN_FLIGHT
UOW_TOO_LARGE
POOL_STATE_ERROR
CF_ACCESS_ERROR
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

```
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED
```

FCCR gate, DELETE_MULTIPLE function

This function deletes records from a coupling facility data table, subject to key match conditions, until no more records match or an exception occurs.

Input Parameters

KEY
The 16-byte key of the record to be deleted.

KEY_COMPARISON
The comparison condition; this parameter can take the following values:

```
LT
LTEQ
```

EQ
GTEQ
GT

KEY_MATCH_LENGTH
The key match length for generic key operations.

SUSPEND
Specifies whether to wait if the requested record is locked by an active lock. Values for the parameter are:
YES
NO

TABLE_NAME
This 16-character field contains the 8-character name of the CFDT and is padded with trailing blanks.

TABLE_TOKEN
The token returned by the OPEN function, which must be passed on all subsequent requests against that open table.

TRANSACTION_NUMBER
This 4-character string identifies the requesting task in the debug trace, if used.

UOW_ID
This 8-character string specifies the unit of work ID. The unit of work ID is required when updating using the locking model.

Output Parameters

DELETED_RECORD_COUNT
The number of records successfully deleted by the DELETE_MULTIPLE function.

KEY
The 16-byte key of the last record deleted.

LOCK_OWNER_APPLID
This 8-character string identifies the applid of the region that owns the record lock for a RECORD_BUSY or RECORD_LOCKED condition. This parameter is also set when the wait exit is taken for a lock wait.

LOCK_OWNER_SYSTEM
This 8-character string identifies the MVS system from which the record lock was acquired for a RECORD_BUSY or RECORD_LOCKED condition. This parameter is also set when the wait exit is taken for a lock wait.

LOCK_OWNER_UOW_ID
This 8-character string identifies the unit of work that owns the record lock for a RECORD_BUSY or RECORD_LOCKED condition. This parameter is also set when the wait exit is taken for a lock wait.

REASON
The following values are returned when RESPONSE is EXCEPTION:
SERVER_CONNECTION_FAILED
RECORD_NOT_FOUND
RECORD_CHANGED
RECORD_BUSY
RECORD_LOCKED
TABLE_LOADING
INVALID_REQUEST
UPDATE_TOKEN_INVALID
INCOMPLETE_UPDATE
TABLE_TOKEN_INVALID
TABLE_DESTROYED
UOW_FAILED
UOW_NOT_IN_FLIGHT
UOW_TOO_LARGE

POOL_STATE_ERROR
CF_ACCESS_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

FCCR gate, HIGHEST function

This function returns the highest key in a coupling facility data table (CFDT), if there is one.

Input Parameters

TABLE_NAME
This 16-character field contains the 8-character name of the CFDT and is padded with trailing blanks.

TABLE_TOKEN
The token returned by the OPEN function, which must be passed on all subsequent requests against that open table.

TRANSACTION_NUMBER
This 4-character string identifies the requesting task in the debug trace, if used.

Output Parameters

KEY
Returns the 16-byte key of the highest record.

REASON
The following values are returned when RESPONSE is EXCEPTION:
SERVER_CONNECTION_FAILED
RECORD_NOT_FOUND
TABLE_LOADING
TABLE_TOKEN_INVALID
TABLE_DESTROYED
POOL_STATE_ERROR
CF_ACCESS_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

FCCR gate, LOAD function

This function adds a record to a coupling facility data table (CFDT) during loading.

Input Parameters

TABLE_NAME
This 16-character field contains the 8-character name of the CFDT and is padded with trailing blanks.

TABLE_TOKEN
The token returned by the OPEN function, which must be passed on all subsequent requests against that open table.

KEY
The 16-byte key of the record to be loaded.

DATA
The address and length of the record data to be loaded.

TRANSACTION_NUMBER
This 4-character string identifies the requesting task in the debug trace, if used.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
SERVER_CONNECTION_FAILED
DUPLICATE_RECORD
MAXIMUM_RECORDS_REACHED
NO_SPACE_IN_POOL
INVALID_REQUEST
INVALID_LENGTH
RECORD_NOT_FOUND
TABLE_LOADING
TABLE_TOKEN_INVALID
TABLE_DESTROYED
POOL_STATE_ERROR
CF_ACCESS_ERROR
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

```
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED
```

FCCR gate, POINT function

This function locates a record in a coupling facility data table (CFDT).

Input Parameters

KEY
The 16-byte key of the record to be accessed. For approximate key operations, this parameter specifies the start key and is updated on successful completion to contain the key of the record accessed.

KEY_COMPARISON
The comparison condition; this parameter can take the following values:

```
LT
LTEQ
EQ
GTEQ
GT
```

KEY_MATCH_LENGTH
The key match length for generic key operations.

TABLE_NAME
This 16-character field contains the 8-character name of the CFDT and is padded with trailing blanks.

TABLE_TOKEN
The token returned by the OPEN function, which must be passed on all subsequent requests against that open table.

TRANSACTION_NUMBER
This 4-character string identifies the requesting task in the debug trace, if used.

UOW_ID
This 8-character string specifies the unit of work ID. The unit of work ID is required when updating using the locking model.

Output Parameters

KEY
Returns the 16-byte key of the located record.

REASON
The following values are returned when RESPONSE is EXCEPTION:
- SERVER_CONNECTION_FAILED
- RECORD_NOT_FOUND
- TABLE_LOADING
- TABLE_TOKEN_INVALID
- TABLE_DESTROYED
- POOL_STATE_ERROR
- CF_ACCESS_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
- OK
- EXCEPTION
- DISASTER
- INVALID
- KERNERROR
- PURGED

FCCR gate, READ function

This function reads a record in a coupling facility data table (CFDT) and, optionally, updates it.

Input Parameters

BUFFER
The input buffer for read requests.

KEY
The 16-byte key of the record to be accessed. For approximate key operations, this parameter specifies the start key and is updated on successful completion to contain the key of the record accessed.

KEY_COMPARISON
The comparison condition; this parameter can take the following values:
- LT
- LTEQ
- EQ
- GTEQ
- GT

KEY_MATCH_LENGTH
The key match length for generic key operations.

SUSPEND
Specifies whether to wait if the requested record is locked by an active lock. Values for the parameter are:
`YES`
`NO`

TABLE_NAME
This 16-character field contains the 8-character name of the CFDT and is padded with trailing blanks.

TABLE_TOKEN
The token returned by the OPEN function, which must be passed on all subsequent requests against that open table.

TRANSACTION_NUMBER
This 4-character string identifies the requesting task in the debug trace, if used.

UOW_ID
This 8-character string specifies the unit of work ID. The unit of work ID is required when updating using the locking model.

Output Parameters

KEY
Returns the 16-byte key of the record.

LOCK_OWNER_APPLID
This 8-character string identifies the applid of the region that owns the record lock for a `RECORD_BUSY` or `RECORD_LOCKED` condition. This parameter is also set when the wait exit is taken for a lock wait.

LOCK_OWNER_SYSTEM
This 8-character string identifies the MVS system from which the record lock was acquired for a `RECORD_BUSY` or `RECORD_LOCKED` condition. This parameter is also set when the wait exit is taken for a lock wait.

LOCK_OWNER_UOW_ID
This 8-character string identifies the unit of work that owns the record lock for a `RECORD_BUSY` or `RECORD_LOCKED` condition. This parameter is also set when the wait exit is taken for a lock wait.

REASON
The following values are returned when RESPONSE is EXCEPTION:
`SERVER_CONNECTION_FAILED`
`RECORD_NOT_FOUND`
`RECORD_BUSY`
`RECORD_LOCKED`
`TABLE_LOADING`
`INVALID_REQUEST`
`INCOMPLETE_UPDATE`
`TABLE_TOKEN_INVALID`
`TABLE_DESTROYED`
`UOW_FAILED`
`UOW_NOT_IN_FLIGHT`
`UOW_TOO_LARGE`
`POOL_STATE_ERROR`
`CF_ACCESS_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`

EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

UPDATE_TOKEN
Returns a token on a read for update.

FCCR gate, READ_DELETE function

The READ_DELETE function reads and deletes a record from a coupling facility data table. It is not used by CICS.

FCCR gate, REWRITE function

This function rewrites an existing record in a coupling facility data table (CFDT), following a read for update.

Input Parameters

DATA
The address and length of the record data to be rewritten.

KEY
The 16-byte key of the record to be rewritten.

SUSPEND
Specifies whether to wait if the requested record is locked by an active lock. Values for the parameter are:
YES
NO

TABLE_NAME
This 16-character field contains the 8-character name of the CFDT and is padded with trailing blanks.

TABLE_TOKEN
The token returned by the OPEN function, which must be passed on all subsequent requests against that open table.

TRANSACTION_NUMBER
This 4-character string identifies the requesting task in the debug trace, if used.

UOW_ID
This 8-character string specifies the unit of work ID. The unit of work ID is required when updating using the locking model.

UPDATE_TOKEN
The token returned by the preceding read for update.

Output Parameters

LOCK_OWNER_APPLID
This 8-character string identifies the applid of the region that owns the record lock for a RECORD_BUSY or RECORD_LOCKED condition. This parameter is also set when the wait exit is taken for a lock wait.

LOCK_OWNER_SYSTEM
This 8-character string identifies the MVS system from which the record lock was acquired for a RECORD_BUSY or RECORD_LOCKED condition. This parameter is also set when the wait exit is taken for a lock wait.

LOCK_OWNER_UOW_ID
This 8-character string identifies the unit of work that owns the record lock for a RECORD_BUSY or RECORD_LOCKED condition. This parameter is also set when the wait exit is taken for a lock wait.

REASON
The following values are returned when RESPONSE is EXCEPTION:

SERVER_CONNECTION_FAILED
RECORD_NOT_FOUND
RECORD_CHANGED
RECORD_BUSY
RECORD_LOCKED
MAXIMUM_RECORDS_REACHED
NO_SPACE_IN_POOL
TABLE_LOADING
INVALID_REQUEST
INVALID_LENGTH
UPDATE_TOKEN_INVALID
INCOMPLETE_UPDATE
TABLE_TOKEN_INVALID
TABLE_DESTROYED
UOW_FAILED
UOW_NOT_IN_FLIGHT
UOW_TOO_LARGE
POOL_STATE_ERROR
CF_ACCESS_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

FCCR gate, UNLOCK function

This function unlocks a record previously read for update in a coupling facility data table (CFDT).

Input Parameters

BUFFER
The input buffer for read requests.

KEY
The 16-byte key of the record to be unlocked.

TABLE_NAME
This 16-character field contains the 8-character name of the CFDT and is padded with trailing blanks.

TABLE_TOKEN
The token returned by the OPEN function, which must be passed on all subsequent requests against that open table.

TRANSACTION_NUMBER
This 4-character string identifies the requesting task in the debug trace, if used.

UOW_ID
This 8-character string specifies the unit of work ID. The unit of work ID is required when updating using the locking model.

UPDATE_TOKEN
The token returned by the preceding read for update.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  - `SERVER_CONNECTION_FAILED`
  - `RECORD_NOT_FOUND`
  - `RECORD_CHANGED`
  - `TABLE_LOADING`
  - `INVALID_REQUEST`
  - `UPDATE_TOKEN_INVALID`
  - `TABLE_TOKEN_INVALID`
  - `TABLE_DESTROYED`
  - `UOW_NOT_IN_FLIGHT`
  - `POOL_STATE_ERROR`
  - `CF_ACCESS_ERROR`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

  Values for the parameter are:
  - `OK`
  - `EXCEPTION`
  - `DISASTER`
  - `INVALID`
  - `KERNERROR`
  - `PURGED`

FCCR gate, WRITE function

This function writes a new record to a coupling facility data table (CFDT).

Input Parameters

DATA
: The address and length of the record data to be added.

KEY
: The 16-byte key of the record to be added.

SUSPEND
: Specifies whether to wait if the requested record is locked by an active lock. Values for the parameter are:
  - `YES`
  - `NO`

TABLE_NAME
: This 16-character field contains the 8-character name of the CFDT and is padded with trailing blanks.

TABLE_TOKEN
: The token returned by the OPEN function, which must be passed on all subsequent requests against that open table.

TRANSACTION_NUMBER
: This 4-character string identifies the requesting task in the debug trace, if used.

UOW_ID
: This 8-character string specifies the unit of work ID. The unit of work ID is required when updating using the locking model.

Output Parameters

LOCK_OWNER_APPLID
: This 8-character string identifies the applid of the region that owns the record lock for a `RECORD_BUSY` or `RECORD_LOCKED` condition. This parameter is also set when the wait exit is taken for a lock wait.

LOCK_OWNER_SYSTEM
This 8-character string identifies the MVS system from which the record lock was acquired for a RECORD_BUSY or RECORD_LOCKED condition. This parameter is also set when the wait exit is taken for a lock wait.

LOCK_OWNER_UOW_ID
This 8-character string identifies the unit of work that owns the record lock for a RECORD_BUSY or RECORD_LOCKED condition. This parameter is also set when the wait exit is taken for a lock wait.

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
SERVER_CONNECTION_FAILED
DUPLICATE_RECORD
RECORD_BUSY
RECORD_LOCKED
MAXIMUM_RECORDS_REACHED
NO_SPACE_IN_POOL
TABLE_LOADING
INVALID_REQUEST
INVALID_LENGTH
UPDATE_TOKEN_INVALID
INCOMPLETE_UPDATE
TABLE_TOKEN_INVALID
TABLE_DESTROYED
UOW_FAILED
UOW_NOT_IN_FLIGHT
UOW_TOO_LARGE
POOL_STATE_ERROR
CF_ACCESS_ERROR
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

```
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED
```

FCCT gate, CLOSE function

Ends the connection to the specified table.

Input Parameters

TABLE_NAME
16-character table name. This name is typically the CICS file name padded with trailing blanks.

TABLE_TOKEN
The token returned by the OPEN function, which must be passed on all subsequent requests against that table.

TRANSACTION_NUMBER
Optional Parameter

This 4-character string identifies the requesting task in the debug trace if used.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- SERVER_CONNECTION_FAILED
- TABLE_TOKEN_INVALID
- TABLE_DESTROYED
- POOL_STATE_ERROR
- CF_ACCESS_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
- OK
- EXCEPTION
- DISASTER
- INVALID
- KERNERROR
- PURGED

FCCT gate, DELETE function

This function deletes a table if the table is not currently open. A security check for table access is performed.

Input Parameters

TABLE_NAME
16-character table name. This name is typically the CICS file name padded with trailing blanks.

TRANSACTION_NUMBER
Optional Parameter

This 4-character string identifies the requesting task in the debug trace if used.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- SERVER_CONNECTION_FAILED
- ACCESS_NOT_ALLOWED
- TABLE_NOT_FOUND
- EXCLUSIVE_ACCESS_CONFLICT
- TABLE_DESTROYED
- CF_ACCESS_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
- OK
- EXCEPTION
- DISASTER
- INVALID
- KERNERROR

PURGED

FCCT gate, EXTRACT_STATISTICS function

This function returns information about a table that is currently open, with the option to reset the statistics.

Input Parameters

RESET_STATISTICS
Optional Parameter

Specifies whether to reset the statistics. Values for the parameter are:
YES
NO

TABLE_NAME
16-character table name. This name is typically the CICS file name padded with trailing blanks.

TABLE_TOKEN
The token returned by the OPEN function, which must be passed on all subsequent requests against that table.

TRANSACTION_NUMBER
Optional Parameter

This 4-character string identifies the requesting task in the debug trace if used.

Output Parameters

CONTENTION_COUNT
Optional Parameter

This fullword binary field indicates the number of times a rewrite or delete failed because of a mismatched version (for the contention model) or the number of times that a lock was found to be unavailable (for the locking or recoverable models) since the last statistics reset.

CURRENT_RECORDS
This fullword binary field indicates the number of records in the table the last time that the current server accessed the table.

CURRENT_USERS
This fullword binary field indicates the number of explicit opens that are currently active against the table, not including internal recoverable opens issued by the server.

HIGHEST_RECORDS
Optional Parameter

This fullword binary field indicates the highest number of records in the table as seen by the current server at any time since the last statistics reset.

MAXIMUM_RECORDS
Optional Parameter

This fullword binary field specifies the maximum number of records that can be stored in the table. If no maximum limit is required, the maximum positive number (hex 7FFFFFFF) can be specified.

REASON
The following values are returned when RESPONSE is EXCEPTION:
SERVER_CONNECTION_FAILED
TABLE_TOKEN_INVALID

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

OK

EXCEPTION

DISASTER

INVALID

KERNERROR

PURGED

FCCT gate, OPEN function

This function defines a table and establishes a connection to it. A security check is performed for access to the table name. If the table does not exist, it is implicitly created.

Input Parameters

TABLE_NAME
16-character table name. This name is typically the CICS file name padded with trailing blanks.

RECORD_LENGTH
This fullword binary field specifies the table maximum record length, in the range 1 - 32767.

KEY_LENGTH
This fullword binary field specifies the table key length in bytes, in the range 1 - 16.

MAXIMUM_RECORDS
Optional Parameter

This fullword binary field specifies the maximum number of records that can be stored in the table. If no maximum limit is required, the maximum positive number (hex 7FFFFFFF) can be specified.

UPDATE_MODEL
Specifies the method to be used for updating the table. Values for the parameter are:

CONTENTION
Indicates that version compare and swap is used for updating the table.

LOCKING
Indicates that normal update locking is used for updating the table.

RECOVERABLE
Indicates that backout support is included with normal update locking.

INITIAL_LOAD
Optional Parameter

Specifies whether initial load is required. If not, the first open creates an empty table. Values for the parameter are:

YES
NO

OPEN_MODE
Optional Parameter

Specifies the mode in which the file is opened. Values for the parameter are:

READ_ONLY
READ_WRITE

The default value for this parameter is READ_WRITE.

ACCESS_MODE
Optional Parameter

Specifies whether the table is being opened for exclusive or shared use. Values for the parameter are:

EXCLUSIVE
SHARED
PREFER_SHARED

Only one user at a time can have an exclusive open active. If the table requires loading and is not yet being loaded, it can be opened only in exclusive mode. The PREFER_SHARED option means that the table will be opened in exclusive mode if loading is required; otherwise, it will be opened in shared mode. The default value for this parameter is SHARED.

SHARED_ACCESS
Optional Parameter

Specifies for an exclusive mode open whether other users are allowed shared access to the file at the same time. Values for the parameter are:

NONE
READ_ONLY
READ_WRITE

The default value for this parameter is READ_WRITE.

TRANSACTION_NUMBER
Optional Parameter

This 4-character string identifies the requesting task in the debug trace if used.

Output Parameters

ACCESS_MODE
Optional Parameter

Specifies whether the table is being opened for exclusive or shared use. Values for the parameter are:

EXCLUSIVE

SHARED

PREFER_SHARED

Only one user at a time can have an exclusive open active. If the table requires loading and is not yet being loaded, it can be opened only in exclusive mode. The PREFER_SHARED option means that the table will be opened in exclusive mode if loading is required; otherwise, it will be opened in shared mode. The default value for this parameter is SHARED.

CURRENT_RECORDS
This fullword binary field indicates the number of records in the table the last time that the current server accessed the table.

CURRENT_HIGH_KEY
Optional Parameter

This 16-character string indicates the key of the last record in the table at the time of the request.

CURRENT_USERS
This fullword binary field indicates the number of user opens that are currently active against the table.

INITIAL_LOAD
Specifies whether initial load is required. If not, the first open creates an empty table.

Values for the parameter are:

YES

NO

KEY_LENGTH
This fullword binary field specifies the table key length in bytes, in the range 1 - 16.

LOADED
Optional Parameter

Indicates whether the table has been loaded. If the table was created as empty, this parameter is set to YES as if loading had already taken place. If not, this parameter is set to YES using the SET function when loading is complete.

This parameter takes one of the following values:

YES

NO

MAXIMUM_RECORDS
Optional Parameter

This fullword binary field specifies the maximum number of records that can be stored in the table. If no maximum limit is required, the maximum positive number (hex 7FFFFFFF) can be specified.

REASON
The following values are returned when RESPONSE is EXCEPTION:
SERVER_CONNECTION_FAILED
TABLE_NOT_FOUND
CF_ACCESS_ERROR

RECORD_LENGTH
This fullword binary field specifies the table maximum record length, in the range 1 - 32767.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

OK

EXCEPTION

DISASTER

INVALID

KERNERROR

PURGED

TABLE_TOKEN
Token returned by the OPEN function which must be passed on all subsequent requests against that open table.

UPDATE_MODEL
Specifies the method to be used for updating the table. Values for the parameter are:

CONTENTION
Indicates that version compare and swap is used for updating the table.

LOCKING
Indicates that normal update locking is used for updating the table.

RECOVERABLE
Indicates that backout support is included with normal update locking.

FCCT gate, SET function

This function is used to change the attributes of a table. The maximum number of records can be changed, the open mode can be changed to indicate that loading is no longer taking place, and the access mode can be changed from exclusive to shared.

Input Parameters

ACCESS_MODE
Optional Parameter

Specifies whether the table is being opened for exclusive or shared use. Values for the parameter are:

```
EXCLUSIVE
SHARED
PREFER_SHARED
```

Only one user at a time can have an exclusive open active. If the table requires loading and is not yet being loaded, it can be opened only in exclusive mode. The PREFER_SHARED option means that the table will be opened in exclusive mode if loading is required; otherwise, it will be opened in shared mode. The default value for this parameter is SHARED.

AVAILABLE
Optional Parameter

Indicates whether new open requests are currently allowed for this table. Values for the parameter are:

```
YES
NO
```

LOADED
Optional Parameter

Indicates whether the table has been loaded. If the table was created as empty this parameter is set to YES as if loading had already taken place. Values for the parameter are:

```
YES
NO
```

MAXIMUM_RECORDS
Optional Parameter

This fullword binary field specifies the maximum number of records that can be stored in the table. If no maximum limit is required, the maximum positive number (hex 7FFFFFFF) can be specified.

SHARED_ACCESS
Optional Parameter

Specifies for an exclusive open mode whether other users are allowed shared access to the file at the same time. Values for the parameter are:

```
NONE
READ_ONLY
READ_WRITE
```

The default value for this parameter is READ_WRITE.

TABLE_NAME
16-character table name. This name is typically the CICS file name padded with trailing blanks.

TABLE_TOKEN
Optional Parameter

Token returned by the OPEN function, which must be passed on all subsequent requests against that open table. If the table is currently open, the table token must be specified. If no table token is specified, a security check for table access is performed.

TRANSACTION_NUMBER
Optional Parameter

This 4-character string identifies the requesting task in the debug trace if used.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

SERVER_CONNECTION_FAILED
ACCESS_NOT_ALLOWED
TABLE_NOT_FOUND
SHARED_ACCESS_CONFLICT
EXCLUSIVE_ACCESS_CONFLICT
ALREADY_SET
INCORRECT_STATE
OPTION_NOT_SUPPORTED
TABLE_TOKEN_INVALID
TABLE_DESTROYED
POOL_STATE_ERROR
CF_ACCESS_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

OK

EXCEPTION

DISASTER

INVALID

KERNERROR

PURGED

FCCU gate, BACKOUT function

This function backs out the changes made by an active unit of work and releases the locks before returning control to the caller.

Input Parameters

TRANSACTION_NUMBER
Optional Parameter

This 4-character string identifies the requesting task in the debug trace if used.

UOW_ID
This 8-character string combines the subsystem name with the unit of work identification in the client region to form the fully qualified unit of work identifier.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  - SERVER_CONNECTION_FAILED
  - RECOVERY_NOT_ENABLED
  - UOW_NOT_FOUND
  - UOW_MADE_NO_CHANGES
  - POOL_STATE_ERROR
  - CF_ACCESS_ERROR

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

  Values for the parameter are:
  - OK
  - EXCEPTION
  - DISASTER
  - INVALID
  - KERNERROR
  - PURGED

FCCU gate, COMMIT function

This function commits the changes made by a unit of work and releases all locks before returning control to the caller.

Input Parameters

TRANSACTION_NUMBER
: Optional Parameter

  This 4-character string identifies the requesting task in the debug trace if used.

UOW_ID
: This 8-character string combines the subsystem name with the unit of work identification in the client region to form the fully qualified unit of work identifier.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  - SERVER_CONNECTION_FAILED
  - RECOVERY_NOT_ENABLED
  - UOW_NOT_FOUND
  - UOW_MADE_NO_CHANGES
  - UOW_FAILED
  - NO_SPACE_IN_POOL
  - POOL_STATE_ERROR
  - CF_ACCESS_ERROR

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

  Values for the parameter are:
  - OK
  - EXCEPTION
  - DISASTER
  - INVALID
  - KERNERROR
  - PURGED

FCCU gate, INQUIRE function

This function returns information about the status of an active unit of work.

Input Parameters

BROWSE
Optional Parameter

Specifies whether the inquire is for a single unit of work or for the first or next unit of work in a browse. If this parameter is omitted, the inquire is assumed to be a single unit of work inquire. Values for the parameter are:

```
FIRST
NEXT
```

The `FIRST` option indicates a search for a UOW ID greater than or equal to the specified UOW ID, and `NEXT` indicates a search for a UOW ID greater than the specified UOW ID.

TRANSACTION_NUMBER
Optional Parameter

This 4-character string identifies the requesting task in the debug trace if used.

UOW_ID
This 8-character string combines the subsystem name with the unit of work identification in the client region to form the fully qualified unit of work identifier.

UOW_RESTARTED
Optional Parameter

Specifies that the function must select only units of work that have or have not been through restart processing. Values for the parameter are:

```
YES
NO
```

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
SERVER_CONNECTION_FAILED
RECOVERY_NOT_ENABLED
UOW_NOT_FOUND
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

```
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED
```

UOW_ID
The 8-character unit of work identification.

UOW_RESTARTED
Indicates whether the unit of work has been through restart. Values for the parameter are:

```
YES
NO
```

UOW_RETAINED
Indicates whether the locks for the unit of work have been marked as retained, either explicitly in the current connection or implicitly by a restart. Values for the parameter are:
YES
NO

UOW_STATE
Indicates the state of an active unit of work. Values for the parameter are:

IN_FLIGHT
The unit of work has made changes but has not yet reached the stage of prepare to commit.

IN_DOUBT
The unit of work has been prepared but not committed or backed out.

IN_COMMIT
Commit processing has started.

IN_BACKOUT
Backout processing has started.

When commit or backout processing completes, the unit of work is deleted.

FCCU gate, PREPARE function

This function marks a unit of work as prepared to be committed. The PREPARE function is required to support 2-phase commit protocols and is ignored if the unit of work is already in a prepared or retained state.

Input Parameters

TRANSACTION_NUMBER
Optional Parameter

This 4-character string identifies the requesting task in the debug trace if used.

UOW_ID
This 8-character string combines the subsystem name with the unit of work identification in the client region to form the fully qualified unit of work identifier.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
SERVER_CONNECTION_FAILED
RECOVERY_NOT_ENABLED
UOW_NOT_FOUND
UOW_MADE_NO_CHANGES
UOW_FAILED
NO_SPACE_IN_POOL
POOL_STATE_ERROR
CF_ACCESS_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR

PURGED

FCCU gate, RESTART function

This function establishes recovery status at startup. Recoverable operations for the client region are enabled and state information relating to any unresolved units of work is rebuilt.

Input Parameters

TRANSACTION_NUMBER
Optional Parameter

This 4-character string identifies the requesting task in the debug trace if used.

UOW_SUBSYSTEM_NAME
Optional Parameter

The 8-character subsystem name to be used at the first part of the unit of work identifier for units of work relating to the client region. For a CICS client region, this parameter is ignored and the CICS applid is used. For a non-CICS client region, if this parameter is omitted, or specified as spaces, the MVS job name is used instead.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

SERVER_CONNECTION_FAILED
SUBSYSTEM_ALREADY_ACTIVE
RESTART_ALREADY_ACTIVE
TABLE_OPEN_FAILED
NO_SPACE_IN_POOL
POOL_STATE_ERROR
CF_ACCESS_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

FCCU gate, RETAIN function

This function marks any locks relating to the named unit of work as retained.

Input Parameters

TRANSACTION_NUMBER
Optional Parameter

This 4-character string identifies the requesting task in the debug trace if used.

UOW_ID
This 8-character string combines the subsystem name with the unit of work identification in the client region to form the fully qualified unit of work identifier.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`SERVER_CONNECTION_FAILED`
`RECOVERY_NOT_ENABLED`
`UOW_NOT_FOUND`
`UOW_MADE_NO_CHANGES`
`UOW_FAILED`
`NO_SPACE_IN_POOL`
`POOL_STATE_ERROR`
`CF_ACCESS_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

FCDN gate, CATALOG_DSNB function

This function catalogs data set name (DSN) blocks.

Input Parameters

FILE_NAME
The 8-character name of the file.

TYPE_OF_CONNECTION
Specifies whether the connection is being made to a base or an object.

Values for the parameter are:
`OBJ`
`BASE`

FILE_NAME
The 8-character name of the file.

Output Parameters

REASON
The following value is returned when RESPONSE is EXCEPTION:
`FILE_NOT_FOUND`

The following value is returned when RESPONSE is DISASTER:
`CATALOG_WRITE_FAILED`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`DISASTER`
`PURGED`

FCDN gate, COMMIT_DSNREFS function

This function commits data set name (DNS) block references.

Input Parameters

TOKEN
A token passed to the COMMIT_DNSREFS function.

Output Parameters

REASON
The following value is returned when RESPONSE is DISASTER:
`CATALOG_WRITE_FAILED`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`DISASTER`
`INVALID`
`PURGED`

FCDN gate, CONNECT_DSNB function

This function connects a file control table entry (FCTE) to a data set name (DSN) block. If the DSN block does not already exist, DFHFCDN creates a new block before connecting it.

Input Parameters

CATALOG_CONNECTION
Values for the parameter are:
`YES`
`NO`

DSNAME
The 44-character name of the data set.

FILE_NAME
The 8-character name of the file.

TYPE_OF_CONNECTION
Specifies whether the connection is being made to a base or an object.

Values for the parameter are:
`OBJ`
`BASE`

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`FILE_NOT_FOUND`
`DO_NOT_REALLOCATE`
`FILE_NOT_CLOSED`
`FILE_NOT_DISABLED`

The following value is returned when RESPONSE is INVALID:
`INVALID_TOKEN`

The following values are returned when RESPONSE is DISASTER:
`CATALOG_WRITE_FAILED`
`GETMAIN_FAILED`
`TM_ADD_FAILED`
`TM_LOCATE_FAILED`
`TM_UNLOCK_FAILED`

RESPONSE

Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

Values for the parameter are:

```
OK
EXCEPTION
DISASTER
INVALID
PURGED
```

FCDN gate, DELETE_DSNB function

This function checks to ensure that the data set name (DSN) block can be deleted. If the deletion can proceed, the table manager is called to delete the DSN from the DSN index, and the storage domain is called to free the storage.

Input Parameters

DSNAME

The 44-character name of the data set.

Output Parameters

REASON

The following values are returned when RESPONSE is EXCEPTION:

```
DSNB_INUSE
DSNB_NOT_FOUND
DSNB_LOCK_HELD
```

The following values are returned when RESPONSE is DISASTER:

```
CATALOG_DELETE_FAILED
FIND_RETAINED_FAILED
FREEMAIN_FAILED
TM_DELETE_FAILED
TM_QUIESCE_FAILED
TM_UNQUIESCE_FAILED
```

RESPONSE

Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

Values for the parameter are:

```
OK
EXCEPTION
DISASTER
PURGED
```

FCDN gate, DISCONNECT_DSNB function

This function breaks the connection between the file control table entry (FCTE) and the data set name (DSN) block. The DSN block remains even if no other FCT entries are connected to it. The request is rejected if uncommitted updates (retained locks) exist for the file.

Input Parameters

DECREMENT_FLAG

Optional Parameter

Flag to indicate that the number of files connected to the DSN block is reduced by one.

`FILE_NAME`
The 8-character name of the file.

`TYPE_OF_CONNECTION`
Specifies whether the connection is being made to a base or an object.

Values for the parameter are:
`OBJ`
`BASE`

Output Parameters

`REASON`
The following values are returned when RESPONSE is EXCEPTION:
`FILE_NOT_FOUND`
`DO_NOT_REALLOCATE`
`DSNB_NOT_FOUND`
`FILE_NOT_CLOSED`
`FILE_NOT_DISABLED`

The following value is returned when RESPONSE is INVALID:
`INVALID_TOKEN`

The following value is returned when RESPONSE is DISASTER:
`CATALOG_DELETE_FAILED`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`PURGED`

FCDN gate, END_DSNB_BROWSE function

This function ends the browse of the data set name (DSN) blocks.

Input Parameters

`BROWSE_TOKEN`
The token returned from the START_DSNB_BROWSE function.

Output Parameters

`REASON`
The following value is returned when RESPONSE is INVALID:
`INVALID_BROWSE_TOKEN`

The following value is returned when RESPONSE is DISASTER:
`FREEMAIN_FAILED`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`DISASTER`
`INVALID`
`PURGED`

FCDN gate, GET_NEXT_DSNB function

This function browses the next data set name (DSN) block and returns the attributes to the caller.

Input Parameters

BROWSE_TOKEN
The token returned from the START_DSNB_BROWSE function.

OBTAIN_VSAM_CATALOG_DATA
Optional Parameter

Values for the parameter are:
YES
NO

Output Parameters

ACCMETH
Specifies the access method.

Values for the parameter are:
VSAM
BDAM
NOT_APPLICABLE

AVAILABILITY
Specifies the availability of the data set.

Values for the parameter are:
AVAILABLE
UNAVAILABLE
NOT_APPLICABLE

BASEDSNAME
The 44-character name of the base data set.

DSNB_TYPE
Specifies the data set name block type.

Values for the parameter are:
PATH
BASE
NOT_APPLICABLE

DSNB_VALID_STATUS
Specifies the status of the DSN block.

Values for the parameter are:
YES
NO

FILECOUNT
This halfword binary field specifies the file count.

FWDRECOVLOG
This halfword binary field specifies the log ID to which the after images for forward recovery are written.

FWDRECOVLSN
This 26-character string specifies the forward recovery log stream name (LSN).

IMAGE
Indicates whether backup images are to be fuzzy or sharp. Values for the parameter are:
FUZZY
SHARP
NOT_APPLICABLE

LOSTLOCKS
Returns the lost locks status of the data set. Values for the parameter are:
`REMLOSTLOCKS`
`RECOVERLOCKS`
`NOT_APPLICABLE`
`NOLOSTLOCKS`

REASON
The following value is returned when RESPONSE is EXCEPTION:
`INVALID_BROWSE_TOKEN`

The following values are returned when RESPONSE is EXCEPTION:
`DATASET_MIGRATED`
`DSNB_NOT_FOUND`
`INQ_DATASET_NOT_KNOWN`
`VSAM_ERROR`
`END_OF_LIST`

The following values are returned when RESPONSE is DISASTER:
`DISASTER_PERCOLATE`
`TM_LOCATE_FAILED`
`TM_UNLOCK_FAILED`
`TM_GETNEXT_FAILED`
`VSAM_CATALOG_ERROR`

RECOV_VALID_STATUS
Values for the parameter are:
`YES`
`NO`
`NOT_APPLICABLE`

RECOVSTATUS
Specifies the recovery status for the data set. Values for the parameter are:
`FWD_RECOV`
`RECOV`
`NOT_APPLICABLE`
`NOT_RECOV`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`INVALID`
`EXCEPTION`
`DISASTER`

FCDN gate, INQUIRE_DSNB function

This function returns the attributes stored in the data set name (DSN) block to the caller.

Input Parameters

DSNAME
The 44-character name of the data set.

OBTAIN_VSAM_CATALOG_DATA
Optional Parameter

Values for the parameter are:
`YES`
`NO`

Output Parameters

ACCMETH
Specifies the access method.

Values for the parameter are:
`VSAM`
`BDAM`
`NOT_APPLICABLE`

AVAILABILITY
Specifies the availability of the data set.

Values for the parameter are:
`AVAILABLE`
`UNAVAILABLE`
`NOT_APPLICABLE`

BASEDSNAME
The 44-character name of the base data set.

DSNB_TYPE
Specifies the data set name block type.

Values for the parameter are:
`PATH`
`BASE`
`NOT_APPLICABLE`

DSNB_VALID_STATUS
Specifies the status of the DSN block.

Values for the parameter are:
`YES`
`NO`

FILECOUNT
This halfword binary field specifies the file count.

FWDRECOVLOG
This halfword binary field specifies the log ID to which the after images for forward recovery are written.

FWDRECOVLSN
This 26-character string specifies the forward recovery log stream name (LSN).

IMAGE
Indicates whether backup images are to be fuzzy or sharp. Values for the parameter are:
`FUZZY`
`SHARP`
`NOT_APPLICABLE`

LOSTLOCKS
Returns the lost locks status of the data set. Values for the parameter are:
`REMLOSTLOCKS`
`RECOVERLOCKS`
`NOT_APPLICABLE`
`NOLOSTLOCKS`

REASON
The following values are returned when RESPONSE is EXCEPTION:
`DATASET_MIGRATED`
`DSNB_NOT_FOUND`
`INQ_DATASET_NOT_KNOWN`
`INQ_BASEDSNAME_ERROR`
`VSAM_ERROR`

The following values are returned when RESPONSE is DISASTER:

DISASTER_PERCOLATE
TM_LOCATE_FAILED
TM_UNLOCK_FAILED
VSAM_CATALOG_ERROR

RECOV_VALID_STATUS
Values for the parameter are:
YES
NO
NOT_APPLICABLE

RECOVSTATUS
Specifies the recovery status for the data set. Values for the parameter are:
FWD_RECOV
RECOV
NOT_APPLICABLE
NOT_RECOV

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER

FCDN gate, RESET_ALL_QUIESCE_STATUS function

DFHFCRD calls this function. The data set name (DSN) block table is scanned and the quiesce status is reset to normal in each DSN block.

Input Parameters

None.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
TM_GETNEXT_FAILED
TM_UNLOCK_FAILED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
DISASTER
INVALID
PURGED

FCDN gate, SET_CATALOG_RECOVERED function

This function causes a named data set to be set to the forward recovered state.

Input Parameters

DSNAME
The 44-character name of the data set.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  - DATASET_NOT_KNOWN
  - DSNB_BDAM_OR_PATH
  - DSNB_INVREQ
  - DSNB_NOT_FOUND
  - FILES_OPEN_AGAINST_DATASET
  - NO_FUZZY_SUPPORT

  The following values are returned when RESPONSE is DISASTER:
  - SET_CAT_REC_FAILED
  - TM_LOCATE_FAILED
  - TM_UNLOCK_FAILED

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

  Values for the parameter are:
  - OK
  - EXCEPTION
  - DISASTER
  - INVALID
  - PURGED

FCDN gate, SET_DSNB function

This function sets the availability of the named data set.

Input Parameters

AVAILABILITY
: Specifies the availability of the data set. Values for the parameter are:
  - AVAILABLE
  - UNAVAILABLE

DSNAME
: The 44-character name of the data set.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  - DATASET_MIGRATED
  - DSNB_BDAM_OR_PATH
  - DSNB_INVREQ
  - DSNB_NOT_FOUND
  - VSAM_ERROR

  The following values are returned when RESPONSE is DISASTER:
  - CATALOG_WRITE_FAILED
  - DISASTER_PERCOLATE
  - TM_LOCATE_FAILED
  - TM_UNLOCK_FAILED
  - VSAM_CATALOG_ERROR

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

  Values for the parameter are:
  - OK

EXCEPTION
DISASTER
PURGED

FCDN gate, START_DSNB_BROWSE function

This function starts a browse of the data set name (DSN) block.

Input Parameters

None.

Output Parameters

BROWSE_TOKEN
The token returned from the START_DSNB_BROWSE function.

REASON
The following value is returned when RESPONSE is DISASTER:
GETMAIN_FAILED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
DISASTER
PURGED

FCDN gate, UPDATE_RECOVERY_POINTS function

This function updates the recovery point location.

Input Parameters

RECOVERY_POINT
This 8-character field specifies the new location of the recovery point. The recovery point is the place where a forward-recovery utility starts applying log records.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
SET_RECOVERY_POINT_FAILED
TM_GETNEXT_FAILED
TM_UNLOCK_FAILED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
DISASTER
INVALID
PURGED

FCDS gate, DISCONNECT_CFDT_POOLS function

This function causes CICS to disconnect from any coupling facility data table pools to which it is connected.

Input Parameters

None.

Output Parameters

REASON
The following value is returned when RESPONSE is EXCEPTION:
`CFDT_DISCONNECT_ERROR`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

The following values are returned when RESPONSE is DISASTER:
`ABEND`
`DISASTER_PERCOLATION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`DISASTER`
`EXCEPTION`
`INVALID`
`KERNERROR`
`PURGED`

FCDS gate, EXTRACT_CFDT_STATS function

This function causes statistics relating to coupling facility data table usage to be extracted from the coupling facility data tables server.

Input Parameters

FCTE_POINTER
The address of the FCTE entry of the file for which CFDT statistics are to be extracted.

RESET_STATISTICS
Indicates whether the statistics fields are to be reset to zero or not. Values for the parameter are:
`YES`
`NO`

TRANSACTION_NUMBER
Optional Parameter

4-digit transaction number, which is passed to the CFDT server for inclusion in trace messages.

Output Parameters

CONTENTION_COUNT
Optional Parameter

This fullword parameter returns the number of contentions that have been detected, for a coupling facility data table that uses the contention update model.

CURRENT_RECORDS
Optional Parameter

This fullword parameter returns the current number of records in the coupling facility data table.

CURRENT_USERS
Optional Parameter

This fullword parameter returns the current number of users of the coupling facility data table; that is, the number of opens issued against it.

HIGHEST_RECORDS
Optional Parameter

This fullword parameter returns the highest number of records that have been in this coupling facility data table since it was last created.

MAXIMUM_RECORDS
Optional Parameter

This fullword parameter returns the current value of the MAXNUMRECS limit for the data table.

REASON
The following values are returned when RESPONSE is EXCEPTION:
- CFDT_CONNECT_ERROR
- CFDT_DISCONNECT_ERROR
- CFDT_REOPEN_ERROR
- CFDT_SERVER_NOT_AVAILABLE
- CFDT_SERVER_NOT_FOUND
- CFDT_STATS_ERROR
- CFDT_SYSIDERR
- CFDT_TABLE_GONE

The following values are returned when RESPONSE is INVALID:
- INVALID_FORMAT
- INVALID_FUNCTION

The following values are returned when RESPONSE is DISASTER:
- POOL_ELEMENT_NOT_FOUND
- ABEND
- DISASTER_PERCOLATION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
- OK
- DISASTER
- EXCEPTION
- INVALID
- KERNERROR
- PURGED

FCDU gate, BACKOUT function

This function calls the coupling facility data table (CFDT) server to back out a unit of work (UOW) that has made recoverable updates to one or more CFDTs.

Input Parameters

POOL_ELEM_ADDR
The address of the pool element that identifies the CFDT pool for which the backout is to be issued. One or more of the CFDTs updated by the UOW reside in this pool. The backout call is issued to the CFDT server for this pool.

POOL_NAME
The name of the CFDT pool. The pool name is included for diagnostic purposes.

UOW_ID
The identifier for the unit of work that is going to be backed out.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
SERVER_CONNECTION_FAILED
RECOVERY_NOT_ENABLED
UOW_NOT_FOUND
UOW_MADE_NO_CHANGES
POOL_STATE_ERROR
CF_ACCESS_ERROR
CFDT_SYSIDERR
CFDT_SERVER_NOT_AVAILABLE
CFDT_SERVER_NOT_FOUND
CFDT_CONNECT_ERROR
CFDT_DISCONNECT_ERROR
RESYNC_RETRY_FAILED
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
```

The following values are returned when RESPONSE is DISASTER:

```
ABEND
DISASTER_PERCOLATION
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

```
OK
DISASTER
EXCEPTION
INVALID
KERNERROR
PURGED
```

FCDU gate, COMMIT function

This function calls the coupling facility data table (CFDT) server to commit a unit of work (UOW) that has made recoverable updates to one or more CFDTs.

Input Parameters

POOL_ELEM_ADDR
The address of the pool element that identifies the CFDT pool for which the backout is to be issued. One or more of the CFDTs updated by the UOW reside in this pool. The backout call is issued to the CFDT server for this pool.

POOL_NAME
The name of the CFDT pool. The pool name is included for diagnostic purposes.

UOW_ID
The identifier for the unit of work that is going to be committed.

Output Parameters

REASON

The following values are returned when RESPONSE is EXCEPTION:
- SERVER_CONNECTION_FAILED
- RECOVERY_NOT_ENABLED
- UOW_NOT_FOUND
- UOW_MADE_NO_CHANGES
- UOW_FAILED
- NO_SPACE_IN_POOL
- POOL_STATE_ERROR
- CF_ACCESS_ERROR
- CFDT_SYSIDERR
- CFDT_SERVER_NOT_AVAILABLE
- CFDT_SERVER_NOT_FOUND
- CFDT_CONNECT_ERROR
- CFDT_DISCONNECT_ERROR
- RESYNC_RETRY_FAILED

The following values are returned when RESPONSE is INVALID:
- INVALID_FORMAT
- INVALID_FUNCTION

The following values are returned when RESPONSE is DISASTER:
- ABEND
- DISASTER_PERCOLATION

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
- OK
- DISASTER
- EXCEPTION
- INVALID
- KERNERROR
- PURGED

FCDU gate, INQUIRE function

This function issues an INQUIRE to the coupling facility data table (CFDT) to obtain information about the status of an active unit of work (UOW).

Input Parameters

BROWSE

Optional Parameter

Specifies whether the inquire is for a single UOW or for the first or next UOW in a browse. Values for the parameter are:
- FIRST
- NEXT

If the **BROWSE** parameter is omitted, the request is treated as a single UOW inquire. Setting the **BROWSE** parameter to FIRST indicates a search for a UOW ID greater than or equal to the specified UOW ID. Setting the **BROWSE** parameter to NEXT indicates a search for a UOW ID greater than the specified UOW ID.

POOL_ELEM_ADDR

The address of the pool element that identifies the CFDT pool for which the backout is to be issued. One or more of the CFDTs updated by the UOW reside in this pool. The backout call is issued to the CFDT server for this pool.

POOL_NAME
The name of the CFDT pool. The pool name is included for diagnostic purposes.

UOW_ID
This 8-character string identifies the UOW for which status information is being requested or gives the ID for the previous UOW in the browse.

UOW_RESTARTED
Optional Parameter

Indicates whether the inquire will select only UOWs that have been through restart processing. Values for the parameter are:

```
YES
NO
```

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
SERVER_CONNECTION_FAILED
RECOVERY_NOT_ENABLED
UOW_NOT_FOUND
CF_ACCESS_ERROR
CFDT_SYSIDERR
CFDT_SERVER_NOT_AVAILABLE
CFDT_SERVER_NOT_FOUND
CFDT_CONNECT_ERROR
CFDT_DISCONNECT_ERROR
RESYNC_RETRY_FAILED
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
```

The following values are returned when RESPONSE is DISASTER:

```
ABEND
DISASTER_PERCOLATION
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

```
OK
DISASTER
EXCEPTION
INVALID
KERNERROR
PURGED
```

RETURNED_UOW_ID
This 8-character string specifies the UOW for which the browse is returning status information.

UOW_RESTART_STATE
Indicates whether the UOW has been through restart processing. Values for the parameter are:

```
YES
NO
```

UOW_RETAINED
Indicates whether the locks for the UOW have been retained. Values for the parameter are:

```
YES
```

NO

UOW_STATE
Indicates the state of the UOW. Values for the parameter are:
IN_FLIGHT
IN_DOUBT
IN_COMMIT
IN_BACKOUT

FCDU gate, PREPARE function

This function calls the coupling facility data table (CFDT) server to prepare a unit of work that has made recoverable updates to one or more coupling facility data tables.

Input Parameters

POOL_ELEM_ADDR
The address of the pool element that identifies the CFDT pool for which the prepare is going to be issued. One or more of the CFDTs updated by the unit of work reside in this pool.

POOL_NAME
The name of the CFDT pool. The pool name is included for diagnostic purposes.

UOW_ID
The identifier for the unit of work that is to be prepared.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
SERVER_CONNECTION_FAILED
RECOVERY_NOT_ENABLED
UOW_NOT_FOUND
UOW_MADE_NO_CHANGES
UOW_FAILED
NO_SPACE_IN_POOL
POOL_STATE_ERROR
CF_ACCESS_ERROR
CFDT_SYSIDERR
CFDT_SERVER_NOT_AVAILABLE
CFDT_SERVER_NOT_FOUND
CFDT_CONNECT_ERROR
CFDT_DISCONNECT_ERROR
RESYNC_RETRY_FAILED

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

The following values are returned when RESPONSE is DISASTER:
ABEND
DISASTER_PERCOLATION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
DISASTER
EXCEPTION

INVALID
KERNERROR
PURGED

FCDU gate, RESTART function

This function establishes recovery status for a coupling facility data table (CFDT) pool when a CICS region has successfully connected to it.

Input Parameters

POOL_ELEM_ADDR
The address of the pool element that identifies the CFDT pool for which recovery status is to be established.

POOL_NAME
The name of the CFDT pool. The pool name is included for diagnostic purposes.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
SERVER_CONNECTION_FAILED
SUBSYSTEM_ALREADY_ACTIVE
RESTART_ALREADY_ACTIVE
TABLE_OPEN_FAILED
NO_SPACE_IN_POOL
CF_ACCESS_ERROR
CFDT_SYSIDERR
CFDT_SERVER_NOT_AVAILABLE
CFDT_SERVER_NOT_FOUND
CFDT_CONNECT_ERROR
CFDT_DISCONNECT_ERROR

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

The following values are returned when RESPONSE is DISASTER:
ABEND
DISASTER_PERCOLATION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
DISASTER
EXCEPTION
INVALID
KERNERROR
PURGED

RETURNED_UOW_ID
The unit of work for which the browse is returning status information.

UOW_RESTART_STATE
Indicates whether the unit of work has been through restart processing.

UOW_RETAINED
Indicates whether the locks for the unit of work have been retained.

UOW_STATE
Indicates the state of the unit of work. Values for the parameter are:

IN_FLIGHT
IN_DOUBT
IN_COMMIT
IN_BACKOUT

FCDU gate, RETAIN function

This function calls the coupling facility data table (CFDT) server to convert locks held by the unit of work against recoverable CFDTs into retained locks.

Input Parameters

POOL_ELEM_ADDR
The address of the pool element that identifies the CFDT pool for which the retain is to be issued. One or more of the coupling facility data tables updated by the unit of work reside in this pool. The retain call will be issued to the CFDT server for this pool.

POOL_NAME
The name of the CFDT pool. The pool name is included for diagnostic purposes.

UOW_ID
The identifier for the unit of work for which the locks are going to be retained.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

SERVER_CONNECTION_FAILED
RECOVERY_NOT_ENABLED
UOW_NOT_FOUND
UOW_MADE_NO_CHANGES
UOW_FAILED
NO_SPACE_IN_POOL
POOL_STATE_ERROR
CF_ACCESS_ERROR
CFDT_SYSIDERR
CFDT_SERVER_NOT_AVAILABLE
CFDT_SERVER_NOT_FOUND
CFDT_CONNECT_ERROR
CFDT_DISCONNECT_ERROR
RESYNC_RETRY_FAILED

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION

The following values are returned when RESPONSE is DISASTER:

ABEND
DISASTER_PERCOLATION

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

Values for the parameter are:

OK
DISASTER
EXCEPTION
INVALID
KERNERROR
PURGED

FCDY gate, RESYNC_CFDT_LINK function

This function causes a link between a unit of work and a coupling facility data table pool to be resynchronized.

Input Parameters

POOL_NAME
The 8-character name of the coupling facility data table pool for which the link is to be resynchronized.

UOW_ID
This 8-character string identifies the link to be resynchronized.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
INITIATE_RECOVERY_FAILED
TERMINATE_RECOVERY_FAILED
CFDT_SERVER_CALL_FAILED
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
```

The following values are returned when RESPONSE is DISASTER:

```
ABEND
DISASTER_PERCOLATION
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

```
OK
DISASTER
EXCEPTION
INVALID
KERNERROR
PURGED
```

FCDY gate, RESYNC_CFDT_POOL function

This function causes a coupling facility data table pool to be resynchronized.

Input Parameters

POOL_NAME
The 8-character name of the coupling facility data table pool that is to be resynchronized.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
INITIATE_RECOVERY_FAILED
TERMINATE_RECOVERY_FAILED
CFDT_SERVER_CALL_FAILED
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
```

The following values are returned when RESPONSE is DISASTER:

ABEND
DISASTER_PERCOLATION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
DISASTER
EXCEPTION
INVALID
KERNERROR
PURGED

FCDY gate, RETURN_CFDT_ENTRY_POINTS function

This function causes module DFHFCDY to return the entry point addresses of the other modules with which it is link-edited.

Input Parameters

None.

Output Parameters

CFDT_EP_DFHFCDW
The entry point address of module DFHFCDW.

CFDT_EP_DFHFCDU
The entry point address of module DFHFCDU.

REASON
The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

The following values are returned when RESPONSE is DISASTER:
ABEND
DISASTER_PERCOLATION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
DISASTER
EXCEPTION
INVALID
KERNERROR
PURGED

FCFL gate, END_UOWDSN_BROWSE function

After a browse of all the data set failures in a unit of work, the END_UOWDSN_BROWSE function releases the storage that was used for a snapshot of the failures.

Input Parameters

BROWSE_TOKEN
The token that was used for the browse.

Output Parameters

REASON

The following value is returned when RESPONSE is INVALID:

INVALID_BROWSE_TOKEN

The following values are returned when RESPONSE is DISASTER:

ABEND
DISASTER_PERCOLATION

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

OK
DISASTER
INVALID
PURGED

FCFL gate, FIND_RETAINED function

This function looks for any file lasting access blocks associated with the specified data set that are flagged as retained, indicating that retained locks are associated with the data set.

Input Parameters

DSNAME

The 44-character name of the data set for which associated retained locks are to be found.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

ABEND
DISASTER_PERCOLATION

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

RETLOCKS

Indicates whether retained locks are associated with the data set. Values for the parameter are:

RETAINED
NORETAINED

FCFL gate, FORCE_INDOUBTS function

The CEMT and EXEC CICS SET DSNAME() UOWACTION(COMMIT|BACKOUT|FORCE) commands use this function. Shunted indoubt units of work are forced to complete in the specified direction.

Input Parameters

DSNAME
: The 44-character name of the data set for which shunted indoubt units of work are to be forced to complete.

DIRECTION
: The direction that the units of work are to complete. Values for the parameter are:

  FORWARD
  BACKWARD
  HEURISTIC

  'A value of FORWARD commits the units of work, a value of BACKWARD backs out the units of work, and a value of HEURISTIC uses the action specified on the transaction definition.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:

  ABEND
  DISASTER_PERCOLATION

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

  Values for the parameter are:

  OK
  EXCEPTION
  DISASTER
  INVALID
  KERNERROR
  PURGED

FCFL gate, GET_NEXT_UOWDSN function

This function returns the failure information for the next data set that has a failure in the unit of work being browsed.

Input Parameters

BROWSE_TOKEN
: The token for the browse that was returned by a START_UOWDSN_BROWSE call.

Output Parameters

DSNAME
: The 44-character name of the data set for which failure information is returned.

RLSACCESS
: Optional Parameter

  Indicates whether the data set was last open in RLS or non-RLS access mode. Values for the parameter are:

  RLS
  NOTRLS

CAUSE
: Optional Parameter

  Indicates the cause of the failure. Values for the parameter are:

  CACHE
  RLSSERVER

CONNECTION
DATASET
UNDEFINED

RETAIN_REASON
Optional Parameter

Indicates the reason for the failure. Values for the parameter are:
RLSGONE
COMMITFAIL
IOERROR
DATASETFULL
INDEXRECFULL
OPENERROR
DELEXITERROR
DEADLOCK
BACKUPNONBWO
LOCKSTRUCFULL
FAILEDBKOUT
NOTAPPLIC
RR_COMMITFAIL
RR_INDOUBT

REASON
The following value is returned when RESPONSE is EXCEPTION:
END_OF_LIST

The following value is returned when RESPONSE is INVALID:
INVALID_BROWSE_TOKEN

The following values are returned when RESPONSE is DISASTER:
ABEND
DISASTER_PERCOLATION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID

FCFL gate, RESET_BFAILS function

The CEMT and EXEC CICS SET DSNAME() ACTION(RESETLOCKS) commands use this function. Shunted unit of work log records, which hold backout-failure or commit-failure locks on the specified data set, are purged and locks are released.

Input Parameters

DSNAME
The 44-character name of the data set for which backout and commit failures are to be reset.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
DISASTER_PERCOLATION
REMOVE_FAILURE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

FCFL gate, RETRY function

The CEMT and EXEC CICS SET DSNAME() UOWACTION(RETRY) commands use this function. The RETRY function retries any failed backouts and commits for the specified data set by informing DFHFCRR that the failed resource is now available.

Input Parameters

DSNAME
The 44-character name of the data set for which backout and commits are to be retried.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`DISASTER_PERCOLATION`
`RESOURCE_NOT_FOUND`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

FCFL gate, START_UOWDSN_BROWSE function

This function starts a browse of the data set failures in a unit of work. A snapshot of the failed data sets for the UOW and the reasons for the failures is collected in an in-storage table to be browsed by the GET_NEXT_UOWDSN function.

Input Parameters

UOW
The 8-byte local unit of work identifier.

Output Parameters

BROWSE_TOKEN
A token used during the browse.

REASON
The following values are returned when RESPONSE is EXCEPTION:
`UOW_NOT_FOUND`
`NO_FLABS_FOUND`

The following values are returned when RESPONSE is DISASTER:
`ABEND`
`DISASTER_PERCOLATION`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`PURGED`

FCFL gate, TEST_USER function

This function is used to test if the task has updated a record and established itself as a file user, either for any data set or for a specified data set. It can be used either as a domain subroutine call or as an inline macro.

Input Parameters

`ENVIRONMENT`
Optional Parameter

A fullword environment identifier. If specified, the function tests whether the task is a user of any files in that environment.

`DSNAME`
Optional Parameter

Specifies that a particular data set is to be tested.

Output Parameters

`FLAB_PTR`
The address of a file lasting access block (FLAB) that was found by the test. The return of a non-zero value indicates that the user is a task.

`REASON`
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`DISASTER_PERCOLATION`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

FCFR gate, CLEAR_ENVIRONMENT function

Scan the FRTE chain and find all FRTEs for the specified Environment. Clean up the file control state for this environment.

Cleaning up the file control state consists of the following steps:

1. Issue END_BROWSE for any active START_BROWSE.
2. Issue UNLOCK for any active READ_UPDATE or WRITE_MASSINSERT.

Input Parameters

ENVIRONMENT_IDENTIFIER
A token that identifies the caller's environment.

CLEAR_AFTER_ABEND
Optional Parameter

A binary value that indicates whether the request follows a transaction abend, and that the environment must be cleared.

Values for the parameter are:
NO
YES

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
DISASTER_PERCOLATION

The following values are returned when RESPONSE is EXCEPTION:
CLEAR_ENVIRONMENT_FAILED

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FCFR gate, DELETE function

Delete a record from a file.

Input Parameters

BYPASS_SECURITY_CHECK
A binary value that indicates that security checking can be omitted for the current request.

Values for the parameter are:
NO
YES

CONDITIONAL
A binary value that indicates whether the request should wait if VSAM is holding an active lock against the record, including records locked as the result of a DEADLOCK. **CONDITIONAL(YES)** corresponds to option NOSUSPEND on the CICS API.

Values for the parameter are:
NO
YES

ENVIRONMENT_IDENTIFIER
A token that identifies the caller's environment.

FILE_NAME
The name of the FILE resource.

GENERIC
A binary value that specifies whether the search key is a generic key.

Values for the parameter are:
NO
YES

RECORD_ID_ADDRESS
The address of the record identification field.

RECORD_ID_TYPE
The type of data contained in the record identification field.

Values for the parameter are:

DEBKEY
DEBREC
KEY
RBA
RRN

BASE_RECORD_ID_ADDRESS
Optional Parameter

The address of the base record identifier.

FCTE_POINTER
Optional Parameter

The address of the file control table entry (FCTE) for the file.

RECORD_ID_LENGTH
Optional Parameter

The length of the record identifier.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

WORK_ELEMENT_ADDRESS
Optional Parameter

The address of the current file request thread element (FRTE).

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

ABEND
CFDT_REOPEN_ERROR
DISASTER_PERCOLATION
SECURITY_FAILURE

The following values are returned when RESPONSE is EXCEPTION:

BDAM_DELETE
BDAM_KEY_CONVERSION
CACHE_FAILURE
CFDT_CONNECT_ERROR
CFDT_SERVER_NOT_AVAILABLE
CFDT_SERVER_NOT_FOUND
CFDT_SYSIDERR
CFDT_TABLE_GONE
DATASET_BEING_COPIED
DEADLOCK_DETECTED
DELETE_AFTER_READ_UPDATE
ESDS_DELETE
FILE_DISABLED
FILE_NOT_OPEN
FULL_KEY_WRONG_LENGTH

GENERIC_DELETE_NOT_KSDS
GENERIC_KEY_TOO_LONG
IO_ERROR
KEY_LENGTH_NEGATIVE
LOADING
LOCK_STRUCTURE_FULL
LOCKED
LOST_LOCKS
NOSUSPEND_NOT_RLS
NOT_IN_SUBSET
PREVIOUS_RLS_FAILURE
RBA_ACCESS_TO_RLS_KSDS
RECLEN_EXCEEDS_LOGGER_BFSZ
RECORD_BUSY
RECORD_NOT_FOUND
RESTART_FAILED
RLS_DEADLOCK_DETECTED
RLS_DISABLED
RLS_FAILURE
SELF_DEADLOCK_DETECTED
SERVREQ_VIOLATION
SHIPPED_SECURITY_FAILURE
STORE_FAIL
SYSIDERR
TIMEOUT
TOO_MANY_CFDTS_IN_UOW
UPDATE_NOT_AUTHORISED
VSAM_REQUEST_ERROR

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

ACCMETH_RETURN_CODE
The return code from the file access method for request.

DELETED_RECORD_COUNT
The number of records deleted by the request.

DUPLICATE_KEY
When the data set is being accessed by way of an alternate index path that allows non-unique alternate keys, a binary value that indicates whether further records exist with the same alternate key.

Values for the parameter are:
NO
YES

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REMOTE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
NO
YES

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:

NO
YES

FCFR gate, END_BROWSE function

End a browse operation on a file.

Input Parameters

BROWSE_IDENTIFIER
A token that identifies the browse operation.

BYPASS_SECURITY_CHECK
A binary value that indicates that security checking can be omitted for the current request.

Values for the parameter are:
NO
YES

ENVIRONMENT_IDENTIFIER
A token that identifies the caller's environment.

FILE_NAME
The name of the FILE resource.

CFDT_LOAD
Optional Parameter

A binary value that indicates whether the request is part of the browse operation used to read records from the source data set during loading of a coupling facility data table.

Values for the parameter are:
NO
YES

CLEAR_AFTER_ABEND
Optional Parameter

A binary value that indicates whether the request follows a transaction abend, and that the environment must be cleared.

Values for the parameter are:
NO
YES

FCTE_POINTER
Optional Parameter

The address of the file control table entry (FCTE) for the file.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

WORK_ELEMENT_ADDRESS
Optional Parameter

The address of the current file request thread element (FRTE).

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND

CFDT_REOPEN_ERROR
DISASTER_PERCOLATION
SECURITY_FAILURE
TABLE_TOKEN_INVALID

The following values are returned when RESPONSE is EXCEPTION:
CACHE_FAILURE
CFDT_TABLE_GONE
CLEAR_ABENDED
FILENOTFOUND
ISC_NOT_SUPPORTED
ISCINVREQ
NOTAUTH
PREVIOUS_RLS_FAILURE
READ_NOT_AUTHORISED
REMOTE_INVREQ
RLS_DISABLED
RLS_FAILURE
SHIPPED_SECURITY_FAILURE
SYSIDERR
UNKNOWN_REQID_ENDBR
VSAM_REQUEST_ERROR

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

ACCMETH_RETURN_CODE
The return code from the file access method for request.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REMOTE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
NO
YES

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
NO
YES

FCFR gate, FREE_UNUSED_BUFFERS function

Free any file control buffers that are not in use.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
DISASTER_PERCOLATION

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FCFR gate, PREPARE_FILE_REQUEST function

Prepare to commit file changes made in a unit of work.

Input Parameters

FILE_NAME
The name of the FILE resource.

WORK_ELEMENT_ADDRESS
Optional Parameter

The address of the current file request thread element (FRTE).

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`DISASTER_PERCOLATION`

The following values are returned when RESPONSE is EXCEPTION:
`PREPARE_FAILED`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
`NO`
`YES`

FCFR gate, PREPARE_TO_BACKOUT function

Prepare to back out file changes made in a unit of work.

Input Parameters

FILE_NAME
The name of the FILE resource.

WORK_ELEMENT_ADDRESS
Optional Parameter

The address of the current file request thread element (FRTE).

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`DISASTER_PERCOLATION`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
NO
YES

FCFR gate, READ_INTO function

Read a file record into a buffer provided by the caller.

Input Parameters

BUFFER_ADDRESS
The address of the caller's buffer.

BYPASS_SECURITY_CHECK
A binary value that indicates that security checking can be omitted for the current request.

Values for the parameter are:
NO
YES

CONDITIONAL
A binary value that indicates whether the request should wait if VSAM is holding an active lock against the record, including records locked as the result of a DEADLOCK. **CONDITIONAL(YES)** corresponds to option NOSUSPEND on the CICS API.

Values for the parameter are:
NO
YES

ENVIRONMENT_IDENTIFIER
A token that identifies the caller's environment.

FILE_NAME
The name of the FILE resource.

GENERIC
A binary value that specifies whether the search key is a generic key.

Values for the parameter are:
NO
YES

KEY_COMPARISON
A value that specifies whether the search can be satisfied only by a record having the same key as that specified in the record identification field parameter, or by a record having a greater key.

Values for the parameter are:
EQUAL
GTEQ

READ_INTEGRITY
Specifies the degree of read integrity for the request.

Values for the parameter are:
CR
FCT_VALUE
NRI
RR

RECORD_ID_ADDRESS
The address of the record identification field.

RECORD_ID_TYPE
The type of data contained in the record identification field.

Values for the parameter are:
`DEBKEY`
`DEBREC`
`KEY`
`RBA`
`RRN`

BASE_RECORD_ID_ADDRESS
Optional Parameter

The address of the base record identifier.

BUFFER_LENGTH
Optional Parameter

The length of the caller's buffer.

FCTE_POINTER
Optional Parameter

The address of the file control table entry (FCTE) for the file.

RECORD_ID_LENGTH
Optional Parameter

The length of the record identifier.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

SUPPRESS_LENGERR
Optional Parameter

A binary value that indicates whether length error indications are to be suppressed.

Values for the parameter are:
`NO`
`YES`

WORK_ELEMENT_ADDRESS
Optional Parameter

The address of the current file request thread element (FRTE).

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`CFDT_REOPEN_ERROR`
`DISASTER_PERCOLATION`
`SECURITY_FAILURE`
`TABLE_TOKEN_INVALID`

The following values are returned when RESPONSE is EXCEPTION:
`BDAM_KEY_CONVERSION`
`CACHE_FAILURE`

CFDT_CONNECT_ERROR
CFDT_SERVER_NOT_AVAILABLE
CFDT_SERVER_NOT_FOUND
CFDT_SYSIDERR
CFDT_TABLE_GONE
CR_NOT_RLS
FILE_DISABLED
FILE_NOT_OPEN
FILENOTFOUND
FULL_KEY_WRONG_LENGTH
GENERIC_KEY_TOO_LONG
IO_ERROR
ISC_NOT_SUPPORTED
ISCINVREQ
KEY_LENGTH_NEGATIVE
LOADING
LOCKED
LOST_LOCKS
NO_VARIABLE_LENGTH
NOSUSPEND_NOT_RLS
NOT_IN_SUBSET
NOTAUTH
PREVIOUS_RLS_FAILURE
RBA_ACCESS_TO_RLS_KSDS
READ_NOT_AUTHORISED
RECORD_BUSY
RECORD_NOT_FOUND
REMOTE_INVREQ
RLS_DEADLOCK_DETECTED
RLS_DISABLED
RLS_FAILURE
RR_NOT_RLS
SELF_DEADLOCK_DETECTED
SERVREQ_VIOLATION
SHIP
SHIPPED_SECURITY_FAILURE
SYSIDERR
TIMEOUT
VSAM_REQUEST_ERROR

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

ACCMETH_RETURN_CODE
The return code from the file access method for request.

DUPLICATE_KEY
When the data set is being accessed by way of an alternate index path that allows non-unique alternate keys, a binary value that indicates whether further records exist with the same alternate key.

Values for the parameter are:
NO
YES

LENGTH_ERROR_CODE
A value that provides details of a length error that occurred when processing the request.

Values for the parameter are:
`BUFFER_LEN_NOT_FILE_LEN`
`BUFFER_LEN_TOO_SMALL`
`LENGTH_OK`
`RECORD_LEN_NOT_FILE_LEN`
`RECORD_LEN_TOO_LARGE`

RECORD_LENGTH
Optional Parameter

The length of the record.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REMOTE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
`NO`
`YES`

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
`NO`
`YES`

MAXIMUM_RECORD_LENGTH
The length of the longest record in the data set.

FCFR gate, READ_NEXT_INTO function

During a file browse, read the next record, and return the record into a buffer provided by the caller.

Input Parameters

BROWSE_IDENTIFIER
A token that identifies the browse operation.

BUFFER_ADDRESS
The address of the caller's buffer.

BYPASS_SECURITY_CHECK
A binary value that indicates that security checking can be omitted for the current request.

Values for the parameter are:
`NO`
`YES`

CONDITIONAL
A binary value that indicates whether the request should wait if VSAM is holding an active lock against the record, including records locked as the result of a DEADLOCK. **CONDITIONAL(YES)** corresponds to option `NOSUSPEND` on the CICS API.

Values for the parameter are:
`NO`
`YES`

ENVIRONMENT_IDENTIFIER
A token that identifies the caller's environment.

FILE_NAME
The name of the FILE resource.

READ_INTEGRITY
Specifies the degree of read integrity for the request.

Values for the parameter are:
`CR`
`FCT_VALUE`
`NRI`
`RR`

RECORD_ID_ADDRESS
The address of the record identification field.

RECORD_ID_TYPE
The type of data contained in the record identification field.

Values for the parameter are:
`DEBKEY`
`DEBREC`
`KEY`
`RBA`
`RRN`

BUFFER_LENGTH
Optional Parameter

The length of the caller's buffer.

FCTE_POINTER
Optional Parameter

The address of the file control table entry (FCTE) for the file.

RECORD_ID_LENGTH
Optional Parameter

The length of the record identifier.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

SUPPRESS_LENGERR
Optional Parameter

A binary value that indicates whether length error indications are to be suppressed.

Values for the parameter are:
`NO`
`YES`

WORK_ELEMENT_ADDRESS
Optional Parameter

The address of the current file request thread element (FRTE).

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`CFDT_REOPEN_ERROR`
`DISASTER_PERCOLATION`
`SECURITY_FAILURE`
`TABLE_TOKEN_INVALID`

The following values are returned when RESPONSE is EXCEPTION:

BDAM_KEY_CONVERSION
BDAM_READ_PREVIOUS
CACHE_FAILURE
CFDT_CONNECT_ERROR
CFDT_SERVER_NOT_AVAILABLE
CFDT_SERVER_NOT_FOUND
CFDT_SYSIDERR
CFDT_TABLE_GONE
CR_NOT_RLS
END_OF_FILE
FILENOTFOUND
FULL_KEY_WRONG_LENGTH
GENERIC_KEY_TOO_LONG
ILLEGAL_KEY_TYPE_CHANGE
IO_ERROR
ISC_NOT_SUPPORTED
ISCINVREQ
KEY_LENGTH_NEGATIVE
LOCKED
NO_VARIABLE_LENGTH
NOSUSPEND_NOT_RLS
NOTAUTH
PREVIOUS_RLS_FAILURE
READ_NOT_AUTHORISED
READPREV_IN_GENERIC_BROWSE
RECORD_BUSY
RECORD_NOT_FOUND
REMOTE_INVREQ
RLS_DEADLOCK_DETECTED
RLS_DISABLED
RLS_FAILURE
RR_NOT_RLS
SELF_DEADLOCK_DETECTED
SHIPPED_SECURITY_FAILURE
SYSIDERR
TIMEOUT
UNKNOWN_REQID_READPREV
VSAM_REQUEST_ERROR

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION

ACCMETH_RETURN_CODE
The return code from the file access method for request.

DUPLICATE_KEY
When the data set is being accessed by way of an alternate index path that allows non-unique alternate keys, a binary value that indicates whether further records exist with the same alternate key.

Values for the parameter are:

NO
YES

FULL_RECORD_ID_LENGTH
The length of the record key.

LENGTH_ERROR_CODE
A value that provides details of a length error that occurred when processing the request.

Values for the parameter are:
`BUFFER_LEN_NOT_FILE_LEN`
`BUFFER_LEN_TOO_SMALL`
`LENGTH_OK`
`RECORD_LEN_NOT_FILE_LEN`
`RECORD_LEN_TOO_LARGE`

RECORD_LENGTH
Optional Parameter

The length of the record.

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

TERMINATE_REMOTE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
`NO`
`YES`

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
`NO`
`YES`

MAXIMUM_RECORD_LENGTH
The length of the longest record in the data set.

FCFR gate, READ_NEXT_SET function

During a file browse, read the next record, and return a pointer to a buffer containing the data.

Input Parameters

BROWSE_IDENTIFIER
A token that identifies the browse operation.

BYPASS_SECURITY_CHECK
A binary value that indicates that security checking can be omitted for the current request.

Values for the parameter are:
`NO`
`YES`

CONDITIONAL
A binary value that indicates whether the request should wait if VSAM is holding an active lock against the record, including records locked as the result of a DEADLOCK. **CONDITIONAL(YES)** corresponds to option `NOSUSPEND` on the CICS API.

Values for the parameter are:
`NO`
`YES`

ENVIRONMENT_IDENTIFIER
A token that identifies the caller's environment.

FILE_NAME
The name of the FILE resource.

READ_INTEGRITY
Specifies the degree of read integrity for the request.

Values for the parameter are:
CR
FCT_VALUE
NRI
RR

RECORD_ID_ADDRESS
The address of the record identification field.

RECORD_ID_TYPE
The type of data contained in the record identification field.

Values for the parameter are:
DEBKEY
DEBREC
KEY
RBA
RRN

CFDT_LOAD
Optional Parameter

A binary value that indicates whether the request is part of the browse operation used to read records from the source data set during loading of a coupling facility data table.

Values for the parameter are:
NO
YES

FCTE_POINTER
Optional Parameter

The address of the file control table entry (FCTE) for the file.

RECORD_ID_LENGTH
Optional Parameter

The length of the record identifier.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

WORK_ELEMENT_ADDRESS
Optional Parameter

The address of the current file request thread element (FRTE).

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
CFDT_REOPEN_ERROR
DISASTER_PERCOLATION
SECURITY_FAILURE
TABLE_TOKEN_INVALID

The following values are returned when RESPONSE is EXCEPTION:

```
BDAM_KEY_CONVERSION
BDAM_READ_PREVIOUS
CACHE_FAILURE
CFDT_CONNECT_ERROR
CFDT_SERVER_NOT_AVAILABLE
CFDT_SERVER_NOT_FOUND
CFDT_SYSIDERR
CFDT_TABLE_GONE
CR_NOT_RLS
END_OF_FILE
FILENOTFOUND
FULL_KEY_WRONG_LENGTH
GENERIC_KEY_TOO_LONG
ILLEGAL_KEY_TYPE_CHANGE
IO_ERROR
ISC_NOT_SUPPORTED
ISCINVREQ
KEY_LENGTH_NEGATIVE
LOCKED
NOSUSPEND_NOT_RLS
NOTAUTH
PREVIOUS_RLS_FAILURE
READ_NOT_AUTHORISED
READPREV_IN_GENERIC_BROWSE
RECORD_BUSY
RECORD_NOT_FOUND
REMOTE_INVREQ
RLS_DEADLOCK_DETECTED
RLS_DISABLED
RLS_FAILURE
RR_NOT_RLS
SELF_DEADLOCK_DETECTED
SHIPPED_SECURITY_FAILURE
SYSIDERR
TIMEOUT
UNKNOWN_REQID_READPREV
VSAM_REQUEST_ERROR
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
```

ACCMETH_RETURN_CODE
The return code from the file access method for request.

DUPLICATE_KEY
When the data set is being accessed by way of an alternate index path that allows non-unique alternate keys, a binary value that indicates whether further records exist with the same alternate key.

Values for the parameter are:

```
NO
YES
```

FULL_RECORD_ID_LENGTH
The length of the record key.

MAXIMUM_RECORD_LENGTH
The length of the longest record in the data set.

RECORD_ADDRESS
The address of the target record.

RECORD_LENGTH
Optional Parameter

The length of the record.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REMOTE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
`NO`
`YES`

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
`NO`
`YES`

FCFR gate, READ_NEXT_UPDATE_INTO function

During a file browse, read the previous record for updating, and return the record into a buffer provided by the caller.

Input Parameters

BROWSE_IDENTIFIER
A token that identifies the browse operation.

BUFFER_ADDRESS
The address of the caller's buffer.

BYPASS_SECURITY_CHECK
A binary value that indicates that security checking can be omitted for the current request.

Values for the parameter are:
`NO`
`YES`

CONDITIONAL
A binary value that indicates whether the request should wait if VSAM is holding an active lock against the record, including records locked as the result of a DEADLOCK. **CONDITIONAL(YES)** corresponds to option `NOSUSPEND` on the CICS API.

Values for the parameter are:
`NO`
`YES`

ENVIRONMENT_IDENTIFIER
A token that identifies the caller's environment.

FILE_NAME
The name of the FILE resource.

RECORD_ID_ADDRESS
The address of the record identification field.

RECORD_ID_TYPE
The type of data contained in the record identification field.

Values for the parameter are:

DEBKEY
DEBREC
KEY
RBA
RRN

BUFFER_LENGTH
Optional Parameter

The length of the caller's buffer.

FCTE_POINTER
Optional Parameter

The address of the file control table entry (FCTE) for the file.

RECORD_ID_LENGTH
Optional Parameter

The length of the record identifier.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

SUPPRESS_LENGERR
Optional Parameter

A binary value that indicates whether length error indications are to be suppressed.

Values for the parameter are:
NO
YES

WORK_ELEMENT_ADDRESS
Optional Parameter

The address of the current file request thread element (FRTE).

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
DISASTER_PERCOLATION
SECURITY_FAILURE

The following values are returned when RESPONSE is EXCEPTION:
BROWSE_UPD_NOT_RLS
CACHE_FAILURE
DATASET_BEING_COPIED
END_OF_FILE
FILENOTFOUND
FULL_KEY_WRONG_LENGTH
GENERIC_KEY_TOO_LONG
ILLEGAL_KEY_TYPE_CHANGE
IO_ERROR
KEY_LENGTH_NEGATIVE
LOCK_STRUCTURE_FULL
LOCKED
LOST_LOCKS

NO_VARIABLE_LENGTH
NOSUSPEND_NOT_RLS
NOTAUTH
PREVIOUS_RLS_FAILURE
READ_NOT_AUTHORISED
READPREV_IN_GENERIC_BROWSE
RECLEN_EXCEEDS_LOGGER_BFSZ
RECORD_BUSY
RECORD_NOT_FOUND
RLS_DEADLOCK_DETECTED
RLS_DISABLED
RLS_FAILURE
SELF_DEADLOCK_DETECTED
SERVREQ_VIOLATION
SHIPPED_SECURITY_FAILURE
SYSIDERR
TIMEOUT
UNKNOWN_REQID_READPREV
VSAM_REQUEST_ERROR

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

ACCMETH_RETURN_CODE
The return code from the file access method for request.

DUPLICATE_KEY
When the data set is being accessed by way of an alternate index path that allows non-unique alternate keys, a binary value that indicates whether further records exist with the same alternate key.

Values for the parameter are:
NO
YES

FULL_RECORD_ID_LENGTH
The length of the record key.

LENGTH_ERROR_CODE
A value that provides details of a length error that occurred when processing the request.

Values for the parameter are:
BUFFER_LEN_NOT_FILE_LEN
BUFFER_LEN_TOO_SMALL
LENGTH_OK
RECORD_LEN_NOT_FILE_LEN
RECORD_LEN_TOO_LARGE

RECORD_LENGTH
Optional Parameter

The length of the record.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REMOTE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
NO

YES

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
NO
YES

MAXIMUM_RECORD_LENGTH
The length of the longest record in the data set.

UPDATE_TOKEN
Optional Parameter

A token that identifies an update request, and allows subsequent requests to refer to it.

FCFR gate, READ_NEXT_UPDATE_SET function

During a file browse, read the next record for updating, and return a pointer to a buffer containing the data.

Input Parameters

BROWSE_IDENTIFIER
A token that identifies the browse operation.

BYPASS_SECURITY_CHECK
A binary value that indicates that security checking can be omitted for the current request.

Values for the parameter are:
NO
YES

CONDITIONAL
A binary value that indicates whether the request should wait if VSAM is holding an active lock against the record, including records locked as the result of a DEADLOCK. **CONDITIONAL(YES)** corresponds to option NOSUSPEND on the CICS API.

Values for the parameter are:
NO
YES

ENVIRONMENT_IDENTIFIER
A token that identifies the caller's environment.

FILE_NAME
The name of the FILE resource.

RECORD_ID_ADDRESS
The address of the record identification field.

RECORD_ID_TYPE
The type of data contained in the record identification field.

Values for the parameter are:
DEBKEY
DEBREC
KEY
RBA
RRN

FCTE_POINTER
Optional Parameter

The address of the file control table entry (FCTE) for the file.

RECORD_ID_LENGTH
Optional Parameter

The length of the record identifier.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

WORK_ELEMENT_ADDRESS
Optional Parameter

The address of the current file request thread element (FRTE).

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

```
ABEND
DISASTER_PERCOLATION
SECURITY_FAILURE
```

The following values are returned when RESPONSE is EXCEPTION:

```
BROWSE_UPD_NOT_RLS
CACHE_FAILURE
DATASET_BEING_COPIED
END_OF_FILE
FILENOTFOUND
FULL_KEY_WRONG_LENGTH
GENERIC_KEY_TOO_LONG
ILLEGAL_KEY_TYPE_CHANGE
IO_ERROR
KEY_LENGTH_NEGATIVE
LOCK_STRUCTURE_FULL
LOCKED
LOST_LOCKS
NOSUSPEND_NOT_RLS
NOTAUTH
PREVIOUS_RLS_FAILURE
READ_NOT_AUTHORISED
READPREV_IN_GENERIC_BROWSE
RECLEN_EXCEEDS_LOGGER_BFSZ
RECORD_BUSY
RECORD_NOT_FOUND
RLS_DEADLOCK_DETECTED
RLS_DISABLED
RLS_FAILURE
SELF_DEADLOCK_DETECTED
SERVREQ_VIOLATION
SHIPPED_SECURITY_FAILURE
SYSIDERR
TIMEOUT
UNKNOWN_REQID_READPREV
VSAM_REQUEST_ERROR
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
```

INVALID_FUNCTION

ACCMETH_RETURN_CODE
The return code from the file access method for request.

DUPLICATE_KEY
When the data set is being accessed by way of an alternate index path that allows non-unique alternate keys, a binary value that indicates whether further records exist with the same alternate key.

Values for the parameter are:
NO
YES

FULL_RECORD_ID_LENGTH
The length of the record key.

MAXIMUM_RECORD_LENGTH
The length of the longest record in the data set.

RECORD_ADDRESS
The address of the target record.

RECORD_LENGTH
Optional Parameter

The length of the record.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REMOTE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
NO
YES

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
NO
YES

UPDATE_TOKEN
Optional Parameter

A token that identifies an update request, and allows subsequent requests to refer to it.

FCFR gate, READ_PREVIOUS_INTO function

During a file browse, read the previous record, and return the record into a buffer provided by the caller.

Input Parameters

BROWSE_IDENTIFIER
A token that identifies the browse operation.

BUFFER_ADDRESS
The address of the caller's buffer.

BYPASS_SECURITY_CHECK
A binary value that indicates that security checking can be omitted for the current request.

Values for the parameter are:
NO

YES

CONDITIONAL

A binary value that indicates whether the request should wait if VSAM is holding an active lock against the record, including records locked as the result of a DEADLOCK. **CONDITIONAL(YES)** corresponds to option NOSUSPEND on the CICS API.

Values for the parameter are:

NO
YES

ENVIRONMENT_IDENTIFIER

A token that identifies the caller's environment.

FILE_NAME

The name of the FILE resource.

READ_INTEGRITY

Specifies the degree of read integrity for the request.

Values for the parameter are:

CR
FCT_VALUE
NRI
RR

RECORD_ID_ADDRESS

The address of the record identification field.

RECORD_ID_TYPE

The type of data contained in the record identification field.

Values for the parameter are:

DEBKEY
DEBREC
KEY
RBA
RRN

BUFFER_LENGTH

Optional Parameter

The length of the caller's buffer.

FCTE_POINTER

Optional Parameter

The address of the file control table entry (FCTE) for the file.

RECORD_ID_LENGTH

Optional Parameter

The length of the record identifier.

REMOTE_FILE_NAME

Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM

Optional Parameter

The SYSID of the remote system.

SUPPRESS_LENGERR

Optional Parameter

A binary value that indicates whether length error indications are to be suppressed.

Values for the parameter are:

NO

YES

WORK_ELEMENT_ADDRESS
Optional Parameter

The address of the current file request thread element (FRTE).

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
CFDT_REOPEN_ERROR
DISASTER_PERCOLATION
SECURITY_FAILURE
TABLE_TOKEN_INVALID

The following values are returned when RESPONSE is EXCEPTION:
BDAM_KEY_CONVERSION
BDAM_READ_PREVIOUS
CACHE_FAILURE
CFDT_CONNECT_ERROR
CFDT_SERVER_NOT_AVAILABLE
CFDT_SERVER_NOT_FOUND
CFDT_SYSIDERR
CFDT_TABLE_GONE
CR_NOT_RLS
END_OF_FILE
FILENOTFOUND
FULL_KEY_WRONG_LENGTH
GENERIC_KEY_TOO_LONG
ILLEGAL_KEY_TYPE_CHANGE
IO_ERROR
ISC_NOT_SUPPORTED
ISCINVREQ
KEY_LENGTH_NEGATIVE
LOCKED
NO_VARIABLE_LENGTH
NOSUSPEND_NOT_RLS
NOTAUTH
PREVIOUS_RLS_FAILURE
READ_NOT_AUTHORISED
READPREV_IN_GENERIC_BROWSE
RECORD_BUSY
RECORD_NOT_FOUND
REMOTE_INVREQ
RLS_DEADLOCK_DETECTED
RLS_DISABLED
RLS_FAILURE
RR_NOT_RLS
SELF_DEADLOCK_DETECTED
SHIPPED_SECURITY_FAILURE
SYSIDERR
TIMEOUT
UNKNOWN_REQID_READPREV
VSAM_REQUEST_ERROR

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT

INVALID_FUNCTION

ACCMETH_RETURN_CODE
The return code from the file access method for request.

DUPLICATE_KEY
When the data set is being accessed by way of an alternate index path that allows non-unique alternate keys, a binary value that indicates whether further records exist with the same alternate key.

Values for the parameter are:
NO
YES

FULL_RECORD_ID_LENGTH
The length of the record key.

LENGTH_ERROR_CODE
A value that provides details of a length error that occurred when processing the request.

Values for the parameter are:
BUFFER_LEN_NOT_FILE_LEN
BUFFER_LEN_TOO_SMALL
LENGTH_OK
RECORD_LEN_NOT_FILE_LEN
RECORD_LEN_TOO_LARGE

RECORD_LENGTH
Optional Parameter

The length of the record.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REMOTE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
NO
YES

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
NO
YES

MAXIMUM_RECORD_LENGTH
The length of the longest record in the data set.

FCFR gate, READ_PREVIOUS_SET function

During a file browse, read the previous record, and return a pointer to a buffer containing the data.

Input Parameters

BROWSE_IDENTIFIER
A token that identifies the browse operation.

BYPASS_SECURITY_CHECK
A binary value that indicates that security checking can be omitted for the current request.

Values for the parameter are:

`NO`
`YES`

CONDITIONAL
A binary value that indicates whether the request should wait if VSAM is holding an active lock against the record, including records locked as the result of a DEADLOCK. **CONDITIONAL(YES)** corresponds to option `NOSUSPEND` on the CICS API.

Values for the parameter are:
`NO`
`YES`

ENVIRONMENT_IDENTIFIER
A token that identifies the caller's environment.

FILE_NAME
The name of the FILE resource.

READ_INTEGRITY
Specifies the degree of read integrity for the request.

Values for the parameter are:
`CR`
`FCT_VALUE`
`NRI`
`RR`

RECORD_ID_ADDRESS
The address of the record identification field.

RECORD_ID_TYPE
The type of data contained in the record identification field.

Values for the parameter are:
`DEBKEY`
`DEBREC`
`KEY`
`RBA`
`RRN`

FCTE_POINTER
Optional Parameter

The address of the file control table entry (FCTE) for the file.

RECORD_ID_LENGTH
Optional Parameter

The length of the record identifier.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

WORK_ELEMENT_ADDRESS
Optional Parameter

The address of the current file request thread element (FRTE).

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`CFDT_REOPEN_ERROR`

DISASTER_PERCOLATION
SECURITY_FAILURE
TABLE_TOKEN_INVALID

The following values are returned when RESPONSE is EXCEPTION:

BDAM_KEY_CONVERSION
BDAM_READ_PREVIOUS
CACHE_FAILURE
CFDT_CONNECT_ERROR
CFDT_SERVER_NOT_AVAILABLE
CFDT_SERVER_NOT_FOUND
CFDT_SYSIDERR
CFDT_TABLE_GONE
CR_NOT_RLS
END_OF_FILE
FILENOTFOUND
FULL_KEY_WRONG_LENGTH
GENERIC_KEY_TOO_LONG
ILLEGAL_KEY_TYPE_CHANGE
IO_ERROR
ISC_NOT_SUPPORTED
ISCINVREQ
KEY_LENGTH_NEGATIVE
LOCKED
NOSUSPEND_NOT_RLS
NOTAUTH
PREVIOUS_RLS_FAILURE
READ_NOT_AUTHORISED
READPREV_IN_GENERIC_BROWSE
RECORD_BUSY
RECORD_NOT_FOUND
REMOTE_INVREQ
RLS_DEADLOCK_DETECTED
RLS_DISABLED
RLS_FAILURE
RR_NOT_RLS
SELF_DEADLOCK_DETECTED
SHIPPED_SECURITY_FAILURE
SYSIDERR
TIMEOUT
UNKNOWN_REQID_READPREV
VSAM_REQUEST_ERROR

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION

ACCMETH_RETURN_CODE
The return code from the file access method for request.

DUPLICATE_KEY
When the data set is being accessed by way of an alternate index path that allows non-unique alternate keys, a binary value that indicates whether further records exist with the same alternate key.

Values for the parameter are:

NO
YES

FULL_RECORD_ID_LENGTH
The length of the record key.

MAXIMUM_RECORD_LENGTH
The length of the longest record in the data set.

RECORD_ADDRESS
The address of the target record.

RECORD_LENGTH
Optional Parameter

The length of the record.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REMOTE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
NO
YES

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
NO
YES

FCFR gate, READ_PREVIOUS_UPDATE_INTO function

During a file browse, read the previous record for updating, and return the record into a buffer provided by the caller.

Input Parameters

BROWSE_IDENTIFIER
A token that identifies the browse operation.

BUFFER_ADDRESS
The address of the caller's buffer.

BYPASS_SECURITY_CHECK
A binary value that indicates that security checking can be omitted for the current request.

Values for the parameter are:
NO
YES

CONDITIONAL
A binary value that indicates whether the request should wait if VSAM is holding an active lock against the record, including records locked as the result of a DEADLOCK. **CONDITIONAL(YES)** corresponds to option NOSUSPEND on the CICS API.

Values for the parameter are:
NO
YES

ENVIRONMENT_IDENTIFIER
A token that identifies the caller's environment.

FILE_NAME
The name of the FILE resource.

RECORD_ID_ADDRESS
The address of the record identification field.

RECORD_ID_TYPE
The type of data contained in the record identification field.

Values for the parameter are:
DEBKEY
DEBREC
KEY
RBA
RRN

BUFFER_LENGTH
Optional Parameter

The length of the caller's buffer.

FCTE_POINTER
Optional Parameter

The address of the file control table entry (FCTE) for the file.

RECORD_ID_LENGTH
Optional Parameter

The length of the record identifier.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

SUPPRESS_LENGERR
Optional Parameter

A binary value that indicates whether length error indications are to be suppressed.

Values for the parameter are:
NO
YES

WORK_ELEMENT_ADDRESS
Optional Parameter

The address of the current file request thread element (FRTE).

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
DISASTER_PERCOLATION
SECURITY_FAILURE

The following values are returned when RESPONSE is EXCEPTION:
BROWSE_UPD_NOT_RLS
CACHE_FAILURE
DATASET_BEING_COPIED
END_OF_FILE
FILENOTFOUND
FULL_KEY_WRONG_LENGTH
GENERIC_KEY_TOO_LONG
ILLEGAL_KEY_TYPE_CHANGE
IO_ERROR
KEY_LENGTH_NEGATIVE

LOCK_STRUCTURE_FULL
LOCKED
LOST_LOCKS
NO_VARIABLE_LENGTH
NOSUSPEND_NOT_RLS
NOTAUTH
PREVIOUS_RLS_FAILURE
READ_NOT_AUTHORISED
READPREV_IN_GENERIC_BROWSE
RECLEN_EXCEEDS_LOGGER_BFSZ
RECORD_BUSY
RECORD_NOT_FOUND
RLS_DEADLOCK_DETECTED
RLS_DISABLED
RLS_FAILURE
SELF_DEADLOCK_DETECTED
SERVREQ_VIOLATION
SHIPPED_SECURITY_FAILURE
SYSIDERR
TIMEOUT
UNKNOWN_REQID_READPREV
VSAM_REQUEST_ERROR

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

ACCMETH_RETURN_CODE
The return code from the file access method for request.

DUPLICATE_KEY
When the data set is being accessed by way of an alternate index path that allows non-unique alternate keys, a binary value that indicates whether further records exist with the same alternate key.

Values for the parameter are:
NO
YES

FULL_RECORD_ID_LENGTH
The length of the record key.

LENGTH_ERROR_CODE
A value that provides details of a length error that occurred when processing the request.

Values for the parameter are:
BUFFER_LEN_NOT_FILE_LEN
BUFFER_LEN_TOO_SMALL
LENGTH_OK
RECORD_LEN_NOT_FILE_LEN
RECORD_LEN_TOO_LARGE

RECORD_LENGTH
Optional Parameter

The length of the record.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REMOTE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
`NO`
`YES`

`TERMINATE_STRING`
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
`NO`
`YES`

`MAXIMUM_RECORD_LENGTH`
The length of the longest record in the data set.

`UPDATE_TOKEN`
Optional Parameter

A token that identifies an update request, and allows subsequent requests to refer to it.

FCFR gate, READ_PREVIOUS_UPDATE_SET function

During a file browse, read the previous record for updating, and return a pointer to a buffer containing the data.

Input Parameters

`BROWSE_IDENTIFIER`
A token that identifies the browse operation.

`BYPASS_SECURITY_CHECK`
A binary value that indicates that security checking can be omitted for the current request.

Values for the parameter are:
`NO`
`YES`

`CONDITIONAL`
A binary value that indicates whether the request should wait if VSAM is holding an active lock against the record, including records locked as the result of a DEADLOCK. **`CONDITIONAL(YES)`** corresponds to option `NOSUSPEND` on the CICS API.

Values for the parameter are:
`NO`
`YES`

`ENVIRONMENT_IDENTIFIER`
A token that identifies the caller's environment.

`FILE_NAME`
The name of the FILE resource.

`RECORD_ID_ADDRESS`
The address of the record identification field.

`RECORD_ID_TYPE`
The type of data contained in the record identification field.

Values for the parameter are:
`DEBKEY`
`DEBREC`
`KEY`
`RBA`
`RRN`

`FCTE_POINTER`
Optional Parameter

The address of the file control table entry (FCTE) for the file.

RECORD_ID_LENGTH
Optional Parameter

The length of the record identifier.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

WORK_ELEMENT_ADDRESS
Optional Parameter

The address of the current file request thread element (FRTE).

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

```
ABEND
DISASTER_PERCOLATION
SECURITY_FAILURE
```

The following values are returned when RESPONSE is EXCEPTION:

```
BROWSE_UPD_NOT_RLS
CACHE_FAILURE
DATASET_BEING_COPIED
END_OF_FILE
FILENOTFOUND
FULL_KEY_WRONG_LENGTH
GENERIC_KEY_TOO_LONG
ILLEGAL_KEY_TYPE_CHANGE
IO_ERROR
KEY_LENGTH_NEGATIVE
LOCK_STRUCTURE_FULL
LOCKED
LOST_LOCKS
NOSUSPEND_NOT_RLS
NOTAUTH
PREVIOUS_RLS_FAILURE
READ_NOT_AUTHORISED
READPREV_IN_GENERIC_BROWSE
RECLEN_EXCEEDS_LOGGER_BFSZ
RECORD_BUSY
RECORD_NOT_FOUND
RLS_DEADLOCK_DETECTED
RLS_DISABLED
RLS_FAILURE
SELF_DEADLOCK_DETECTED
SERVREQ_VIOLATION
SHIPPED_SECURITY_FAILURE
SYSIDERR
TIMEOUT
UNKNOWN_REQID_READPREV
VSAM_REQUEST_ERROR
```

The following values are returned when RESPONSE is INVALID:

`INVALID_FORMAT`
`INVALID_FUNCTION`

ACCMETH_RETURN_CODE
The return code from the file access method for request.

DUPLICATE_KEY
When the data set is being accessed by way of an alternate index path that allows non-unique alternate keys, a binary value that indicates whether further records exist with the same alternate key.

Values for the parameter are:
`NO`
`YES`

FULL_RECORD_ID_LENGTH
The length of the record key.

MAXIMUM_RECORD_LENGTH
The length of the longest record in the data set.

RECORD_ADDRESS
The address of the target record.

RECORD_LENGTH
Optional Parameter

The length of the record.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REMOTE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
`NO`
`YES`

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
`NO`
`YES`

UPDATE_TOKEN
Optional Parameter

A token that identifies an update request, and allows subsequent requests to refer to it.

FCFR gate, READ_SET function

Read a record, and return a pointer to a buffer containing the data.

Input Parameters

BYPASS_SECURITY_CHECK
A binary value that indicates that security checking can be omitted for the current request.

Values for the parameter are:
`NO`
`YES`

CONDITIONAL
A binary value that indicates whether the request should wait if VSAM is

holding an active lock against the record, including records locked as the result of a DEADLOCK. **CONDITIONAL(YES)** corresponds to option NOSUSPEND on the CICS API.

Values for the parameter are:
NO
YES

ENVIRONMENT_IDENTIFIER
A token that identifies the caller's environment.

FILE_NAME
The name of the FILE resource.

GENERIC
A binary value that specifies whether the search key is a generic key.

Values for the parameter are:
NO
YES

KEY_COMPARISON
A value that specifies whether the search can be satisfied only by a record having the same key as that specified in the record identification field parameter, or by a record having a greater key.

Values for the parameter are:
EQUAL
GTEQ

READ_INTEGRITY
Specifies the degree of read integrity for the request.

Values for the parameter are:
CR
FCT_VALUE
NRI
RR

RECORD_ID_ADDRESS
The address of the record identification field.

RECORD_ID_TYPE
The type of data contained in the record identification field.

Values for the parameter are:
DEBKEY
DEBREC
KEY
RBA
RRN

BASE_RECORD_ID_ADDRESS
Optional Parameter

The address of the base record identifier.

FCTE_POINTER
Optional Parameter

The address of the file control table entry (FCTE) for the file.

RECORD_ID_LENGTH
Optional Parameter

The length of the record identifier.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

WORK_ELEMENT_ADDRESS
Optional Parameter

The address of the current file request thread element (FRTE).

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

```
ABEND
CFDT_REOPEN_ERROR
DISASTER_PERCOLATION
SECURITY_FAILURE
TABLE_TOKEN_INVALID
```

The following values are returned when RESPONSE is EXCEPTION:

```
BDAM_KEY_CONVERSION
CACHE_FAILURE
CFDT_CONNECT_ERROR
CFDT_SERVER_NOT_AVAILABLE
CFDT_SERVER_NOT_FOUND
CFDT_SYSIDERR
CFDT_TABLE_GONE
CR_NOT_RLS
FILE_DISABLED
FILE_NOT_OPEN
FILENOTFOUND
FULL_KEY_WRONG_LENGTH
GENERIC_KEY_TOO_LONG
IO_ERROR
ISC_NOT_SUPPORTED
ISCINVREQ
KEY_LENGTH_NEGATIVE
LOADING
LOCKED
LOST_LOCKS
NOSUSPEND_NOT_RLS
NOT_IN_SUBSET
NOTAUTH
PREVIOUS_RLS_FAILURE
RBA_ACCESS_TO_RLS_KSDS
READ_NOT_AUTHORISED
RECORD_BUSY
RECORD_NOT_FOUND
REMOTE_INVREQ
RLS_DEADLOCK_DETECTED
RLS_DISABLED
RLS_FAILURE
RR_NOT_RLS
SELF_DEADLOCK_DETECTED
SERVREQ_VIOLATION
SHIP
SHIPPED_SECURITY_FAILURE
SYSIDERR
```

`TIMEOUT`
`VSAM_REQUEST_ERROR`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

ACCMETH_RETURN_CODE
The return code from the file access method for request.

DUPLICATE_KEY
When the data set is being accessed by way of an alternate index path that allows non-unique alternate keys, a binary value that indicates whether further records exist with the same alternate key.

Values for the parameter are:
`NO`
`YES`

MAXIMUM_RECORD_LENGTH
The length of the longest record in the data set.

RECORD_ADDRESS
The address of the target record.

RECORD_LENGTH
Optional Parameter

The length of the record.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REMOTE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
`NO`
`YES`

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
`NO`
`YES`

FCFR gate, READ_UPDATE_INTO function

Read a record for update into a buffer provided by the caller.

Input Parameters

BACKOUT_TYPE
A value that indicates:
- whether the request is for a backout request
- whether the request is to processing a write-add log record or a read-update log record
- for write requests, whether the write is direct or sequential.

Values for the parameter are:
`NOT_BACKOUT`
`READ_UPD`
`WRITE_DIRECT`
`WRITE_SEQUENTIAL`

BUFFER_ADDRESS
The address of the caller's buffer.

BYPASS_SECURITY_CHECK
A binary value that indicates that security checking can be omitted for the current request.

Values for the parameter are:
`NO`
`YES`

CONDITIONAL
A binary value that indicates whether the request should wait if VSAM is holding an active lock against the record, including records locked as the result of a DEADLOCK. **CONDITIONAL(YES)** corresponds to option `NOSUSPEND` on the CICS API.

Values for the parameter are:
`NO`
`YES`

ENVIRONMENT_IDENTIFIER
A token that identifies the caller's environment.

FILE_NAME
The name of the FILE resource.

GENERIC
A binary value that specifies whether the search key is a generic key.

Values for the parameter are:
`NO`
`YES`

KEY_COMPARISON
A value that specifies whether the search can be satisfied only by a record having the same key as that specified in the record identification field parameter, or by a record having a greater key.

Values for the parameter are:
`EQUAL`
`GTEQ`

RECORD_ID_ADDRESS
The address of the record identification field.

RECORD_ID_TYPE
The type of data contained in the record identification field.

Values for the parameter are:
`DEBKEY`
`DEBREC`
`KEY`
`RBA`
`RRN`

TOKEN_REQUEST
A binary value that indicates whether a token is supplied with the request.

Values for the parameter are:
`NO`
`YES`

BASE_RECORD_ID_ADDRESS
Optional Parameter

The address of the base record identifier.

BUFFER_LENGTH
Optional Parameter

The length of the caller's buffer.

FCTE_POINTER
Optional Parameter

The address of the file control table entry (FCTE) for the file.

RECORD_ID_LENGTH
Optional Parameter

The length of the record identifier.

RECORD_LOCK_ONLY
Optional Parameter

A binary value that indicates whether the purpose of the request is solely to lock the record.

Values for the parameter are:
`NO`
`YES`

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

SUPPRESS_LENGERR
Optional Parameter

A binary value that indicates whether length error indications are to be suppressed.

Values for the parameter are:
`NO`
`YES`

WORK_ELEMENT_ADDRESS
Optional Parameter

The address of the current file request thread element (FRTE).

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`CFDT_REOPEN_ERROR`
`DISASTER_PERCOLATION`
`SECURITY_FAILURE`

The following values are returned when RESPONSE is EXCEPTION:
`BDAM_KEY_CONVERSION`
`CACHE_FAILURE`
`CFDT_CONNECT_ERROR`
`CFDT_SERVER_NOT_AVAILABLE`
`CFDT_SERVER_NOT_FOUND`
`CFDT_SYSIDERR`
`CFDT_TABLE_GONE`
`DATASET_BEING_COPIED`
`DEADLOCK_DETECTED`
`DUPLICATE_READ_UPDATE`
`FILE_DISABLED`
`FILE_NOT_OPEN`

FILE_NOT_RECOVERABLE
FULL_KEY_WRONG_LENGTH
GENERIC_KEY_TOO_LONG
IO_ERROR
KEY_LENGTH_NEGATIVE
LOADING
LOCK_STRUCTURE_FULL
LOCKED
LOST_LOCKS
NO_VARIABLE_LENGTH
NOSUSPEND_NOT_RLS
NOT_IN_SUBSET
PREVIOUS_RLS_FAILURE
RBA_ACCESS_TO_RLS_KSDS
READ_NOT_AUTHORISED
RECLEN_EXCEEDS_LOGGER_BFSZ
RECORD_BUSY
RECORD_NOT_FOUND
RESTART_FAILED
RLS_DEADLOCK_DETECTED
RLS_DISABLED
RLS_FAILURE
SELF_DEADLOCK_DETECTED
SERVREQ_VIOLATION
SHIPPED_SECURITY_FAILURE
SYSIDERR
TIMEOUT
TOO_MANY_CFDTS_IN_UOW
VSAM_REQUEST_ERROR

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

ACCMETH_RETURN_CODE
The return code from the file access method for request.

DUPLICATE_KEY
When the data set is being accessed by way of an alternate index path that allows non-unique alternate keys, a binary value that indicates whether further records exist with the same alternate key.

Values for the parameter are:
NO
YES

LENGTH_ERROR_CODE
A value that provides details of a length error that occurred when processing the request.

Values for the parameter are:
BUFFER_LEN_NOT_FILE_LEN
BUFFER_LEN_TOO_SMALL
LENGTH_OK
RECORD_LEN_NOT_FILE_LEN
RECORD_LEN_TOO_LARGE

RECORD_LENGTH
Optional Parameter

The length of the record.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REMOTE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
NO
YES

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
NO
YES

MAXIMUM_RECORD_LENGTH
The length of the longest record in the data set.

UPDATE_TOKEN
Optional Parameter

A token that identifies an update request, and allows subsequent requests to refer to it.

FCFR gate, READ_UPDATE_SET function

Read a record for updating, and return a pointer to a buffer containing the data.

Input Parameters

BACKOUT_TYPE
A value that indicates:
- whether the request is for a backout request
- whether the request is to processing a write-add log record or a read-update log record
- for write requests, whether the write is direct or sequential.

Values for the parameter are:
NOT_BACKOUT
READ_UPD
WRITE_DIRECT
WRITE_SEQUENTIAL

BYPASS_SECURITY_CHECK
A binary value that indicates that security checking can be omitted for the current request.

Values for the parameter are:
NO
YES

CONDITIONAL
A binary value that indicates whether the request should wait if VSAM is holding an active lock against the record, including records locked as the result of a DEADLOCK. **CONDITIONAL(YES)** corresponds to option NOSUSPEND on the CICS API.

Values for the parameter are:
NO
YES

ENVIRONMENT_IDENTIFIER
A token that identifies the caller's environment.

FILE_NAME
The name of the FILE resource.

GENERIC
A binary value that specifies whether the search key is a generic key.

Values for the parameter are:
`NO`
`YES`

KEY_COMPARISON
A value that specifies whether the search can be satisfied only by a record having the same key as that specified in the record identification field parameter, or by a record having a greater key.

Values for the parameter are:
`EQUAL`
`GTEQ`

RECORD_ID_ADDRESS
The address of the record identification field.

RECORD_ID_TYPE
The type of data contained in the record identification field.

Values for the parameter are:
`DEBKEY`
`DEBREC`
`KEY`
`RBA`
`RRN`

TOKEN_REQUEST
A binary value that indicates whether a token is supplied with the request.

Values for the parameter are:
`NO`
`YES`

BASE_RECORD_ID_ADDRESS
Optional Parameter

The address of the base record identifier.

FCTE_POINTER
Optional Parameter

The address of the file control table entry (FCTE) for the file.

RECORD_ID_LENGTH
Optional Parameter

The length of the record identifier.

RECORD_LOCK_ONLY
Optional Parameter

A binary value that indicates whether the purpose of the request is solely to lock the record.

Values for the parameter are:
`NO`
`YES`

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

WORK_ELEMENT_ADDRESS
Optional Parameter

The address of the current file request thread element (FRTE).

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

```
ABEND
CFDT_REOPEN_ERROR
DISASTER_PERCOLATION
SECURITY_FAILURE
```

The following values are returned when RESPONSE is EXCEPTION:

```
BDAM_KEY_CONVERSION
CACHE_FAILURE
CFDT_CONNECT_ERROR
CFDT_SERVER_NOT_AVAILABLE
CFDT_SERVER_NOT_FOUND
CFDT_SYSIDERR
CFDT_TABLE_GONE
DATASET_BEING_COPIED
DEADLOCK_DETECTED
DUPLICATE_READ_UPDATE
FILE_DISABLED
FILE_NOT_OPEN
FILE_NOT_RECOVERABLE
FULL_KEY_WRONG_LENGTH
GENERIC_KEY_TOO_LONG
IO_ERROR
KEY_LENGTH_NEGATIVE
LOADING
LOCK_STRUCTURE_FULL
LOCKED
LOST_LOCKS
NOSUSPEND_NOT_RLS
NOT_IN_SUBSET
PREVIOUS_RLS_FAILURE
RBA_ACCESS_TO_RLS_KSDS
READ_NOT_AUTHORISED
RECLEN_EXCEEDS_LOGGER_BFSZ
RECORD_BUSY
RECORD_NOT_FOUND
RESTART_FAILED
RLS_DEADLOCK_DETECTED
RLS_DISABLED
RLS_FAILURE
SELF_DEADLOCK_DETECTED
SERVREQ_VIOLATION
SHIPPED_SECURITY_FAILURE
SYSIDERR
TIMEOUT
TOO_MANY_CFDTS_IN_UOW
VSAM_REQUEST_ERROR
```

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION

ACCMETH_RETURN_CODE
The return code from the file access method for request.

DUPLICATE_KEY
When the data set is being accessed by way of an alternate index path that allows non-unique alternate keys, a binary value that indicates whether further records exist with the same alternate key.

Values for the parameter are:
NO
YES

MAXIMUM_RECORD_LENGTH
The length of the longest record in the data set.

RECORD_ADDRESS
The address of the target record.

RECORD_LENGTH
Optional Parameter

The length of the record.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REMOTE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
NO
YES

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
NO
YES

UPDATE_TOKEN
Optional Parameter

A token that identifies an update request, and allows subsequent requests to refer to it.

FCFR gate, REPLACE function

Replace a file control record.

Input Parameters

BYPASS_SECURITY_CHECK
A binary value that indicates that security checking can be omitted for the current request.

Values for the parameter are:
NO
YES

CONDITIONAL
A binary value that indicates whether the request should wait if VSAM is holding an active lock against the record, including records locked as the result of a DEADLOCK. **CONDITIONAL(YES)** corresponds to option NOSUSPEND on the CICS API.

Values for the parameter are:

NO
YES

ENVIRONMENT_IDENTIFIER
A token that identifies the caller's environment.

FILE_NAME
The name of the FILE resource.

RECORD_ADDRESS
The address of the target record.

RECORD_ID_ADDRESS
The address of the record identification field.

RECORD_ID_TYPE
The type of data contained in the record identification field.

Values for the parameter are:

DEBKEY
DEBREC
KEY
RBA
RRN

TOKEN_REQUEST
A binary value that indicates whether a token is supplied with the request.

Values for the parameter are:

NO
YES

RECORD_ID_LENGTH
Optional Parameter

The length of the record identifier.

RECORD_LENGTH
Optional Parameter

The length of the record.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

UPDATE_TOKEN
Optional Parameter

A token that identifies an update request, and allows subsequent requests to refer to it.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

ABEND
CFDT_REOPEN_ERROR
DISASTER_PERCOLATION
SECURITY_FAILURE

The following values are returned when RESPONSE is EXCEPTION:

BDAM_LENGTH_CHANGE
CACHE_FAILURE
CFDT_CONNECT_ERROR

CFDT_INVALID_CONTINUATION
CFDT_POOL_FULL
CFDT_SERVER_NOT_AVAILABLE
CFDT_SERVER_NOT_FOUND
CFDT_SYSIDERR
CFDT_TABLE_GONE
CHANGED
DEADLOCK_DETECTED
DUPLICATE_RECORD
INSUFFICIENT_SPACE
IO_ERROR
KEY_STOLEN
LOCK_STRUCTURE_FULL
LOCKED
NO_VARIABLE_LENGTH
NOSUSPEND_NOT_RLS
PREVIOUS_RLS_FAILURE
RECORD_BUSY
RECORD_NOT_FOUND
REPLACE_BEFORE_READ_UPDATE
RLS_DEADLOCK_DETECTED
RLS_DISABLED
RLS_FAILURE
SELF_DEADLOCK_DETECTED
SERVREQ_VIOLATION
SHIPPED_SECURITY_FAILURE
STORE_FAIL
SYSIDERR
TIMEOUT
UPDATE_NOT_AUTHORISED
VSAM_REQUEST_ERROR

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION
INVALID_UPDATE_TOKEN

ACCMETH_RETURN_CODE
The return code from the file access method for request.

LENGTH_ERROR_CODE
A value that provides details of a length error that occurred when processing the request.

Values for the parameter are:
BUFFER_LEN_NOT_FILE_LEN
BUFFER_LEN_TOO_SMALL
LENGTH_OK
RECORD_LEN_NOT_FILE_LEN
RECORD_LEN_TOO_LARGE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REMOTE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
NO

YES

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
NO
YES

FCFR gate, REPLACE_DELETE function

Delete and replace a file control record.

Input Parameters

BYPASS_SECURITY_CHECK
A binary value that indicates that security checking can be omitted for the current request.

Values for the parameter are:
NO
YES

CONDITIONAL
A binary value that indicates whether the request should wait if VSAM is holding an active lock against the record, including records locked as the result of a DEADLOCK. **CONDITIONAL(YES)** corresponds to option NOSUSPEND on the CICS API.

Values for the parameter are:
NO
YES

ENVIRONMENT_IDENTIFIER
A token that identifies the caller's environment.

FILE_NAME
The name of the FILE resource.

RECORD_ID_ADDRESS
The address of the record identification field.

RECORD_ID_TYPE
The type of data contained in the record identification field.

Values for the parameter are:
DEBKEY
DEBREC
KEY
RBA
RRN

TOKEN_REQUEST
A binary value that indicates whether a token is supplied with the request.

Values for the parameter are:
NO
YES

RECORD_ID_LENGTH
Optional Parameter

The length of the record identifier.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

UPDATE_TOKEN
Optional Parameter

A token that identifies an update request, and allows subsequent requests to refer to it.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

```
ABEND
CFDT_REOPEN_ERROR
DISASTER_PERCOLATION
SECURITY_FAILURE
```

The following values are returned when RESPONSE is EXCEPTION:

```
BDAM_LENGTH_CHANGE
CACHE_FAILURE
CFDT_CONNECT_ERROR
CFDT_INVALID_CONTINUATION
CFDT_POOL_FULL
CFDT_SERVER_NOT_AVAILABLE
CFDT_SERVER_NOT_FOUND
CFDT_SYSIDERR
CFDT_TABLE_GONE
CHANGED
DEADLOCK_DETECTED
DELETE_BEFORE_READ_UPDATE
DUPLICATE_RECORD
INSUFFICIENT_SPACE
IO_ERROR
KEY_STOLEN
LOCK_STRUCTURE_FULL
LOCKED
NO_VARIABLE_LENGTH
NOSUSPEND_NOT_RLS
PREVIOUS_RLS_FAILURE
RECORD_BUSY
RECORD_NOT_FOUND
RLS_DEADLOCK_DETECTED
RLS_DISABLED
RLS_FAILURE
SELF_DEADLOCK_DETECTED
SERVREQ_VIOLATION
SHIPPED_SECURITY_FAILURE
STORE_FAIL
SYSIDERR
TIMEOUT
UPDATE_NOT_AUTHORISED
VSAM_REQUEST_ERROR
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
INVALID_UPDATE_TOKEN
```

ACCMETH_RETURN_CODE
The return code from the file access method for request.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REMOTE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
NO
YES

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
NO
YES

FCFR gate, RESET_BROWSE function

Reset the position of a browse operation in a file or data table.

Input Parameters

BROWSE_IDENTIFIER
A token that identifies the browse operation.

BYPASS_SECURITY_CHECK
A binary value that indicates that security checking can be omitted for the current request.

Values for the parameter are:
NO
YES

ENVIRONMENT_IDENTIFIER
A token that identifies the caller's environment.

FILE_NAME
The name of the FILE resource.

GENERIC
A binary value that specifies whether the search key is a generic key.

Values for the parameter are:
NO
YES

KEY_COMPARISON
A value that specifies whether the search can be satisfied only by a record having the same key as that specified in the record identification field parameter, or by a record having a greater key.

Values for the parameter are:
EQUAL
GTEQ

RECORD_ID_ADDRESS
The address of the record identification field.

RECORD_ID_TYPE
The type of data contained in the record identification field.

Values for the parameter are:
DEBKEY
DEBREC
KEY
RBA

RRN

BASE_RECORD_ID_ADDRESS
Optional Parameter

The address of the base record identifier.

FCTE_POINTER
Optional Parameter

The address of the file control table entry (FCTE) for the file.

RECORD_ID_LENGTH
Optional Parameter

The length of the record identifier.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

WORK_ELEMENT_ADDRESS
Optional Parameter

The address of the current file request thread element (FRTE).

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

ABEND
CFDT_REOPEN_ERROR
DISASTER_PERCOLATION
SECURITY_FAILURE
TABLE_TOKEN_INVALID

The following values are returned when RESPONSE is EXCEPTION:

BDAM_KEY_CONVERSION
CACHE_FAILURE
CFDT_CONNECT_ERROR
CFDT_SERVER_NOT_AVAILABLE
CFDT_SERVER_NOT_FOUND
CFDT_SYSIDERR
CFDT_TABLE_GONE
FILENOTFOUND
FULL_KEY_WRONG_LENGTH
GENERIC_KEY_TOO_LONG
ILLEGAL_KEY_TYPE_CHANGE
IO_ERROR
ISC_NOT_SUPPORTED
ISCINVREQ
KEY_LENGTH_NEGATIVE
NOTAUTH
PREVIOUS_RLS_FAILURE
RBA_ACCESS_TO_RLS_KSDS
READ_NOT_AUTHORISED
RECORD_NOT_FOUND
REMOTE_INVREQ
RLS_DISABLED
RLS_FAILURE

SHIPPED_SECURITY_FAILURE
SYSIDERR
TIMEOUT
UNKNOWN_REQID_RESETBR
VSAM_REQUEST_ERROR

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

ACCMETH_RETURN_CODE
The return code from the file access method for request.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REMOTE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
NO
YES

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
NO
YES

FCFR gate, RESTART_FILE_CONTROL function

Restart file control's interface with VSAM.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
DISASTER_PERCOLATION

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FCFR gate, REWRITE function

Rewrite a file record.

Input Parameters

BACKOUT
A binary value that indicates whether the request is issued during transaction backout.

Values for the parameter are:
NO
YES

BYPASS_SECURITY_CHECK
A binary value that indicates that security checking can be omitted for the current request.

Values for the parameter are:
`NO`
`YES`

CONDITIONAL
A binary value that indicates whether the request should wait if VSAM is holding an active lock against the record, including records locked as the result of a DEADLOCK. **CONDITIONAL(YES)** corresponds to option `NOSUSPEND` on the CICS API.

Values for the parameter are:
`NO`
`YES`

ENVIRONMENT_IDENTIFIER
A token that identifies the caller's environment.

FILE_NAME
The name of the FILE resource.

RECORD_ADDRESS
The address of the target record.

TOKEN_REQUEST
A binary value that indicates whether a token is supplied with the request.

Values for the parameter are:
`NO`
`YES`

FCTE_POINTER
Optional Parameter

The address of the file control table entry (FCTE) for the file.

RECORD_LENGTH
Optional Parameter

The length of the record.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

UPDATE_TOKEN
Optional Parameter

A token that identifies an update request, and allows subsequent requests to refer to it.

WORK_ELEMENT_ADDRESS
Optional Parameter

The address of the current file request thread element (FRTE).

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`CFDT_REOPEN_ERROR`
`DISASTER_PERCOLATION`

SECURITY_FAILURE

The following values are returned when RESPONSE is EXCEPTION:

BDAM_LENGTH_CHANGE
CACHE_FAILURE
CFDT_CONNECT_ERROR
CFDT_INVALID_CONTINUATION
CFDT_POOL_FULL
CFDT_SERVER_NOT_AVAILABLE
CFDT_SERVER_NOT_FOUND
CFDT_SYSIDERR
CFDT_TABLE_GONE
CHANGED
DEADLOCK_DETECTED
DUPLICATE_RECORD
INSUFFICIENT_SPACE
IO_ERROR
KEY_STOLEN
LOCK_STRUCTURE_FULL
LOCKED
NO_VARIABLE_LENGTH
NOSUSPEND_NOT_RLS
PREVIOUS_RLS_FAILURE
RECORD_BUSY
RECORD_NOT_FOUND
REWRITE_BEFORE_READ_UPDATE
RLS_DEADLOCK_DETECTED
RLS_DISABLED
RLS_FAILURE
SELF_DEADLOCK_DETECTED
SERVREQ_VIOLATION
SHIPPED_SECURITY_FAILURE
STORE_FAIL
SYSIDERR
TIMEOUT
TOO_MANY_CFDTS_IN_UOW
UPDATE_NOT_AUTHORISED
VSAM_REQUEST_ERROR

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION
INVALID_UPDATE_TOKEN

ACCMETH_RETURN_CODE
The return code from the file access method for request.

LENGTH_ERROR_CODE
A value that provides details of a length error that occurred when processing the request.

Values for the parameter are:

BUFFER_LEN_NOT_FILE_LEN
BUFFER_LEN_TOO_SMALL
LENGTH_OK
RECORD_LEN_NOT_FILE_LEN
RECORD_LEN_TOO_LARGE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REMOTE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
`NO`
`YES`

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
`NO`
`YES`

FCFR gate, REWRITE_DELETE function

Delete a record and then rewrite it.

Input Parameters

BACKOUT
A binary value that indicates whether the request is issued during transaction backout.

Values for the parameter are:
`NO`
`YES`

BYPASS_SECURITY_CHECK
A binary value that indicates that security checking can be omitted for the current request.

Values for the parameter are:
`NO`
`YES`

CONDITIONAL
A binary value that indicates whether the request should wait if VSAM is holding an active lock against the record, including records locked as the result of a DEADLOCK. **CONDITIONAL(YES)** corresponds to option `NOSUSPEND` on the CICS API.

Values for the parameter are:
`NO`
`YES`

ENVIRONMENT_IDENTIFIER
A token that identifies the caller's environment.

FILE_NAME
The name of the FILE resource.

TOKEN_REQUEST
A binary value that indicates whether a token is supplied with the request.

Values for the parameter are:
`NO`
`YES`

FCTE_POINTER
Optional Parameter

The address of the file control table entry (FCTE) for the file.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

UPDATE_TOKEN
Optional Parameter

A token that identifies an update request, and allows subsequent requests to refer to it.

WORK_ELEMENT_ADDRESS
Optional Parameter

The address of the current file request thread element (FRTE).

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

```
ABEND
CFDT_REOPEN_ERROR
DISASTER_PERCOLATION
SECURITY_FAILURE
```

The following values are returned when RESPONSE is EXCEPTION:

```
BDAM_DELETE
CACHE_FAILURE
CFDT_CONNECT_ERROR
CFDT_INVALID_CONTINUATION
CFDT_SERVER_NOT_AVAILABLE
CFDT_SERVER_NOT_FOUND
CFDT_SYSIDERR
CFDT_TABLE_GONE
CHANGED
DEADLOCK_DETECTED
DELETE_BEFORE_READ_UPDATE
ESDS_DELETE
IO_ERROR
LOCK_STRUCTURE_FULL
LOCKED
NOSUSPEND_NOT_RLS
PREVIOUS_RLS_FAILURE
RECLEN_EXCEEDS_LOGGER_BFSZ
RECORD_BUSY
RECORD_NOT_FOUND
RLS_DEADLOCK_DETECTED
RLS_DISABLED
RLS_FAILURE
SELF_DEADLOCK_DETECTED
SERVREQ_VIOLATION
SHIPPED_SECURITY_FAILURE
STORE_FAIL
SYSIDERR
TIMEOUT
TOO_MANY_CFDTS_IN_UOW
UPDATE_NOT_AUTHORISED
```

VSAM_REQUEST_ERROR

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION
INVALID_UPDATE_TOKEN

ACCMETH_RETURN_CODE
The return code from the file access method for request.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REMOTE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
NO
YES

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
NO
YES

FCFR gate, START_BROWSE function

Start atrt a browse operation

Input Parameters

BROWSE_IDENTIFIER
A token that identifies the browse operation.

BYPASS_SECURITY_CHECK
A binary value that indicates that security checking can be omitted for the current request.

Values for the parameter are:
NO
YES

ENVIRONMENT_IDENTIFIER
A token that identifies the caller's environment.

FILE_NAME
The name of the FILE resource.

GENERIC
A binary value that specifies whether the search key is a generic key.

Values for the parameter are:
NO
YES

KEY_COMPARISON
A value that specifies whether the search can be satisfied only by a record having the same key as that specified in the record identification field parameter, or by a record having a greater key.

Values for the parameter are:
EQUAL
GTEQ

PRIVILEGED_REQUEST
A binary parameter that indicates whether the request is privileged.

Values for the parameter are:
`NO`
`YES`

RECORD_ID_ADDRESS
The address of the record identification field.

RECORD_ID_TYPE
The type of data contained in the record identification field.

Values for the parameter are:
`DEBKEY`
`DEBREC`
`KEY`
`RBA`
`RRN`

BASE_RECORD_ID_ADDRESS
Optional Parameter

The address of the base record identifier.

CFDT_LOAD
Optional Parameter

A binary value that indicates whether the request is part of the browse operation used to read records from the source data set during loading of a coupling facility data table.

Values for the parameter are:
`NO`
`YES`

FCTE_POINTER
Optional Parameter

The address of the file control table entry (FCTE) for the file.

RECORD_ID_LENGTH
Optional Parameter

The length of the record identifier.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

WORK_ELEMENT_ADDRESS
Optional Parameter

The address of the current file request thread element (FRTE).

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`CFDT_REOPEN_ERROR`
`DISASTER_PERCOLATION`
`SECURITY_FAILURE`
`TABLE_TOKEN_INVALID`

The following values are returned when RESPONSE is EXCEPTION:
`BDAM_KEY_CONVERSION`
`CACHE_FAILURE`

CFDT_CONNECT_ERROR
CFDT_SERVER_NOT_AVAILABLE
CFDT_SERVER_NOT_FOUND
CFDT_SYSIDERR
CFDT_TABLE_GONE
DUPLICATE_REQID
FILE_DISABLED
FILE_NOT_OPEN
FILENOTFOUND
FULL_KEY_WRONG_LENGTH
GENERIC_KEY_TOO_LONG
IO_ERROR
ISC_NOT_SUPPORTED
ISCINVREQ
KEY_LENGTH_NEGATIVE
LOADING
NOT_IN_SUBSET
NOTAUTH
PREVIOUS_RLS_FAILURE
RBA_ACCESS_TO_RLS_KSDS
READ_NOT_AUTHORISED
RECORD_NOT_FOUND
REMOTE_INVREQ
RLS_DISABLED
RLS_FAILURE
SERVREQ_VIOLATION
SHIP
SHIPPED_SECURITY_FAILURE
SYSIDERR
TIMEOUT
VSAM_REQUEST_ERROR

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION

ACCMETH_RETURN_CODE
The return code from the file access method for request.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REMOTE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:

NO
YES

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:

NO
YES

FCFR gate, TEST_FILE_USER function

Determine whether the current task is the user of a file.

Input Parameters

FILE_NAME
The name of the FILE resource.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

FILE_USER
A binary value that indicates whether the current task is the current user of a file.

Values for the parameter are:
`NO`
`YES`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FCFR gate, UNLOCK function

Release the lock on a file record.

Input Parameters

BYPASS_SECURITY_CHECK
A binary value that indicates that security checking can be omitted for the current request.

Values for the parameter are:
`NO`
`YES`

ENVIRONMENT_IDENTIFIER
A token that identifies the caller's environment.

FILE_NAME
The name of the FILE resource.

TOKEN_REQUEST
A binary value that indicates whether a token is supplied with the request.

Values for the parameter are:
`NO`
`YES`

CLEAR_AFTER_ABEND
Optional Parameter

A binary value that indicates whether the request follows a transaction abend, and that the environment must be cleared.

Values for the parameter are:
`NO`
`YES`

FCTE_POINTER
Optional Parameter

The address of the file control table entry (FCTE) for the file.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
: Optional Parameter

The SYSID of the remote system.

UPDATE_TOKEN
: Optional Parameter

A token that identifies an update request, and allows subsequent requests to refer to it.

WORK_ELEMENT_ADDRESS
: Optional Parameter

The address of the current file request thread element (FRTE).

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

```
ABEND
DISASTER_PERCOLATION
SECURITY_FAILURE
```

The following values are returned when RESPONSE is EXCEPTION:

```
CACHE_FAILURE
CLEAR_ABENDED
IO_ERROR
PREVIOUS_RLS_FAILURE
READ_NOT_AUTHORISED
RLS_DISABLED
RLS_FAILURE
SHIPPED_SECURITY_FAILURE
SYSIDERR
VSAM_REQUEST_ERROR
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
INVALID_UPDATE_TOKEN
```

ACCMETH_RETURN_CODE

The return code from the file access method for request.

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REMOTE_REQUEST

A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:

```
NO
YES
```

TERMINATE_STRING

A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:

```
NO
YES
```

FCFR gate, WRITE function

Write to a file.

Input Parameters

BACKOUT
A binary value that indicates whether the request is issued during transaction backout.

Values for the parameter are:
- NO
- YES

BYPASS_SECURITY_CHECK
A binary value that indicates that security checking can be omitted for the current request.

Values for the parameter are:
- NO
- YES

CONDITIONAL
A binary value that indicates whether the request should wait if VSAM is holding an active lock against the record, including records locked as the result of a DEADLOCK. **CONDITIONAL(YES)** corresponds to option NOSUSPEND on the CICS API.

Values for the parameter are:
- NO
- YES

ENVIRONMENT_IDENTIFIER
A token that identifies the caller's environment.

FILE_NAME
The name of the FILE resource.

MASS_INSERT
A binary parameter that specifies whether the WRITE request is part of a mass-insert operation.

Values for the parameter are:
- NO
- YES

PRIVILEGED_REQUEST
A binary parameter that indicates whether the request is privileged.

Values for the parameter are:
- NO
- YES

RECORD_ADDRESS
The address of the target record.

RECORD_ID_ADDRESS
The address of the record identification field.

RECORD_ID_TYPE
The type of data contained in the record identification field.

Values for the parameter are:
- DEBKEY
- DEBREC
- KEY
- RBA
- RRN

CFDT_LOAD
Optional Parameter

A binary value that indicates whether the request is part of the browse operation used to read records from the source data set during loading of a coupling facility data table.

Values for the parameter are:

```
NO
YES
```

FCTE_POINTER
Optional Parameter

The address of the file control table entry (FCTE) for the file.

RECORD_ID_LENGTH
Optional Parameter

The length of the record identifier.

RECORD_LENGTH
Optional Parameter

The length of the record.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

WORK_ELEMENT_ADDRESS
Optional Parameter

The address of the current file request thread element (FRTE).

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

```
ABEND
CFDT_REOPEN_ERROR
DISASTER_PERCOLATION
SECURITY_FAILURE
```

The following values are returned when RESPONSE is EXCEPTION:

```
BDAM_KEY_CONVERSION
BDAM_WRITE_MASS_INSERT
CACHE_FAILURE
CFDT_CONNECT_ERROR
CFDT_POOL_FULL
CFDT_POOL_FULL
CFDT_SERVER_NOT_AVAILABLE
CFDT_SERVER_NOT_FOUND
CFDT_SYSIDERR
CFDT_TABLE_GONE
DATASET_BEING_COPIED
DEADLOCK_DETECTED
DUPLICATE_RECORD
FILE_DISABLED
FILE_NOT_OPEN
FULL_KEY_WRONG_LENGTH
INSUFFICIENT_SPACE
IO_ERROR
KEY_LENGTH_NEGATIVE
```

KEY_STOLEN
LOADING
LOCK_STRUCTURE_FULL
LOCKED
LOST_LOCKS
NO_VARIABLE_LENGTH
NOSUSPEND_NOT_RLS
NOT_IN_SUBSET
PREVIOUS_RLS_FAILURE
RBA_ACCESS_TO_RLS_KSDS
RECORD_BUSY
RECORD_NOT_FOUND
RESTART_FAILED
RIDFLD_KEY_NOT_RECORD_KEY
RLS_DEADLOCK_DETECTED
RLS_DISABLED
RLS_FAILURE
SELF_DEADLOCK_DETECTED
SERVREQ_VIOLATION
SHIP
SHIPPED_SECURITY_FAILURE
STORE_FAIL
SUPPRESSED
SYSIDERR
TABLE_FULL
TIMEOUT
TOO_MANY_CFDTS_IN_UOW
UPDATE_NOT_AUTHORISED
VSAM_REQUEST_ERROR

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

ACCMETH_RETURN_CODE
The return code from the file access method for request.

LENGTH_ERROR_CODE
A value that provides details of a length error that occurred when processing the request.

Values for the parameter are:
BUFFER_LEN_NOT_FILE_LEN
BUFFER_LEN_TOO_SMALL
LENGTH_OK
RECORD_LEN_NOT_FILE_LEN
RECORD_LEN_TOO_LARGE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REMOTE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
NO
YES

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
`NO`
`YES`

FCFS gate, CANCEL_CLOSE_FILE function

This function cancels the command to close a file.

Input Parameters

FCTE_POINTER
Optional Parameter

A pointer to the file control table entry (FCTE).

FILE_NAME
Optional Parameter

The 8-character name of the file.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`FILE_NOT_FOUND`
`FILE_NOT_CLOSING`
`EXIT_SUPPRESSED_REQUEST`

The following values are returned when RESPONSE is DISASTER:
`CATALOG_WRITE_FAILED`
`TM_UNLOCK_FAILED`
`ABEND`
`LOOP`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`INVALID`
`EXCEPTION`
`DISASTER`
`PURGED`

FCFS gate, CLOSE_FILE function

This function closes a named file.

Input Parameters

ACTION
Values for the parameter are:
`WAIT`
`DONT_WAIT`
`FORCE`
`FORCE_OTHERS`

CFDT_LOAD
Optional Parameter

Values for the parameter are:
`YES`
`NO`

CLOSE_QUALIFIER
Optional Parameter

Values for the parameter are:
CLOSE_PENDING
END_LOAD_MODE
END_TABLE_LOAD
CLEAR_IOERROR
SHUTDOWN
IMMEDIATE_CLOSE
IMMEDIATE_CLOSE_PENDING
QUIESCE
END_FAILED_TABLE_LOAD

FCTE_POINTER
Optional Parameter

A pointer to the file control table entry (FCTE).

FILE_NAME
Optional Parameter

The 8-character name of the file.

TABLE_STATS
Optional Parameter

A pointer to the table statistics.

Output Parameters

FCN_RETURN_CODE
The FCN return code.

R15_RETURN_CODE
The R15 return code.

VSAM_RETURN_CODE
The VSAM return code.

REASON
The following value is returned when RESPONSE is INVALID:
INVALID_CLOSE_QUALIFIER

The following values are returned when RESPONSE is EXCEPTION:
FILE_NOT_FOUND
FILE_IN_USE
CLOSE_ERROR
EXIT_SUPPRESSED_REQUEST
DT_DISCONNECT_FAILED
CFDT_CLOSE_ERROR
CFDT_REOPEN_ERROR
CFDT_STATS_ERROR
CFDT_SERVER_ERROR
CFDT_SET_ERROR
CFDT_SYSIDERR
CFDT_TABLE_GONE

The following values are returned when RESPONSE is DISASTER:
CATALOG_WRITE_FAILED
DISPATCHER_WAIT_FAILED
SERIOUS_OPEN_CLOSE_ERROR
DISASTER_PERCOLATION
FCFR_RETURNED_ERROR
TM_UNLOCK_FAILED
ABEND

`LOOP`
`DFHFCQI_ERROR`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`INVALID`
`EXCEPTION`
`DISASTER`
`PURGED`

FCFS gate, DISABLE_FILE function

This function disables a named file and sets its state to unenabled.

Input Parameters

`ACTION`
Values for the parameter are:

`WAIT`

`DONT_WAIT`

`FORCE`

`FORCE_OTHERS`

`FCTE_POINTER`
Optional Parameter

A pointer to the file control table entry (FCTE).

`FILE_NAME`
Optional Parameter

The 8-character name of the file.

Output Parameters

`REASON`
The following values are returned when RESPONSE is EXCEPTION:
`FILE_NOT_FOUND`
`FILE_IN_USE`
`EXIT_SUPPRESSED_REQUEST`

The following values are returned when RESPONSE is DISASTER:
`CATALOG_WRITE_FAILED`
`DISPATCHER_WAIT_FAILED`
`FCFR_RETURNED_ERROR`
`TM_UNLOCK_FAILED`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`INVALID`
`EXCEPTION`
`DISASTER`
`PURGED`

FCFS gate, ENABLE_FILE function

This function updates files that need to be reset to the enabled state.

Input Parameters

CATALOG_FILE
Specifies whether to catalog the state change. Values for the parameter are:

YES

NO

FCTE_POINTER
Optional Parameter

A pointer to the file control table entry (FCTE).

FILE_NAME
Optional Parameter

The 8-character name of the file.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

FILE_NOT_FOUND
FILE_DISABLING
EXIT_SUPPRESSED_REQUEST

The following values are returned when RESPONSE is DISASTER:

CATALOG_WRITE_FAILED
TM_UNLOCK_FAILED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

OK
INVALID
EXCEPTION
DISASTER
PURGED

FCFS gate, OPEN_FILE function

This function opens a named file.

Input Parameters

CURRENT_HIGH_KEY
Optional Parameter

The 16-character string that specifies the current high key.

FCTE_POINTER
Optional Parameter

A pointer to the file control table entry (FCTE).

FILE_NAME
Optional Parameter

The 8-character name of the file.

LOADER_ID
Optional Parameter

The fullword binary field that specifies the ID of the loader.

OPEN_OPTIONS
Optional Parameter

Values for the parameter are:
```
OPEN_BASE
OPEN_FOR_BACKOUT
```

Output Parameters

FCN_RETURN_CODE
The FCN return code.

R15_RETURN_CODE
The R15 return code.

VSAM_RETURN_CODE
The VSAM return code.

REASON
The following values are returned when RESPONSE is EXCEPTION:
```
FILE_NOT_FOUND
FILE_DISABLING
OPEN_ERROR
CFDT_OPEN_ERROR
CFDT_NO_DSNAME
CFDT_NOT_KSDS
CFDT_NO_READ_SERVREQS
CFDT_OPEN_MISMATCH
CFDT_SERVER_ERROR
CFDT_SERVER_NOT_AVAILABLE
CFDT_CONNECT_ERROR
CFDT_SERVER_NOT_FOUND
CFDT_SYSIDERR
EXIT_SUPPRESSED_REQUEST
SYSTEM_ID_ERROR
DT_INIT_FAILED
DT_CONNECT_FAILED
DATASET_UNAVAILABLE
DATASET_QUIESCING
DATASET_BEING_COPIED
DATASET_QUIESCED
DATASET_QUIESCED_LOST
RECOVERY_REQUIRED
RLS_NOT_SUPPORTED
COEXISTENCE_ERROR
NO_DSNAME
```

The following values are returned when RESPONSE is DISASTER:
```
CATALOG_WRITE_FAILED
LOADER_ACQUIRE_FAILED
LOADER_DEFINE_FAILED
DISPATCHER_WAIT_FAILED
SERIOUS_OPEN_CLOSE_ERROR
FCN_RETURNED_DISASTER
FCM_RETURNED_DISASTER
DISASTER_PERCOLATION
TM_UNLOCK_FAILED
DT_FAILED
DT_INVALID
ABEND
```

LOOP

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
INVALID
EXCEPTION
DISASTER
PURGED

FCIN gate, INITIALISE_FILE_CONTROL function

This function initializes file control and starts the file control restart task.

Input Parameters

None.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
DISASTER
INVALID

FCIN gate, WAIT_FOR_FILE_CONTROL function

Waits for the file control restart task to complete,

Input Parameters

None.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
DISASTER
INVALID

FCLJ gate, DATASET_COPY function

This function is called when DFSMSdss initiates a copy of an RLS data set using the VSAM RLS quiesce mechanism. A tie-up record is written to the log of logs if the data set is forward recoverable or if autojournalling has been specified in the file definition. If applicable, a record is also written to the forward recovery log.

Input Parameters

FCTE_ADDRESS
The address of the file control table entry for the file associated with a data set being copied.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `LG_RETURNED_ERROR`

  The following value is returned when RESPONSE is EXCEPTION:
  `JOURNAL_TOO_SMALL`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

  Values for the parameter are:
  `OK`
  `DISASTER`
  `EXCEPTION`
  `INVALID`
  `PURGED`

FCLJ gate, FILE_CLOSE function

This function is called when a file is closed and causes a file_close log record to be written to the forward recovery log, if the file or associated data set, is forward recoverable, or to the autojournal if autojournalling is specified for the file.

Input Parameters

FCTE_ADDRESS
: A pointer to the address of the file control table entry for the file being closed.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `LG_RETURNED_ERROR`

  The following value is returned when RESPONSE is EXCEPTION:
  `JOURNAL_TOO_SMALL`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

  Values for the parameter are:
  `OK`
  `DISASTER`
  `EXCEPTION`
  `INVALID`
  `PURGED`

FCLJ gate, FILE_OPEN function

This function is called when a file is opened and causes a tie-up record to be written to the forward recovery log, if the file or associated data set is forward recoverable, or to the autojournal if autojournalling is specified for the file.

Input Parameters

FCTE_ADDRESS
: A pointer to the address of the file control table entry for the file being opened.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LG_RETURNED_ERROR`

The following value is returned when RESPONSE is EXCEPTION:
`JOURNAL_TOO_SMALL`

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

Values for the parameter are:
`OK`
`DISASTER`
`EXCEPTION`
`INVALID`
`PURGED`

FCLJ gate, READ_ONLY function

This function causes a read_only log record to be written to an autojournal, if read-only autojournalling is specified on the file definition. The log record is built using the input parameters.

Input Parameters

BASE_ESDS_RBA
The relative byte address (RBA) of the record being read if the file is an extended entry-sequenced data set (ESDS).

FCTE_ADDRESS
The address of the file control table entry for the file being read.

KEY_ADDRESS
The address of the key of the record being read.

KEY_LENGTH
The key length of the record being read.

RECORD_ADDRESS
The address of the record being read.

RECORD_LENGTH
The length of the record being read.

SHUNTED
Indicates whether the unit of work has ever been shunted. Values for the parameter are:
`YES`
`NO`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LG_RETURNED_ERROR`
`RM_RETURNED_ERROR`

The following value is returned when RESPONSE is EXCEPTION:
`JOURNAL_TOO_SMALL`

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

Values for the parameter are:
`OK`
`DISASTER`
`EXCEPTION`
`INVALID`
`PURGED`

FCLJ gate, READ_UPDATE function

This function causes a read_update log record to be written to the system log if the file is recoverable and if the **DESTINATION** parameter specifies either LOG or BOTH. This function causes a read_update log record to be written to the autojournal if journaling of read updates is specified on the file definition and if the **DESTINATION** parameter specifies either JOURNAL or BOTH.

Input Parameters

BASE_ESDS_RBA
The relative byte address (RBA) of the record being read for update, if the file is an extended entry-sequenced data set (ESDS).

DESTINATION
Specifies whether the log record is to be written to the autojournal, the system log, or both. It is used to suppress writing records that are otherwise requested by the file definition. Values for the parameter are:
`JOURNAL`
`LOG`
`BOTH`

FCTE_ADDRESS
The address of the file control table entry for the file being read for update.

KEY_ADDRESS
The address of the key of the record being read for update.

KEY_LENGTH
The key length of the record being read for update.

RECORD_ADDRESS
The address of the record being read for update.

RECORD_LENGTH
The length of the record being read for update.

SHUNTED
Indicates whether the unit of work has ever been shunted. Values for the parameter are:
`YES`
`NO`

SYNCHRONIZE_LOG
Indicates whether the system log is to be synchronized when the log record is written. Values for the parameter are:
`YES`
`NO`

Output Parameters

LOG_TOKEN
Optional Parameter

This parameter is returned if SYNCHRONIZE(NO) was specified. It contains a token to be used when subsequently synchronizing the system log.

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LG_RETURNED_ERROR`

RM_RETURNED_ERROR

The following value is returned when RESPONSE is EXCEPTION:
JOURNAL_TOO_SMALL

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
DISASTER
EXCEPTION
INVALID
PURGED

FCLJ gate, SYNCHRONISE_READ_UPDATE function

This function causes any log records previously written to the system log for this file to be synchronized.

Input Parameters

FCTE_ADDRESS
The address of the file control table entry for the file being read for update.

LOG_TOKEN
The token returned on a previous call.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
RM_RETURNED_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
DISASTER
INVALID
PURGED

FCLJ gate, TAKE_KEYPOINT function

If BWO copy is supported by this CICS (indicated by a flag in file control static storage), this function performs a scan of the file control table and, unless it has been called within the last half hour, writes a tie-up record for each file open for update in non-RLS mode that is BWO-eligible and forward recoverable to the forward recovery log.

Input Parameters

None.

Output Parameters

KEYPOINT_TAKEN
Indicates whether the set of tie-up records was successfully written. Values for the parameter are:
YES

NO

REASON

The following values are returned when RESPONSE is DISASTER:

ABEND
LG_RETURNED_ERROR
TM_GETNEXT_FCTE_FAILED

The following value is returned when RESPONSE is EXCEPTION:

JOURNAL_TOO_SMALL

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

OK
DISASTER
EXCEPTION
INVALID
PURGED

FCLJ gate, WRITE_ADD function

This function causes a write_add log record to be written to the system log if the file is recoverable and if the **DESTINATION** parameter specifies BOTH. It causes a write_add log record to be written to the autojournal if journaling of write adds was specified on the file definition.

Input Parameters

BACKOUT

Indicates whether the call is made as part of transaction backout processing. Values for the parameter are:

YES
NO

BASE_ESDS_RBA

The relative byte address (RBA) of the record being added, if the file is an extended entry-sequenced data set (ESDS).

DESTINATION

Specifies whether the log record is to be written to the autojournal only, or to both the autojournal and the system log. It is used to suppress writing records that are otherwise requested by the file definition. Values for the parameter are:

JOURNAL
BOTH

FCTE_ADDRESS

The address of the file control table entry for the file being written to.

KEY_ADDRESS

The address of the key of the record being added.

KEY_LENGTH

The key length of the record being written to.

MASSINSERT

Indicates whether the record is being added as part of a mass insert. Values for the parameter are:

YES
NO

RECORD_ADDRESS

The address of the record being added.

RECORD_LENGTH

The length of the record being added.

SHUNTED
Indicates whether the unit of work has ever been shunted. Values for the parameter are:
`YES`
`NO`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LG_RETURNED_ERROR`
`RM_RETURNED_ERROR`

The following value is returned when RESPONSE is EXCEPTION:
`JOURNAL_TOO_SMALL`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`DISASTER`
`EXCEPTION`
`INVALID`
`PURGED`

FCLJ gate, WRITE_ADD_COMPLETE function

This function causes a write_add_complete log record to be written to the forward recovery log, if the file or associated data set is forward recoverable, and to the autojournal if write_add_complete journaling is specified on the file definition.

If the file is a recoverable ESDS accessed in non-RLS mode, this function causes a truncated write_add_complete log record to be written to the system log. If the **MASSINSERT** parameter is set to YES and the **MASSINSERT_STAGE** is set to LAST, only the system log record is written and not the forward recovery log or autojournal record.

Input Parameters

BACKOUT
Indicates whether the call is made as part of transaction backout processing. Values for the parameter are:
`YES`
`NO`

BASE_ESDS_RBA
The relative byte address (RBA) of the record that has been added, if the file is an extended entry-sequenced data set (ESDS).

FCTE_ADDRESS
The address of the file control table entry for the file that has been written to.

KEY_ADDRESS
The address of the key of the record that has been added.

KEY_LENGTH
The key length for the file that has been written to.

MASSINSERT
Indicates whether the record was added as part of a mass insert. Values for the parameter are:
`YES`

NO

MASSINSERT_STAGE
Optional Parameter

Indicates whether the record is the first or last record added during a mass insert sequence. Values for the parameter are:
FIRST
LAST

RECORD_ADDRESS
The address of the record that has been added.

RECORD_LENGTH
The length of the record that has been added.

SHUNTED
Indicates whether the unit of work has ever been shunted. Values for the parameter are:
YES
NO

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LG_RETURNED_ERROR
RM_RETURNED_ERROR

The following value is returned when RESPONSE is EXCEPTION:
JOURNAL_TOO_SMALL

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
DISASTER
EXCEPTION
INVALID
PURGED

FCLJ gate, WRITE_DELETE function

This function causes a write_delete log record to be written to the forward recovery log, if the file or associated data set is forward recoverable, and to the autojournal if journaling of write_deletes is specified on the file definition.

Input Parameters

BACKOUT
Indicates if the call is made as part of transaction backout processing. Values for the parameter are:
YES
NO

BASE_ESDS_RBA
The relative byte address (RBA) of the record being deleted, if the file is an extended entry-sequenced data set (ESDS).

BASE_KEY_ADDRESS
The address of the base key of the record being deleted, this key is used if the data set is being accessed from a path.

FCTE_ADDRESS
The address of the file control table entry for the file.

KEY_ADDRESS
The address of the key of the record being deleted.

KEY_LENGTH
The key length for the file.

SHUNTED
Indicates whether the unit of work has ever been shunted. Values for the parameter are:

YES
NO

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

ABEND
LG_RETURNED_ERROR
RM_RETURNED_ERROR

The following value is returned when RESPONSE is EXCEPTION:

JOURNAL_TOO_SMALL

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

OK
DISASTER
EXCEPTION
INVALID
PURGED

FCLJ gate, WRITE_UPDATE function

This function causes a write_update log record to be written to the forward recovery log, if the file or associated data set is forward recoverable, and to the autojournal if journaling of write updates is specified on the file definition. A write_update log record represents the completion of a file REWRITE request.

Input Parameters

BACKOUT
Indicates whether the call is made as part of transaction backout processing. Values for the parameter are:

YES
NO

BASE_ESDS_RBA
The relative byte address (RBA) of the record being rewritten, if the file is an extended entry-sequenced data set (ESDS).

FCTE_ADDRESS
The address of the file control table entry for the file being rewritten to.

KEY_ADDRESS
The address of the key of the record being rewritten.

KEY_LENGTH
The key length of the record being rewritten to.

RECORD_ADDRESS
The address of the record being rewritten.

RECORD_LENGTH
The length of the record being rewritten.

SHUNTED
Indicates whether the unit of work has ever been shunted. Values for the parameter are:
`YES`
`NO`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LG_RETURNED_ERROR`
`RM_RETURNED_ERROR`

The following value is returned when RESPONSE is EXCEPTION:
`JOURNAL_TOO_SMALL`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`DISASTER`
`EXCEPTION`
`INVALID`
`PURGED`

FCMT gate, ADD_FILE function

This function builds a new FCT entry for a VSAM file or data table.

Input Parameters

ADD
A binary parameter that indicates whether records can be added to the file.

Values for the parameter are:
`NO`
`YES`

BROWSE
A binary parameter that indicates whether records can be retrieved sequentially from the file.

Values for the parameter are:
`NO`
`YES`

CATALOG_FCTE
A binary parameter that indicates whether the file definition should be written to the catalog.

Values for the parameter are:
`NO`
`YES`

DELETE
A binary parameter that indicates whether records can be deleted from the file.

Values for the parameter are:
`NO`
`YES`

DSN_SHARING
Specifies whether VSAM data set name sharing is used for the VSAM file.

Values for the parameter are:
ALL_REQUESTS
MODIFY_REQUESTS

FILE_NAME
The name of the FILE resource.

FILE_TYPE
The location of the file.

Values for the parameter are:
LOCAL
REMOTE

IMAGE
Indicates whether backup images are to be fuzzy or sharp.

Values for the parameter are:
FUZZY
SHARP

JOURNAL_ID
The identifier of the journal used for automatic journaling records.

JOURNAL_READ_ONLY
A binary parameter that indicates whether READ ONLY operations, and not READ UPDATE operations, are to be written to the journal.

Values for the parameter are:
NO
YES

JOURNAL_READ_SYNC
A binary parameter that indicates whether the automatic journaling records that are written for READ operations are to be written synchronously.

Values for the parameter are:
NO
YES

JOURNAL_READ_UPDATE
A binary parameter that indicates whether READ UPDATE operations, and not READ ONLY operations, are to be written to the journal.

Values for the parameter are:
NO
YES

JOURNAL_WRITE_NEW_AFTER
A binary parameter that indicates whether new records are to be written to the journal before they are written to the VSAM file.

Values for the parameter are:
NO
YES

JOURNAL_WRITE_NEW_BEFORE
A binary parameter that indicates whether new records are to be written to the journal after they are written to the VSAM file.

Values for the parameter are:
NO
YES

JOURNAL_WRITE_SYNC
A binary parameter that indicates whether the automatic journaling records that are written for WRITE operations are to be written synchronously.

Values for the parameter are:
NO

YES

JOURNAL_WRITE_UPDATE
A binary parameter that indicates whether the automatic journaling records that are written for REWRITE and DELETE operations are to be written synchronously.

Values for the parameter are:
`NO`
`YES`

LSR_POOL_ID
The identity of the local shared resource (LSR) pool.

OPEN_TIME
Specifies whether the file is opened immediately after CICS initialization, or on first reference.

Values for the parameter are:
`ASAP`
`FIRST_REFERENCE`

READ
A binary parameter that indicates whether records on this file can be read.

Values for the parameter are:
`NO`
`YES`

READ_INTEGRITY
Specifies the level of read integrity required for RLS files.

Values for the parameter are:
`CR`
`NRI`
`RR`

RECORD_FORMAT
The format (fixed- or variable-length) of records on the file.

Values for the parameter are:
`FIXED`
`VARIABLE`

RECOVERY
The type of recovery required for the file.

Values for the parameter are:
`ALL`
`BACKOUT_ONLY`
`NONE`

RLS
A binary parameter that indicates whether CICS is to open the file in RLS mode.

Values for the parameter are:
`NO`
`YES`

STRING_NUMBER
The number of concurrent requests that can be processed against the file.

UPDATE
A binary parameter that indicates whether records on this file can be updated.

Values for the parameter are:
`NO`
`YES`

BASE_NAME
Optional Parameter

The name of the VSAM base cluster.

CF_LOAD
Optional Parameter

A binary parameter that indicates whether a coupling facility data table load is required.

Values for the parameter are:
`NO`
`YES`

CF_POOL
Optional Parameter

The name of the coupling facility data table pool containing the table defined by this file definition.

CF_UPDATE_MODEL
Optional Parameter

The type of update model to be used for a coupling facility data table.

Values for the parameter are:
`CONTENTION`
`LOCKING`

DATA_BUFFERS
Optional Parameter

The number of buffers to be used for data.

DISPOSITION
Optional Parameter

The disposition of this file.

Values for the parameter are:
`OLD`
`SHARE`

DT_NAME
Optional Parameter

The name of the coupling facility data table that is accessed through this file definition.

ENABLE_STATUS
Optional Parameter

Indicates that the initial state of the file is unenabled.

Values for the parameter are:
`UNENABLED`

FORWARD_RECOVERY_LOG
Optional Parameter

The journal that corresponds to the MVS system logger log stream that is to be used for forward recovery.

INDEX_BUFFERS
Optional Parameter

The number of buffers to be used for the index.

KEY_LENGTH
Optional Parameter

The length in bytes of the logical key of records in remote files, and in coupling facility data tables that are not loaded when they are first loaded.

OBJECT_NAME
Optional Parameter

When the file is associated with a data set that is a VSAM base, the name of the base data set.

RECORD_SIZE
Optional Parameter

The maximum length in bytes of records in a remote file or a coupling facility data table.

REMOTE_NAME
Optional Parameter

The name by which the file is known in the remote region.

REMOTE_SYSTEM
Optional Parameter

The name of the remote system where the file is located.

TABLE_SIZE
Optional Parameter

The maximum number of records (entries) to be accommodated in the data table.

TABLE_TYPE
Optional Parameter

The type of data table.

Values for the parameter are:

```
CFDT
CICS
NOT_TABLE
USER
```

VSAM_PASSWORD
Optional Parameter

The VSAM password for the file.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

```
CATALOG_WRITE_FAILED
CONNECT_DSNB_FAILED
GETMAIN_FAILED
TM_ADD_FAILED
TM_LOCATE_FAILED
TM_UNLOCK_FAILED
```

The following values are returned when RESPONSE is EXCEPTION:

```
DUPLICATE_FILE_NAME
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_PARAMETERS
```

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

FCMT gate, COMMIT_FILES function

This function is used during cold start of CICS to catalog all FCT entries in one go using sequential writes to the catalog. This will reduce the number of I/Os incurred writing to the catalog and so improve file control cold start performance.

Input Parameters

TOKEN
A token that identifies the catalog.

TOKEN
A token that identifies the catalog.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`TM_GET_NEXT_FAILED`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FCMT gate, DELETE_FILE function

Delete a file or data table.

Input Parameters

FILE_NAME
The name of the FILE resource.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`CATALOG_DELETE_FAILED`
`DISCONNECT_DSNB_FAILED`
`FREEMAIN_FAILED`
`TM_DELETE_FAILED`
`TM_QUIESCE_FAILED`

The following values are returned when RESPONSE is EXCEPTION:
`DO_NOT_REALLOCATE`
`FCT_ENTRY_IN_USE`
`FILE_ENABLED`
`FILE_NAME_NOT_FOUND`
`FILE_OPEN`

The following values are returned when RESPONSE is INVALID:
`INVALID_PARAMETERS`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FCMT gate, END_BROWSE_FILE function

End a browse operation on the set of installed FILE definitions.

Input Parameters

BROWSE_TOKEN
See "The **BROWSE_TOKEN** parameter on domain interfaces" on page 9

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `FREEMAIN_FAILED`
  `TM_UNLOCK_FAILED`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_BROWSE_TOKEN`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FCMT gate, GET_NEXT_FILE function

In a browse operation on the set of installed FILE definitions, return information about the next file.

Input Parameters

BROWSE_TOKEN
: See "The **BROWSE_TOKEN** parameter on domain interfaces" on page 9

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `TM_GET_NEXT_FAILED`

  The following values are returned when RESPONSE is EXCEPTION:
  `END_OF_LIST`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_BROWSE_TOKEN`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACCESS_METHOD
: Optional Parameter

  The access method used for the file.

  Values for the parameter are:
  `BDAM`
  `VSAM`

ACTIVE_STRINGS
: Optional Parameter

  The current number of concurrent requests against the file.

ADD
: A binary parameter that indicates whether records can be added to the file.

  Values for the parameter are:
  `NO`
  `YES`

BASE_NAME
: Optional Parameter

  The name of the VSAM base cluster.

BASE_OBJECT_NAME
: Optional Parameter

  When the file is associated with a data set that is a VSAM base, the name of the base data set.

BLOCK_FORMAT
Optional Parameter

Indicates whether records on the file are blocked or unblocked.

Values for the parameter are:
`BLOCKED`
`UNBLOCKED`

BLOCK_KEY_LENGTH
Optional Parameter

The physical block key length for the file.

BLOCK_SIZE
Optional Parameter

The length in bytes of a block. If the blocks are of variable length or are undefined, the value returned is the maximum.

BROWSE
A binary parameter that indicates whether records can be retrieved sequentially from the file.

Values for the parameter are:
`NO`
`YES`

CF_LOAD
Optional Parameter

A binary parameter that indicates whether a coupling facility data table load is required.

Values for the parameter are:
`NO`
`YES`

CF_POOL
Optional Parameter

The name of the coupling facility data table pool containing the table defined by this file definition.

CF_UPDATE_MODEL
Optional Parameter

The type of update model to be used for a coupling facility data table.

Values for the parameter are:
`CONTENTION`
`LOCKING`

DATA_BUFFERS
Optional Parameter

The number of buffers to be used for data.

DELETE
A binary parameter that indicates whether records can be deleted from the file.

Values for the parameter are:
`NO`
`YES`

DISPOSITION
Optional Parameter

The disposition of this file.

Values for the parameter are:
`OLD`

`SHARE`

`DSN_SHARING`
Specifies whether VSAM data set name sharing is used for the VSAM file.

Values for the parameter are:
`ALL_REQUESTS`
`MODIFY_REQUESTS`

`DT_NAME`
Optional Parameter

The name of the coupling facility data table that is accessed through this file definition.

`EMPTY_STATUS`
Optional Parameter

Indicates whether the object associated with this file is to be set to empty when the file is opened.

Values for the parameter are:
`EMPTY_REQUESTED`
`NO_EMPTY_REQUESTED`

`ENABLE_STATUS`
Optional Parameter

Indicates that the initial state of the file is unenabled.

Values for the parameter are:
`UNENABLED`

`EXCLUSIVE_CONTROL`
Optional Parameter

A binary value that indicates whether records on this file are to be placed under exclusive control when a read for update is issued.

Values for the parameter are:
`NO`
`YES`

`FILE_NAME`
The name of the FILE resource.

`FILE_TYPE`
The location of the file.

Values for the parameter are:
`LOCAL`
`REMOTE`

`FORWARD_RECOVERY_LOG`
Optional Parameter

The journal that corresponds to the MVS system logger log stream that is to be used for forward recovery.

`INDEX_BUFFERS`
Optional Parameter

The number of buffers to be used for the index.

`JOURNAL_ID`
The identifier of the journal used for automatic journaling records.

`JOURNAL_READ_ONLY`
A binary parameter that indicates whether READ ONLY operations, and not READ UPDATE operations, are to be written to the journal.

Values for the parameter are:
`NO`

YES

JOURNAL_READ_SYNC
A binary parameter that indicates whether the automatic journaling records that are written for READ operations are to be written synchronously.

Values for the parameter are:
NO
YES

JOURNAL_READ_UPDATE
A binary parameter that indicates whether READ UPDATE operations, and not READ ONLY operations, are to be written to the journal.

Values for the parameter are:
NO
YES

JOURNAL_WRITE_NEW_AFTER
A binary parameter that indicates whether new records are to be written to the journal before they are written to the VSAM file.

Values for the parameter are:
NO
YES

JOURNAL_WRITE_NEW_BEFORE
A binary parameter that indicates whether new records are to be written to the journal after they are written to the VSAM file.

Values for the parameter are:
NO
YES

JOURNAL_WRITE_SYNC
A binary parameter that indicates whether the automatic journaling records that are written for WRITE operations are to be written synchronously.

Values for the parameter are:
NO
YES

JOURNAL_WRITE_UPDATE
A binary parameter that indicates whether the automatic journaling records that are written for REWRITE and DELETE operations are to be written synchronously.

Values for the parameter are:
NO
YES

KEY_LENGTH
Optional Parameter

The length in bytes of the logical key of records in remote files, and in coupling facility data tables that are not loaded when they are first loaded.

KEY_POSITION
Optional Parameter

The starting position of the key field in each record relative to the beginning of the record.

LSR_POOL_ID
The identity of the local shared resource (LSR) pool.

OBJECT
Optional Parameter

Indicates whether the file is associated with a data set (a VSAM KSDS, ESDS, or RRDS, or an alternate index used directly) or a VSAM path that links an alternate index to its base cluster.

Values for the parameter are:
`BASE`
`PATH`

`OBJECT_NAME`
Optional Parameter

When the file is associated with a data set that is a VSAM base, the name of the base data set.

`OPEN_STATUS`
Optional Parameter

Indicates whether the file is open, closed, or in a transitional state.

Values for the parameter are:
`CLOSED`
`CLOSING`
`OPEN`
`OPENING`

`READ`
A binary parameter that indicates whether records on this file can be read.

Values for the parameter are:
`NO`
`YES`

`READ_INTEGRITY`
Specifies the level of read integrity required for RLS files.

Values for the parameter are:
`CR`
`NRI`
`RR`

`RECORD_FORMAT`
The format (fixed- or variable-length) of records on the file.

Values for the parameter are:
`FIXED`
`VARIABLE`

`RECORD_SIZE`
Optional Parameter

The maximum length in bytes of records in a remote file or a coupling facility data table.

`RECOVERY`
The type of recovery required for the file.

Values for the parameter are:
`ALL`
`BACKOUT_ONLY`
`NONE`

`RELATIVE_ADDR`
Optional Parameter

Indicating whether relative or absolute addressing is used to access the file and the type of relative addressing.

Values for the parameter are:
`BLOCK`

`DECIMAL`
`HEX`
`NONE`

REUSE
Optional Parameter

This parameter is no longer used.

Values for the parameter are:
`NO`
`YES`

RLS
A binary parameter that indicates whether CICS is to open the file in RLS mode.

Values for the parameter are:
`NO`
`YES`

STRING_NUMBER
The number of concurrent requests that can be processed against the file.

TABLE_SIZE
Optional Parameter

The maximum number of records (entries) to be accommodated in the data table.

TABLE_TYPE
Optional Parameter

The type of data table.

Values for the parameter are:
`CFDT`
`CICS`
`NOT_TABLE`
`USER`

TYPE
Optional Parameter

The type of data set that corresponds to the file

Values for the parameter are:
`ESDS`
`KEYED`
`KSDS`
`NOT_KEYED`
`RRDS`
`VRRDS`

UPDATE
A binary parameter that indicates whether records on this file can be updated.

Values for the parameter are:
`NO`
`YES`

USING_LSR
Optional Parameter

A binary value that indicates if the file is using a local shared resource (LSR) pool.

Values for the parameter are:
`NO`

YES

VSAM_PASSWORD
Optional Parameter

The VSAM password for the file.

FCMT gate, INQUIRE_FILE function

Return information about the current state of a FILE resource.

Input Parameters

FILE_NAME
The name of the FILE resource.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
TM_LOCATE_FAILED
TM_UNLOCK_FAILED

The following values are returned when RESPONSE is EXCEPTION:
FILE_NAME_NOT_FOUND

The following values are returned when RESPONSE is INVALID:
INVALID_PARAMETERS

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACCESS_METHOD
Optional Parameter

The access method used for the file.

Values for the parameter are:
BDAM
VSAM

ACTIVE_STRINGS
Optional Parameter

The current number of concurrent requests against the file.

ADD
A binary parameter that indicates whether records can be added to the file.

Values for the parameter are:
NO
YES

BASE_NAME
Optional Parameter

The name of the VSAM base cluster.

BASE_OBJECT_NAME
Optional Parameter

When the file is associated with a data set that is a VSAM base, the name of the base data set.

BLOCK_FORMAT
Optional Parameter

Indicates whether records on the file are blocked or unblocked.

Values for the parameter are:
BLOCKED

`UNBLOCKED`

BLOCK_KEY_LENGTH
Optional Parameter

The physical block key length for the file.

BLOCK_SIZE
Optional Parameter

The length in bytes of a block. If the blocks are of variable length or are undefined, the value returned is the maximum.

BROWSE
A binary parameter that indicates whether records can be retrieved sequentially from the file.

Values for the parameter are:
`NO`
`YES`

CF_LOAD
Optional Parameter

A binary parameter that indicates whether a coupling facility data table load is required.

Values for the parameter are:
`NO`
`YES`

CF_POOL
Optional Parameter

The name of the coupling facility data table pool containing the table defined by this file definition.

CF_UPDATE_MODEL
Optional Parameter

The type of update model to be used for a coupling facility data table.

Values for the parameter are:
`CONTENTION`
`LOCKING`

DATA_BUFFERS
Optional Parameter

The number of buffers to be used for data.

DELETE
A binary parameter that indicates whether records can be deleted from the file.

Values for the parameter are:
`NO`
`YES`

DISPOSITION
Optional Parameter

The disposition of this file.

Values for the parameter are:
`OLD`
`SHARE`

DSN_SHARING
Specifies whether VSAM data set name sharing is used for the VSAM file.

Values for the parameter are:
`ALL_REQUESTS`

MODIFY_REQUESTS

DT_NAME
Optional Parameter

The name of the coupling facility data table that is accessed through this file definition.

EMPTY_STATUS
Optional Parameter

Indicates whether the object associated with this file is to be set to empty when the file is opened.

Values for the parameter are:
EMPTY_REQUESTED
NO_EMPTY_REQUESTED

ENABLE_STATUS
Optional Parameter

Indicates that the initial state of the file is unenabled.

Values for the parameter are:
UNENABLED

EXCLUSIVE_CONTROL
Optional Parameter

A binary value that indicates whether records on this file are to be placed under exclusive control when a read for update is issued.

Values for the parameter are:
NO
YES

FILE_NAME
The name of the FILE resource.

FILE_TYPE
The location of the file.

Values for the parameter are:
LOCAL
REMOTE

FORWARD_RECOVERY_LOG
Optional Parameter

The journal that corresponds to the MVS system logger log stream that is to be used for forward recovery.

INDEX_BUFFERS
Optional Parameter

The number of buffers to be used for the index.

JOURNAL_ID
The identifier of the journal used for automatic journaling records.

JOURNAL_READ_ONLY
A binary parameter that indicates whether READ ONLY operations, and not READ UPDATE operations, are to be written to the journal.

Values for the parameter are:
NO
YES

JOURNAL_READ_SYNC
A binary parameter that indicates whether the automatic journaling records that are written for READ operations are to be written synchronously.

Values for the parameter are:

`NO`
`YES`

JOURNAL_READ_UPDATE
A binary parameter that indicates whether READ UPDATE operations, and not READ ONLY operations, are to be written to the journal.

Values for the parameter are:
`NO`
`YES`

JOURNAL_WRITE_NEW_AFTER
A binary parameter that indicates whether new records are to be written to the journal before they are written to the VSAM file.

Values for the parameter are:
`NO`
`YES`

JOURNAL_WRITE_NEW_BEFORE
A binary parameter that indicates whether new records are to be written to the journal after they are written to the VSAM file.

Values for the parameter are:
`NO`
`YES`

JOURNAL_WRITE_SYNC
A binary parameter that indicates whether the automatic journaling records that are written for WRITE operations are to be written synchronously.

Values for the parameter are:
`NO`
`YES`

JOURNAL_WRITE_UPDATE
A binary parameter that indicates whether the automatic journaling records that are written for REWRITE and DELETE operations are to be written synchronously.

Values for the parameter are:
`NO`
`YES`

KEY_LENGTH
Optional Parameter

The length in bytes of the logical key of records in remote files, and in coupling facility data tables that are not loaded when they are first loaded.

KEY_POSITION
Optional Parameter

The starting position of the key field in each record relative to the beginning of the record.

LSR_POOL_ID
The identity of the local shared resource (LSR) pool.

OBJECT
Optional Parameter

Indicates whether the file is associated with a data set (a VSAM KSDS, ESDS, or RRDS, or an alternate index used directly) or a VSAM path that links an alternate index to its base cluster.

Values for the parameter are:
`BASE`
`PATH`

OBJECT_NAME
Optional Parameter

When the file is associated with a data set that is a VSAM base, the name of the base data set.

OPEN_STATUS
Optional Parameter

Indicates whether the file is open, closed, or in a transitional state.

Values for the parameter are:
```
CLOSED
CLOSING
OPEN
OPENING
```

READ
A binary parameter that indicates whether records on this file can be read.

Values for the parameter are:
```
NO
YES
```

READ_INTEGRITY
Specifies the level of read integrity required for RLS files.

Values for the parameter are:
```
CR
NRI
RR
```

RECORD_FORMAT
The format (fixed- or variable-length) of records on the file.

Values for the parameter are:
```
FIXED
VARIABLE
```

RECORD_SIZE
Optional Parameter

The maximum length in bytes of records in a remote file or a coupling facility data table.

RECOVERY
The type of recovery required for the file.

Values for the parameter are:
```
ALL
BACKOUT_ONLY
NONE
```

RELATIVE_ADDR
Optional Parameter

Indicating whether relative or absolute addressing is used to access the file and the type of relative addressing.

Values for the parameter are:
```
BLOCK
DECIMAL
HEX
NONE
```

REMOTE_NAME
Optional Parameter

The name by which the file is known in the remote region.

REMOTE_SYSTEM
Optional Parameter

The name of the remote system where the file is located.

RLS
A binary parameter that indicates whether CICS is to open the file in RLS mode.

Values for the parameter are:
- NO
- YES

STRING_NUMBER
The number of concurrent requests that can be processed against the file.

TABLE_SIZE
Optional Parameter

The maximum number of records (entries) to be accommodated in the data table.

TABLE_TYPE
Optional Parameter

The type of data table.

Values for the parameter are:
- CFDT
- CICS
- NOT_TABLE
- USER

TYPE
Optional Parameter

The type of data set that corresponds to the file

Values for the parameter are:
- ESDS
- KEYED
- KSDS
- NOT_KEYED
- RRDS
- VRRDS

UPDATE
A binary parameter that indicates whether records on this file can be updated.

Values for the parameter are:
- NO
- YES

USING_LSR
Optional Parameter

A binary value that indicates if the file is using a local shared resource (LSR) pool.

Values for the parameter are:
- NO
- YES

VSAM_PASSWORD
Optional Parameter

The VSAM password for the file.

FCMT gate, START_BROWSE_FILE function

STart a browse operation on installed FILE definitions.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`GETMAIN_FAILED`

BROWSE_TOKEN
See "The **BROWSE_TOKEN** parameter on domain interfaces" on page 9

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FCMT gate, UPDATE_FILE function

Update the attributes of an installed FILE definition.

Input Parameters

FILE_NAME
The name of the FILE resource.

ADD
A binary parameter that indicates whether records can be added to the file.

Values for the parameter are:
`NO`
`YES`

BASE_NAME
Optional Parameter

The name of the VSAM base cluster.

BROWSE
A binary parameter that indicates whether records can be retrieved sequentially from the file.

Values for the parameter are:
`NO`
`YES`

CF_LOAD
Optional Parameter

A binary parameter that indicates whether a coupling facility data table load is required.

Values for the parameter are:
`NO`
`YES`

CF_POOL
Optional Parameter

The name of the coupling facility data table pool containing the table defined by this file definition.

CF_UPDATE_MODEL
Optional Parameter

The type of update model to be used for a coupling facility data table.

Values for the parameter are:
`CONTENTION`
`LOCKING`

DATA_BUFFERS
Optional Parameter

The number of buffers to be used for data.

DELETE
A binary parameter that indicates whether records can be deleted from the file.

Values for the parameter are:
`NO`
`YES`

DISPOSITION
Optional Parameter

The disposition of this file.

Values for the parameter are:
`OLD`
`SHARE`

DSN_SHARING
Specifies whether VSAM data set name sharing is used for the VSAM file.

Values for the parameter are:
`ALL_REQUESTS`
`MODIFY_REQUESTS`

DT_NAME
Optional Parameter

The name of the coupling facility data table that is accessed through this file definition.

FORWARD_RECOVERY_LOG
Optional Parameter

The journal that corresponds to the MVS system logger log stream that is to be used for forward recovery.

EMPTY_STATUS
Optional Parameter

Indicates whether the object associated with this file is to be set to empty when the file is opened.

Values for the parameter are:
`EMPTY_REQUESTED`
`NO_EMPTY_REQUESTED`

ENABLE_STATUS
Optional Parameter

Indicates that the initial state of the file is unenabled.

Values for the parameter are:
`UNENABLED`

EXCLUSIVE_CONTROL
Optional Parameter

A binary value that indicates whether records on this file are to be placed under exclusive control when a read for update is issued.

Values for the parameter are:
`NO`
`YES`

FILE_TYPE
The location of the file.

Values for the parameter are:

LOCAL
REMOTE

FORWARD_RECOVERY_LOG
Optional Parameter

The journal that corresponds to the MVS system logger log stream that is to be used for forward recovery.

INDEX_BUFFERS
Optional Parameter

The number of buffers to be used for the index.

JOURNAL_ID
The identifier of the journal used for automatic journaling records.

JOURNAL_READ_ONLY
A binary parameter that indicates whether READ ONLY operations, and not READ UPDATE operations, are to be written to the journal.

Values for the parameter are:
NO
YES

JOURNAL_READ_SYNC
A binary parameter that indicates whether the automatic journaling records that are written for READ operations are to be written synchronously.

Values for the parameter are:
NO
YES

JOURNAL_READ_UPDATE
A binary parameter that indicates whether READ UPDATE operations, and not READ ONLY operations, are to be written to the journal.

Values for the parameter are:
NO
YES

JOURNAL_WRITE_NEW_AFTER
A binary parameter that indicates whether new records are to be written to the journal before they are written to the VSAM file.

Values for the parameter are:
NO
YES

JOURNAL_WRITE_NEW_BEFORE
A binary parameter that indicates whether new records are to be written to the journal after they are written to the VSAM file.

Values for the parameter are:
NO
YES

JOURNAL_WRITE_SYNC
A binary parameter that indicates whether the automatic journaling records that are written for WRITE operations are to be written synchronously.

Values for the parameter are:
NO
YES

JOURNAL_WRITE_UPDATE
A binary parameter that indicates whether the automatic journaling records that are written for REWRITE and DELETE operations are to be written synchronously.

Values for the parameter are:
`NO`
`YES`

`KEY_LENGTH`
Optional Parameter

The length in bytes of the logical key of records in remote files, and in coupling facility data tables that are not loaded when they are first loaded.

`LSR_POOL_ID`
The identity of the local shared resource (LSR) pool.

`OBJECT_NAME`
Optional Parameter

When the file is associated with a data set that is a VSAM base, the name of the base data set.

`OPEN_TIME`
Specifies whether the file is opened immediately after CICS initialization, or on first reference.

Values for the parameter are:
`ASAP`
`FIRST_REFERENCE`

`READ`
A binary parameter that indicates whether records on this file can be read.

Values for the parameter are:
`NO`
`YES`

`READ_INTEGRITY`
Specifies the level of read integrity required for RLS files.

Values for the parameter are:
`CR`
`NRI`
`RR`

`RECORD_FORMAT`
The format (fixed- or variable-length) of records on the file.

Values for the parameter are:
`FIXED`
`VARIABLE`

`RECORD_SIZE`
Optional Parameter

The maximum length in bytes of records in a remote file or a coupling facility data table.

`RECOVERY`
The type of recovery required for the file.

Values for the parameter are:
`ALL`
`BACKOUT_ONLY`
`NONE`

`RLS`
A binary parameter that indicates whether CICS is to open the file in RLS mode.

Values for the parameter are:
`NO`
`YES`

STRING_NUMBER
The number of concurrent requests that can be processed against the file.

TABLE_SIZE
Optional Parameter

The maximum number of records (entries) to be accommodated in the data table.

TABLE_TYPE
Optional Parameter

The type of data table.

Values for the parameter are:
`CFDT`
`CICS`
`NOT_TABLE`
`USER`

UPDATE
A binary parameter that indicates whether records on this file can be updated.

Values for the parameter are:
`NO`
`YES`

VSAM_PASSWORD
Optional Parameter

The VSAM password for the file.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`CATALOG_WRITE_FAILED`
`CONNECT_DSNB_FAILED`
`TM_LOCATE_FAILED`
`TM_UNLOCK_FAILED`

The following values are returned when RESPONSE is EXCEPTION:
`DO_NOT_REALLOCATE`
`FILE_ENABLED`
`FILE_NAME_NOT_FOUND`
`FILE_OPEN`

The following values are returned when RESPONSE is INVALID:
`INVALID_PARAMETERS`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FCQI gate, COMPLETE_QUIESCE function

This function issues the IDAQUIES QUICMP macro to SMSVSAM.

When CICS has completed processing a VSAM QUICLOSE (quiesce), QIOCOPY (non-BWO backup), or QUIBWO (BWO backup) request, SMSVSAM must be notified with an IDAQUIES QUICMP .

Input Parameters

DSNAME
The 44-character name of the base data set that has had quiesce processing completed by CICS.

QUIESCE_TOKEN
The token that was supplied by SMSVSAM when it drove the quiesce exit for the original quiesce request. This token must be returned on the IDAQUIES QUICMP.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`IOERR`
`SERVER_FAILURE`

The following values are returned when RESPONSE is DISASTER:
`ABEND`
`DISASTER_PERCOLATION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

FCQI gate, INITIATE_QUIESCE function

This function takes a quiesce request and creates a file control quiesce send element (FCQSE) to describe the request.

Input Parameters

BUSY
Indicates whether DFHFCQI is to wait for the quiesce to complete, or is to return immediately to the caller. Values for the parameter are:
`WAIT`
`NOWAIT`

DSNAME
The 44-character name of the base data set to be quiesced.

SOURCE
Indicates whether the source of the quiesce request was CICS or a user. Values for the parameter are:
`CICS`
`USER`

QUIESCE_TYPE
The type of quiesce being initiated. Values for the parameter are:
`QUIESCE`
`IMMQUIESCE`
`UNQUIESCE`
`NONBWO_CANCEL`
`BWO_CANCEL`
`QUIESCE_CANCEL`

Output Parameters

REASON
The following value is returned when RESPONSE is INVALID:
`INVALID_QUIESCE_TYPE`

The following values are returned when RESPONSE is EXCEPTION:
`NOT_SUPPORTED`
`UNKNOWN_VSAM_DATASET`
`QUIESCE_NOT_POSSIBLE`
`UNQUIESCE_NOT_POSSIBLE`
`CANCELLED`
`TIMED_OUT`
`IOERR`
`SERVER_FAILURE`
`DATASET_MIGRATED`

The following values are returned when RESPONSE is DISASTER:
`ABEND`
`CATALOG_ERROR`
`DISASTER_PERCOLATION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

FCQI gate, INQUIRE_QUIESCE function

This function returns the quiesce state of a data set as QUIESCED, UNQUIESCED, or QUIESCING.

Input Parameters

DSNAME
The 44-character name of the base data set on which the quiesce state information is being inquired.

Output Parameters

QUIESCESTATE
Indicates the quiesce state of the data set. Values for the parameter are:
`QUIESCED`
`UNQUIESCED`
`QUIESCING`

REASON
The following values are returned when RESPONSE is EXCEPTION:
`NOT_SUPPORTED`
`UNKNOWN_VSAM_DATASET`
`IOERR`

The following values are returned when RESPONSE is DISASTER:
`ABEND`
`CATALOG_ERROR`
`DISASTER_PERCOLATION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

FCQR gate, RECEIVE_QUIESCES function

This function receives quiesce requests and calls the PROCESS_QUIESCE function.

This function consists of a forever loop around a dispatcher wait on an event control block (ECB). It receives work from the CICS RLS quiesce exit DFHFCQX whenever SMSVSAM requires CICS to perform processing for a quiesce request. DFHFCQX queues the request to DFHFCQR by adding an FC Quiesce Receive Element (FCQRE) to a chain anchored in file control static storage and by posting the ECB associated with the chain, also in FC static.

The posting of the ECB initiates the CFQR transaction, which runs the code in DFHFCQR. The FCQREs on the chain are processed, and DFHFCQU is called with function PROCESS_QUIESCE to perform the work. The ECB might also be posted to inform DFHFCQR that CICS is stopping. When DFHFCQU has finished processing, DFHFCQR unchains and frees the FCQRE.

Input Parameters

None.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
PROCESS_QUIESCE_ERROR
DISASTER_PERCOLATION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

FCQS gate, SEND_QUIESCES function

This function sends a quiesce request to SMSVSAM.

This function consists of a forever loop around a dispatcher wait on a list of event control blocks (ECBs). Work is received from tasks that want to send a quiesce request to SMSVSAM. Such tasks call DFHFCQI with function INITIATE_QUIESCE, which queues the request to DFHFCQS by adding an FC Quiesce Send Element (FCQSE) to the chain anchored in file control static storage and by posting an ECB associated with the chain, also in FC static.

When the ECB is posted, it initiates the CFQS transaction, which runs the code in DFHFCQS. The FCQSEs on the chain are processed, and DFHFCCA is called with function QUIESCE_REQUEST to issue the appropriate type of IDAQUIES macro to SMSVSAM. This operation is asynchronous and SMSVSAM returns the address of an ECB that will be posted when the IDAQUIES completes. The addresses returned by SMSVSAM are saved in the FCQSE.

DFHFCQS then returns to its dispatcher wait for a list of ECBs, the ECB for the chain plus an ECB for each IDAQUIES request. It starts and processes the chain whenever one of these ECBs is posted. The wait also specifies a timeout interval so that IDAQUIES requests that are in an endless loop can be detected. When DFHFCQS starts up, there might be new work on the chain, or a quiesce request has completed, or a quiesce request has timed out, or CICS is stopping. When a quiesce request has completed or timed out, DFHFCQS will resume the initiating task if it is waiting, after issuing appropriate messages and calling global user exit XFCQUIS if active.

Input Parameters

None.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`TIMEOUT_CANCEL_ERROR`
`DISASTER_PERCOLATION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

FCQU gate, PROCESS_QUIESCE function

This function is called when a quiesce request is received from VSAM RLS. The quiesce exit, DFHFCQX, queues requests to the CFQR system transaction, DFHFCQR, which calls DFHFCQU to process each one in turn. The PROCESS_QUIESCE function is also called to implement a non-RLS variant of QUIESCE called NON_RLS_CLOSE.

Input Parameters

QUIESCE_TYPE
The type of quiesce being requested. Values for the parameter are:
QUIESCE
Corresponds to an SMSVSAM QUICLOSE. All files open against the data set are closed, the file state of each file is set to unenabled with a flag that says reenable on QUIOPEN, and a QUICMP is issued for the QUICLOSE back to VSAM RLS to indicate that QUICLOSE processing is complete. The **IMMEDIATE** parameter governs how file closes are to be performed. If the **IMMEDIATE** parameter is set to `NO`, or omitted, files will be closed when all

UOWs using the data set have completed normally. If the **IMMEDIATE** parameter is set to YES, all such UOWs will be force purged to speed up file closure.

UNQUIESCE
Corresponds to an SMSVSAM QUIOPEN. All files associated with the data set are checked to see if their file state requires resetting back to enabled because it had been set unenabled by a QUICLOSE.

NONBWO_START
Corresponds to an SMSVSAM QUICOPY. CICS prepares for a non-BWO backup of the data set by preventing new units of work from updating the data set, allowing existing UOWs to finish updating the data set, and issuing a QUICMP for the QUICOPY back to SMSVSAM to indicate that QUICOPY processing is complete. The files involved are not closed.

NONBWO_END
Corresponds to an SMSVSAM QUICEND. All files associated with the data set are checked to see if their file state requires resetting to enabled because it had been set unenabled by an OPEN failure, and a set of 'tie up records' is written for the data set.

BWO_START
Corresponds to an SMSVSAM QUIBWO. CICS prepares for a BWO backup of the data set by writing a set of 'tie up records' allowing existing units of work to finish updating the data set and issuing a QUICMP for the QUIBWO back to SMSVSAM to indicate that QUIBWO processing is complete. The files involved are not closed, and updates are not prevented.

BWO_END
Corresponds to an SMSVSAM QUIBEND. The only processing involved is to stop an existing BWO quiesce if one is in progress.

LOCKS_RECOVERY_COMPLETE
Corresponds to an SMSVSAM QUILLRC. CICS is notified that lost locks recovery has been completed for the data set throughout the sysplex. DFHFCRR is called with the LOST_LOCKS_RECOVERED function to process the availability of the data set.

FORWARD_RECOVERY_COMPLETE
Corresponds to an SMSVSAM QUIFRC. CICS is notified that forward recovery has been completed for the data set. DFHFCRR is called with the RESOURCE_AVAILABLE function to process the availability of the data set.

CACHE_AVAILABLE
Corresponds to an SMSVSAM QUICA. CICS is notified that a previously failed cache structure is now available. DFHFCRR is called with the RESOURCE_AVAILABLE function to process the availability of the cache.

NON_RLS_CLOSE
Processes a non-RLS variant of type CLOSE called NON_RLS_CLOSE. All ACBs open against the specified non-RLS data set are closed. NON_RLS_CLOSE is used internally by CICS and does not run under the CFQR system transaction. Each quiesce request type is processed in a different way by DFHFCQU.

DSNAME|CACHE_NAME
Specifies either the 44-character name of the data set to which the quiesce request applies, or when the value of the **QUIESCE_TYPE** parameter is CACHE_AVAILABLE, the 16-character name of the cache structure that has become available.

IMMEDIATE
This parameter applies only when the value of the **QUIESCE_TYPE** parameter is QUIESCE or NON_RLS_CLOSE, and indicates whether units of work that have

updated the data set will be forced to complete immediately, or whether the request will wait for those units of work to complete naturally. Values for the parameter are:
    YES
    NO

CONCURRENT
    This parameter applies only when the value of the **QUIESCE_TYPE** parameter is NONBWO_START or BWO_START, This parameter indicates whether the concurrent copy technique is being used and has no effect on the processing. Values for the parameter are:
    YES
    NO

QUIESCE_TOKEN
    This token is supplied by SMSVSAM when certain quiesce requests are initiated and must be passed back when the quiesce complete is issued.

Output Parameters

REASON
    The following value is returned when RESPONSE is INVALID:
    INVALID_QUIESCE_TYPE

    The following value is returned when RESPONSE is EXCEPTION:
    DSNB_NOT_FOUND

    The following values are returned when RESPONSE is DISASTER:
    ABEND
    DISASTER_PERCOLATION
    DFHFCRR_ERROR
    DFHFCQI_ERROR
    DFHFCFS_ERROR
    DFHTM_FAILURE

RESPONSE
    Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

    Values for the parameter are:
    OK
    EXCEPTION
    DISASTER
    INVALID
    KERNERROR
    PURGED

FCRF gate, BROWSE function

Browse a file in a remote system.

Input Parameters

BROWSE_IDENTIFIER
    A token that identifies the browse operation.

READ_BUFFER
    The buffer that receives the file record data that is returned from the remote system.

RECORD_ID
    Optional Parameter

    The record identifier.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`DISASTER_PERCOLATION`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

BACKEND_ACCMETH_RETURN_CODE
The return code from the file access method in the remote system.

BACKEND_DUPLICATE_KEY
When the data set is being accessed in the remote system by way of an alternate index path that allows non-unique alternate keys, a binary value that indicates whether further records exist with the same alternate key.

Values for the parameter are:
`NO`
`YES`

BACKEND_LENGTH_ERR_CODE
A value that provides details of a length error that occurred when processing the request in the remote system.

Values for the parameter are:
`BUFFER_LEN_NOT_FILE_LEN`
`BUFFER_LEN_TOO_SMALL`
`LENGTH_OK`
`RECORD_LEN_NOT_FILE_LEN`
`RECORD_LEN_TOO_LARGE`

BACKEND_REASON
The reason code from the file control request in the remote system.

BACKEND_RESPONSE
The response code from the file control request in the remote system.

FULL_RECORD_ID_LENGTH
The length of the record key.

MAXIMUM_RECORD_LENGTH
The length of the longest record in the data set.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
`NO`
`YES`

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
`NO`
`YES`

UPDATE_TOKEN
Optional Parameter

A token that identifies an update request, and allows subsequent requests to refer to it.

FCRF gate, DELETE function

Delete a record from a file in a remote system.

Input Parameters

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

RECORD_ID
Optional Parameter

The record identifier.

UPDATE_TOKEN
Optional Parameter

A token that identifies an update request, and allows subsequent requests to refer to it.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`DISASTER_PERCOLATION`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

BACKEND_ACCMETH_RETURN_CODE
The return code from the file access method in the remote system.

BACKEND_DUPLICATE_KEY
When the data set is being accessed in the remote system by way of an alternate index path that allows non-unique alternate keys, a binary value that indicates whether further records exist with the same alternate key.

Values for the parameter are:
`NO`
`YES`

BACKEND_REASON
The reason code from the file control request in the remote system.

BACKEND_RESPONSE
The response code from the file control request in the remote system.

DELETED_RECORD_COUNT
The number of records deleted by the request.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
`NO`
`YES`

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
`NO`
`YES`

FCRF gate, END_BROWSE function

End a browse operation on a remote file.

Input Parameters

BROWSE_IDENTIFIER
A token that identifies the browse operation.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`DISASTER_PERCOLATION`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

BACKEND_ACCMETH_RETURN_CODE
The return code from the file access method in the remote system.

BACKEND_REASON
The reason code from the file control request in the remote system.

BACKEND_RESPONSE
The response code from the file control request in the remote system.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
`NO`
`YES`

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
`NO`

YES

FCRF gate, READ function

Read a remote file.

Input Parameters

READ_BUFFER
The buffer that receives the file record data that is returned from the remote system.

RECORD_ID
Optional Parameter

The record identifier.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
DISASTER_PERCOLATION

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

BACKEND_ACCMETH_RETURN_CODE
The return code from the file access method in the remote system.

BACKEND_DUPLICATE_KEY
When the data set is being accessed in the remote system by way of an alternate index path that allows non-unique alternate keys, a binary value that indicates whether further records exist with the same alternate key.

Values for the parameter are:
NO
YES

BACKEND_LENGTH_ERR_CODE
A value that provides details of a length error that occurred when processing the request in the remote system.

Values for the parameter are:
BUFFER_LEN_NOT_FILE_LEN
BUFFER_LEN_TOO_SMALL
LENGTH_OK
RECORD_LEN_NOT_FILE_LEN
RECORD_LEN_TOO_LARGE

BACKEND_REASON
The reason code from the file control request in the remote system.

BACKEND_RESPONSE
The response code from the file control request in the remote system.

MAXIMUM_RECORD_LENGTH
The length of the longest record in the data set.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
NO
YES

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
NO
YES

UPDATE_TOKEN
Optional Parameter

A token that identifies an update request, and allows subsequent requests to refer to it.

FCRF gate, REPLACE function

Replace a file record in a remote system.

Input Parameters

RECORD_ID
Optional Parameter

The record identifier.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

WRITE_RECORD
The record to be written in the remote system.

UPDATE_TOKEN
Optional Parameter

A token that identifies an update request, and allows subsequent requests to refer to it.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
DISASTER_PERCOLATION

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

BACKEND_ACCMETH_RETURN_CODE
The return code from the file access method in the remote system.

BACKEND_LENGTH_ERR_CODE
A value that provides details of a length error that occurred when processing the request in the remote system.

Values for the parameter are:
`BUFFER_LEN_NOT_FILE_LEN`
`BUFFER_LEN_TOO_SMALL`
`LENGTH_OK`
`RECORD_LEN_NOT_FILE_LEN`
`RECORD_LEN_TOO_LARGE`

BACKEND_REASON
The reason code from the file control request in the remote system.

BACKEND_RESPONSE
The response code from the file control request in the remote system.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
`NO`
`YES`

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
`NO`
`YES`

FCRF gate, REPLACE_DELETE function

Delete and replace a file control record in a remote system.

Input Parameters

RECORD_ID
Optional Parameter

The record identifier.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

UPDATE_TOKEN
Optional Parameter

A token that identifies an update request, and allows subsequent requests to refer to it.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`DISASTER_PERCOLATION`

The following values are returned when RESPONSE is INVALID:

`INVALID_FORMAT`
`INVALID_FUNCTION`

BACKEND_ACCMETH_RETURN_CODE
The return code from the file access method in the remote system.

BACKEND_DUPLICATE_KEY
When the data set is being accessed in the remote system by way of an alternate index path that allows non-unique alternate keys, a binary value that indicates whether further records exist with the same alternate key.

Values for the parameter are:

`NO`
`YES`

BACKEND_REASON
The reason code from the file control request in the remote system.

BACKEND_RESPONSE
The response code from the file control request in the remote system.

DELETED_RECORD_COUNT
The number of records deleted by the request.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:

`NO`
`YES`

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:

`NO`
`YES`

FCRF gate, RESET_BROWSE function

Reset the start of a browse operation on a remote file.

Input Parameters

BROWSE_IDENTIFIER
A token that identifies the browse operation.

RECORD_ID
Optional Parameter

The record identifier.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

ABEND
DISASTER_PERCOLATION

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

BACKEND_ACCMETH_RETURN_CODE
The return code from the file access method in the remote system.

BACKEND_REASON
The reason code from the file control request in the remote system.

BACKEND_RESPONSE
The response code from the file control request in the remote system.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
NO
YES

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
NO
YES

FCRF gate, REWRITE function

Rewrite a record in a remote file.

Input Parameters

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

WRITE_RECORD
The record to be written in the remote system.

UPDATE_TOKEN
Optional Parameter

A token that identifies an update request, and allows subsequent requests to refer to it.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
DISASTER_PERCOLATION

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

BACKEND_ACCMETH_RETURN_CODE
The return code from the file access method in the remote system.

BACKEND_LENGTH_ERR_CODE
A value that provides details of a length error that occurred when processing the request in the remote system.

Values for the parameter are:
```
BUFFER_LEN_NOT_FILE_LEN
BUFFER_LEN_TOO_SMALL
LENGTH_OK
RECORD_LEN_NOT_FILE_LEN
RECORD_LEN_TOO_LARGE
```
BACKEND_REASON
The reason code from the file control request in the remote system.

BACKEND_RESPONSE
The response code from the file control request in the remote system.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
```
NO
YES
```
TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
```
NO
YES
```

FCRF gate, START_BROWSE function

Start a browse operation on a remote file.

Input Parameters

BROWSE_IDENTIFIER
A token that identifies the browse operation.

RECORD_ID
Optional Parameter

The record identifier.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
```
ABEND
DISASTER_PERCOLATION
```
The following values are returned when RESPONSE is INVALID:

`INVALID_FORMAT`
`INVALID_FUNCTION`

`BACKEND_ACCMETH_RETURN_CODE`
The return code from the file access method in the remote system.

`BACKEND_REASON`
The reason code from the file control request in the remote system.

`BACKEND_RESPONSE`
The response code from the file control request in the remote system.

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

`TERMINATE_REQUEST`
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
`NO`
`YES`

`TERMINATE_STRING`
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
`NO`
`YES`

FCRF gate, UNLOCK function

Unlock a file record in a remote system.

Input Parameters

`REMOTE_FILE_NAME`
Optional Parameter

The file name in the remote system.

`REMOTE_SYSTEM`
Optional Parameter

The SYSID of the remote system.

`UPDATE_TOKEN`
Optional Parameter

A token that identifies an update request, and allows subsequent requests to refer to it.

Output Parameters

`REASON`
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`DISASTER_PERCOLATION`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

`BACKEND_ACCMETH_RETURN_CODE`
The return code from the file access method in the remote system.

`BACKEND_REASON`
The reason code from the file control request in the remote system.

`BACKEND_RESPONSE`
The response code from the file control request in the remote system.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
`NO`
`YES`

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
`NO`
`YES`

FCRF gate, WRITE function

Write a record in a remote file.

Input Parameters

RECORD_ID
Optional Parameter

The record identifier.

REMOTE_FILE_NAME
Optional Parameter

The file name in the remote system.

REMOTE_SYSTEM
Optional Parameter

The SYSID of the remote system.

WRITE_RECORD
The record to be written in the remote system.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`DISASTER_PERCOLATION`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

BACKEND_ACCMETH_RETURN_CODE
The return code from the file access method in the remote system.

BACKEND_LENGTH_ERR_CODE
A value that provides details of a length error that occurred when processing the request in the remote system.

Values for the parameter are:
`BUFFER_LEN_NOT_FILE_LEN`
`BUFFER_LEN_TOO_SMALL`
`LENGTH_OK`
`RECORD_LEN_NOT_FILE_LEN`
`RECORD_LEN_TOO_LARGE`

BACKEND_REASON
The reason code from the file control request in the remote system.

BACKEND_RESPONSE
The response code from the file control request in the remote system.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINATE_REQUEST
A binary value that indicates whether a remote file request should be terminated.

Values for the parameter are:
NO
YES

TERMINATE_STRING
A binary value that indicates whether the FRTE string should be terminated.

Values for the parameter are:
NO
YES

FCRL gate, COMMIT_POOLS function

This function catalogs all the shared resources control (SHRCTL) blocks in one operation and is used only during cold start initialization.

Input Parameters

TOKEN
An 8-character token.

Output Parameters

REASON
The following value is returned when RESPONSE is DISASTER:
CATALOG_WRITE_FAILED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
DISASTER
INVALID

FCRL gate, SET_POOL function

This function updates the attributes in the VSAM local shared resource (LSR) pool.

Input Parameters

POOL_ID
This binary field specifies the ID of the pool to be updated, in the range 1 - 8.

CATALOG_SHRCTL_BLOCK
This parameter indicates whether to catalog the shared resources control (SHRCTL) block. Values for the parameter are:

YES

NO

MAXIMUM_KEY_LENGTH
Optional Parameter

This binary field specifies the maximum length of the key, in the range 0 - 255.

SHARE_LIMIT
Optional Parameter

This binary field specifies the resource share limit, in the range 1 - 100.

STRING_NUMBER
Optional Parameter

This binary field specifies the number of concurrent requests that can be processed, in the range 0 -255.

BUFFERS_ARRAY
Optional Parameter

A pointer to a SHRCTL block containing buffer counts.

Output Parameters

REASON
The following value is returned when RESPONSE is DISASTER:
`CATALOG_WRITE_FAILED`

The following value is returned when RESPONSE is INVALID:
`INVALID_PARAMETERS`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`DISASTER`
`INVALID`

FCRP gate, RESTART_FILE_CONTROL function

This function restarts file control.

Input Parameters

None.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`CATALOG_READ_SHRCTL_FAILED`
`CATALOG_SHRCTL_NOT_FOUND`
`DCB_NOT_ON_CATALOG`
`DSNB_NOT_FOUND`
`DFP_LEVEL_INVALID`
`FCBP_RETURNED_DISASTER`
`FCT_LEVEL_INVALID`
`FCTE_NOT_FOUND`
`GATE_NOT_ADDED`
`IGWARLS_LOAD_FAILED`
`IGWARLS_NOT_FOUND`
`INQUIRE_SYSID_FAILED`
`LISTEN_FAILED`
`PGDD_FAILED`
`RCEX_LINK_FAILED`
`RLS_RESTART_FAILED`
`SET_GATE_FAILED`

TM_ADD_FCT_FAILED
TM_ADD_DSN_FAILED
TM_ADD_DSNA_FAILED
TM_CREATE_FCT_I_FAILED
TM_CREATE_DSN_I_FAILED
TM_CREATE_DSNA_I_FAILED
TM_LOCATE_DSNB_FAILED
XMAT_FAILED
XMXD_FAILED
IGGCSI00_LOAD_FAILED

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

FCRR gate, LOST_LOCKS_RECOVERED function

The LOST_LOCKS_RECOVERED function is called when lost locks recovery for a data set has been completed by all the CICS regions that were sharing it. This function causes the flag in the DSNB, which indicates that the data set is in lost locks state, to be cleared.

Input Parameters

RESOURCE_NAME

The 44-character field containing the name of the data set that has completed lost locks recovery.

Output Parameters

REASON

The following value is returned when RESPONSE is INVALID:
INVALID_FUNCTION

The following value is returned when RESPONSE is EXCEPTION:
SPHERE_UNKNOWN

The following values are returned when RESPONSE is DISASTER:
TM_LOCATE_FAILED
TM_UNLOCK_FAILED
ABEND
DISASTER_PERCOLATION

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

FCRR gate, RESOURCE_AVAILABLE function

This function causes the CICS recovery manager to be notified of the availability of the specified resource.

Input Parameters

RESOURCE_TYPE
The type of resource that has become available. Values for the parameter are:
`DSET`
`CACHE`
`OTHER`

When the **RESOURCE_TYPE** parameter is set to `DSET`, an RMRE AVAIL call is issued for the specified data set. When the **RESOURCE_TYPE** parameter is set to `CACHE`, an RMRE AVAIL call is issued for every data set that has outstanding work shunted, because of either a cache failure or a general file backout failure. When the **RESOURCE_TYPE** parameter is set to `OTHER`, an RMRE AVAIL call is issued for the specified resource.

RESOURCE_NAME
The 44-character field containing the name of the resource that has become available.

RESOURCE_NAME_LENGTH
A halfword binary field containing the length of the resource name.

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`
`INVALID_RESOURCE_TYPE`

The following values are returned when RESPONSE is DISASTER:
`ABEND`
`DISASTER_PERCOLATION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

FCRR gate, RESTART_RLS function

This function performs a restart of the record-level sharing (RLS) component of file control. The exact processing depends on the type of restart being performed: cold, initial, warm, emergency, or dynamic.

COLD and INITIAL

The RLS control ACB is registered and RLS is cold started; both processes are initiated through calls to DFHFCCA.

WARM and EMERGENCY

The RLS control ACB is registered and recovery information is inquired upon from SMSVSAM; both processes are initiated through calls to DFHFCCA. If the recovery information indicates that some data sets are in lost locks status, the corresponding DSNBs are marked as being in lost locks state and preparation for lost locks recovery is carried out. Any orphan locks are eliminated.

DYNAMIC

This type of restart occurs when a new instance of the SMSVSAM server becomes available following a previous server failure.

Having waited for file control restart to complete, if it was still in progress, and for any in-progress dynamic RLS restarts to complete, RLS access is drained if necessary, the control ACB is registered, and recovery information is inquired upon from SMSVSAM. All three of these processes are initiated through calls to DFHFCCA.

If the recovery information indicates that some data sets are in lost locks status, the corresponding DSNBs are marked as being lost locks, and preparation for lost locks recovery is carried out. Any orphan locks are eliminated.

The CICS recovery manager is called to recover any shunted units of work that are backout-failed because of the SMSVSAM server failure or a general file backout failure and any units of work that are commit-failed because of the SMSVSAM server failure.

Input Parameters

TYPE_OF_RESTART
Indicates the type of RLS restart being performed. Values for the parameter are:
COLD
WARM
EMERGENCY
DYNAMIC

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
INVALID_FUNCTION
INVALID_RESTART_TYPE

The following values are returned when RESPONSE is EXCEPTION:
REGISTER_CTL_ACB_FAILED
COLD_START_RLS_FAILED
DRAIN_RLS_FAILED
LOST_LOCKS_INFO_LOST
INQUIRE_RECOVERY_FAILED
LOST_LOCKS_COMPLETE_FAILED
ORPHAN_RELEASE_FAILED

The following values are returned when RESPONSE is DISASTER:
DSSR_FAILED
TM_LOCATE_FAILED
TM_UNLOCK_FAILED
ABEND

DISASTER_PERCOLATION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

FCSD gate, TERMINATE function

This function closes all the files, either through an immediate or a warm shutdown.

Input Parameters

SHUTDOWN
Specifies the type of shutdown that occurs. Values for the parameter are:
IMMEDIATE
WARM

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
CLOSE_ERROR
RECOVERY_ENTERED
TM_GETNEXT_FCTE_FAILED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

FCST gate, COLLECT_FILE_STATISTICS function

Returns the statistics for the named file.

Input Parameters

FILE_NAME
The 8–character name of the file.

FC_CONNECT_TOKEN
Optional Parameter

This field is an ETOKEN.

STATISTICS_RECORD
Optional Parameter

Specifies the buffer for the output data.

RESET
Values for the parameter are:

YES
NO

Output Parameters

REASON

The following value is returned when RESPONSE is EXCEPTION:

FILE_NAME_NOT_FOUND

The following values are returned when RESPONSE is INVALID:

INVALID_FC_CONNECT_TOKEN
INVALID_RESET
NO_FILE_NAME
NO_RESET
BAD_BUFF_PTR
BAD_BUFF_LEN
BROWSE_TOKEN_NOT_REQD
POOL_ID_NOT_REQD

The following values are returned when RESPONSE is DISASTER:

TM_LOCATE_FAILED
TM_UNLOCK_FAILED

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

FCST gate, COLLECT_POOL_STATISTICS function

Returns statistics for the named local shared resources (LSR) pool.

Input Parameters

POOL_ID

The 8-digit binary ID of the LSR pool.

STATISTICS_RECORD

Optional Parameter

Specifies the buffer for the output data.

RESET

Values for the parameter are:

YES
NO

Output Parameters

REASON

The following value is returned when RESPONSE is EXCEPTION:

POOL_NOT_BUILT

The following values are returned when RESPONSE is INVALID:

INVALID_POOL_ID
INVALID_RESET
NO_POOL_ID
BAD_BUFF_PTR

BAD_BUFF_LEN
BROWSE_TOKEN_NOT_REQD
FILE_NAME_NOT_REQD

The following value is returned when RESPONSE is DISASTER:
SHRCTL_BLOCK_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

FCST gate, END_FILE_IN_POOL_BROWSE function

Terminates the browse of files for the named local shared resources (LSR) pool.

Input Parameters

BROWSE_TOKEN
Token returned from the previous browse operation.

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
INVALID_BROWSE_TOKEN
NO_BROWSE_TOKEN
CONNECT_TOKEN_NOT_REQD
FILE_NAME_NOT_REQD
STATS_RECORD_NOT_REQD
POOL_ID_NOT_REQD
RESET_NOT_REQD

The following value is returned when RESPONSE is DISASTER:
FREEMAIN_FAILED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

FCST gate, GET_NEXT_FILE_IN_POOL function

Returns statistics for the next file in the named local shared resources (LSR) pool.

Input Parameters

BROWSE_TOKEN
Token returned from the previous browse operation.

RESET
Values for the parameter are:
`YES`
`NO`

STATISTICS_RECORD
Optional Parameter

Specifies the buffer for the output data.

Output Parameters

REASON
The following value is returned when RESPONSE is EXCEPTION:
`END_OF_LIST`

The following values are returned when RESPONSE is INVALID:
`INVALID_BROWSE_TOKEN`
`NO_BROWSE_TOKEN`
`NO_RESET`
`BAD_BUFF_PTR`
`BAD_BUFF_LEN`
`CONNECT_TOKEN_NOT_REQD`
`FILE_NAME_NOT_REQD`
`POOL_ID_NOT_REQD`

The following values are returned when RESPONSE is DISASTER:
`TM_GETNEXT_FAILED`
`TM_UNLOCK_FAILED`

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

FCST gate, START_FILE_IN_POOL_BROWSE function

Initiates the browse of files for the named local shared resources (LSR) pool.

Input Parameters

POOL_ANY
Optional Parameter

Values for the parameter are:
`YES`
`NO`

POOL_ID
The 8-digit binary ID of the LSR pool.

Output Parameters

BROWSE_TOKEN
Token returned that describes the state of the browse operation.

REASON
The following value is returned when RESPONSE is EXCEPTION:
`FILE_NAME_NOT_FOUND`

The following values are returned when RESPONSE is INVALID:
`INVALID_POOL_ID`
`INVALID_RESET`
`NO_POOL_ID`
`NO_RESET`
`CONNECT_TOKEN_NOT_REQD`
`BROWSE_TOKEN_NOT_REQD`
`FILE_NAME_NOT_REQD`
`STATS_RECORD_NOT_REQD`
`RESET_NOT_REQD`

The following value is returned when RESPONSE is DISASTER:
`GETMAIN_FAILED`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

FCVC gate, INQUIRE_CATALOG function

This function issues a call to IGGCSI00 to obtain catalog information.

Input Parameters

`DSNAME`
The 44-character name of the data set on which the inquiry is being made.

Output Parameters

`EXTENDED`
Indicates whether the data set supports extended addressing. Values for the parameter are:
`YES`
`NO`

`HIGH_XRBA`
The highest extended relative byte address (XRBA) used, if the data set supports extended content.

`REASON`
The following value is returned when RESPONSE is EXCEPTION:
`CATALOG_ERROR`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

ICXM gate, INQUIRE_FACILITY function

The INQUIRE_FACILITY function of the ICXM gate is used to inquire about the interval control facilities that support facility management calls from the transaction management domain.

Input Parameters

FACILITY_TOKEN
Optional Parameter

The token identifying the transaction that has been trigger-level attached.

Output Parameters

FACILITY_NAME
The four-character name of the transaction that has been trigger-level attached.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LEPT gate, CREATE_LE_ENCLAVE function

The CREATE_LE_ENCLAVE function is used to create a Language Environment enclave.

Input Parameters

RUNOPTS
Optional Parameter

A block that contains run time options for Language Environment's preinitialization services (CEEPIPI).

Output Parameters

REASON
The values for the parameter are:
ABEND
CEEPIPI_ERROR
ENQUEUE_ERROR
IPT_ATTACH_ERROR
LOOP

CEEPIPI_RESPONSE
The return code from Language Environment's preinitialization services (CEEPIPI).

ENCLAVE_TOKEN
A token that identifies the Language Environment enclave.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LEPT gate, CREATE_PTHREAD function

Create a pthread in a Language Environment enclave.

Input Parameters

ENCLAVE_TOKEN
A token that identifies the Language Environment enclave.

KERNEL_INFORMATION
A vector that is used to pass kernel information to a pthread.

Output Parameters

`CEEPIPI_RESPONSE`
: The return code from Language Environment's preinitialization services (CEEPIPI).

LEPT gate, INVOKE_PTHREAD function

Dispatch a nominated Language Environment function routine under the pthread associated with the current kernel mode.

Input Parameters

`ACTIVITY`
: The desired LE function.

`FUNCTION_PARAMETERS`
: Optional Parameter

  Parameters used by the Language Environment function

`REMARK`
: Optional Parameter

  A text string that identifies the function.

Output Parameters

`REASON`
: The values for the parameter are:

  `ABEND`
  `LOOP`
  `NO_PTHREAD`
  `PTHREAD_ERROR`

`RESPONSE`
: Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

`FUNCTION_RESPONSE`
: Optional Parameter

  The response from the requested function.

LEPT gate, PTHREAD_REPLY function

The PTHREAD_REPLY function is used to invoke initialization under a pthread.

Output Parameters

`REASON`
: The values for the parameter are:

  `ABEND`
  `LOOP`
  `NO_PTHREAD`
  `PTHREAD_ERROR`

`RESPONSE`
: Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

LEPT gate, TERMINATE_LE_ENCLAVE function

Terminate a Language Environment enclave.

Input Parameters

`ENCLAVE_TOKEN`
: A token that identifies the Language Environment enclave.

Output Parameters

REASON
: The values for the parameter are:
  `ABEND`
  `CEEPIPI_ERROR`
  `LOOP`

CEEPIPI_RESPONSE
: The return code from Language Environment's preinitialization services (CEEPIPI).

RESPONSE
: Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

LEPT gate, TERMINATE_PTHREAD function

Terminate the current pthread in a Language Environment enclave.

Output Parameters

CEEPIPI_RESPONSE
: The return code from Language Environment's preinitialization services (CEEPIPI).

SAIQ gate, INQUIRE_SYSTEM function

The INQUIRE_SYSTEM function of the SAIQ gate is used to inquire upon system data values owned by the application domain.

Input Parameters

GMMTEXT
: Optional Parameter

  A token identifying the text of the "good-morning" message.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `INQ_FAILED`
  `LOOP`

  The following values are returned when RESPONSE is EXCEPTION:
  `LENGTH_ERROR`
  `UNKNOWN_DATA`

RESPONSE
: Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

CICSREL
: Optional Parameter

  The CICS release and modification number

CICSSTATUS
: Optional Parameter

  The initialization or termination status of the CICS system.

  Values for the parameter are:
  `ACTIVE`
  `FINALQUIESCE`
  `FIRSTQUIESCE`

`INITIALIZING`

CICSSYS
: Optional Parameter

A character that indicates the system for which this system was built. Only set by CICS for MVS.

CICSTSLEVEL
: Optional Parameter

The level of CICS Transaction server.

COLDSTATUS
: Optional Parameter

An indication of whether CICS was started with a COLD or INITIAL start.

Values for the parameter are:
`COLD`
`INITIAL`
`NOTCOLD`

CWA
: Optional Parameter

The address of the common work area.

CWALENGTH
: Optional Parameter

The length of the common work area.

DATE
: Optional Parameter

The date represented as a packed decimal number integer of the form `0cyyddds` where
- `yy` is the year
- `ddd` is the day
- `c` is the century, where 0 indicates 1900-1999, 1 indicates 2000-2099, and 2 indicates 2100-2199.
- `s` is a positive sign

DTRPRGRM
: Optional Parameter

The name of the dynamic routing program.

GMMLENGTH
: Optional Parameter

the length of the "good-morning" message text.

GMMTRANID
: Optional Parameter

The transaction that generates the "good morning" message.

INITSTATUS
: Optional Parameter

The status or phase of initialization.

Values for the parameter are:
`FIRSTINIT`
`INITCOMPLETE`
`SECONDINIT`
`THIRDINIT`

JOBNAME
: Optional Parameter

The eight-character MVS job name for the local CICS region.

OPREL
: Optional Parameter

  The release number of the operating system currently running. The value is ten times the formal release number. For example, "21" represents Release 2.1.

OPSYS
: Optional Parameter

  A one-character identifier indicating the type of operating system currently running. A value of "X" represents MVS.

OSLEVEL
: Optional Parameter

  The version, release and modification of OS/390 that is running, each in character form, two bytes each.

PLTPI
: Optional Parameter

  The two-character suffix of the program list table, which contains a list of programs to be run in the final stages of system initialization.

SDTRAN
: Optional Parameter

  The shutdown transaction.

SECURITYMGR
: Optional Parameter

  Indicates whether an external security manager (such as RACF) is active in the CICS region, or whether no security is being used.

  Values for the parameter are:
  - EXTSECURITY
  - NOSECURITY

SHUTSTATUS
: Optional Parameter

  The shutdown status of the local CICS region.

  Values for the parameter are:
  - CANCELLED
  - CONTROLSHUT
  - NOTSHUTDOWN
  - SHUTDOWN

STARTUP
: Optional Parameter

  The type of startup used for the local CICS region.

  Values for the parameter are:
  - AUTOSTART
  - COLDSTART
  - EMERGENCY
  - STANDBY
  - WARMSTART

STARTUPDATE
: Optional Parameter

  A four-character packed-decimal value indicating the date on which the local CICS region was started.

TERMURM
: Optional Parameter

The eight-character name of the terminal autoinstall program.

TIMEOFDAY

Optional Parameter

A four-character packed-decimal value indicating the time at which the local CICS region was started (`hhmmsstc`, where `hh`=hours, `mm`=minutes, `ss`=seconds, `c` is the sign).

XRFSTATUS

Optional Parameter

Indicates whether the local CICS region is a PRIMARY (active) or TAKEOVER (alternate) XRF CICS region, or has no XRF support.

Values for the parameter are:

```
NOXRF
PRIMARY
TAKEOVER
```

SAIQ gate, SET_SYSTEM function

The SET_SYSTEM function of the SAIQ gate is used to set system data values owned by the application domain.

Input Parameters

DTRPRGRM

Optional Parameter

The 8-character name of the program controlling the dynamic routing of transactions.

GMMLENGTH

Optional Parameter

The length of the "good-morning" message text.

GMMTEXT

Optional Parameter

Token identifying the text of the "good-morning" message.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

```
ABEND
LOOP
SET_FAILED
```

The following values are returned when RESPONSE is EXCEPTION:

```
LENGTH_ERROR
```

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TDOC gate, CLOSE_ALL_EXTRA_TD_QUEUES function

The CLOSE_ALL_EXTRA_TD_QUEUES function of the TDOC gate closes all extrapartition transient data queues which are currently open in the system. The CLOSE_ALL_EXTRA_TD_QUEUES function is usually invoked as part of a warm shutdown.

Output Parameters

REASON
: The values for the parameter are:
  `DCT_ERROR`
  `DIRECTORY_MGR_ERROR`
  `LOGIC_ERROR`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TDOC gate, CLOSE_TRANSIENT_DATA function

The CLOSE_TRANSIENT_DATA function of the TDOC gate is used to close an extrapartition transient data queue.

Input Parameters

QUEUE
: The name of the extrapartition transient data queue to be closed.

TD_QUEUE_TOKEN
: Can be specified instead of QUEUE. The token uniquely identifies the extrapartition queue to be closed.

Output Parameters

REASON
: The values for the parameter are:
  `DCT_ERROR`
  `DIRECTORY_MGR_ERROR`
  `LOGIC_ERROR`
  `QUEUE_CLOSED`
  `QUEUE_FULL`
  `QUEUE_INTRA`
  `QUEUE_NOT_CLOSED`
  `QUEUE_NOT_FOUND`
  `QUEUE_OMITTED`
  `QUEUE_REMOTE`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TDOC gate, OPEN_TRANSIENT_DATA function

The OPEN_TRANSIENT_DATA function of the TDOC gate is used to open an extrapartition transient data queue.

Input Parameters

QUEUE
: The name of the extrapartition transient data queue to be closed.

TD_QUEUE_TOKEN
: Can be specified instead of QUEUE. The token uniquely identifies the extrapartition queue to be closed.

BLOCK_LENGTH
: Optional Parameter

  For blocked data sets, the block length.

BLOCKED
: Optional Parameter

The block format of the data set. Indicates if the data set is blocked or unblocked.

Values for the parameter are:
`NO`
`YES`

`BUFFER_NUMBER`
Optional Parameter

The number of data buffers.

`CONTROL_CHAR`
Optional Parameter

The control characters used in the data set.

Values for the parameter are:

A	ASA control characters.
M	Machine control characters.

`DDNAME`
Optional Parameter

The DD name by which the data set is referred to in the startup JCL.

`RECORD_FORMAT`
Optional Parameter

The record format of the data set.

Values for the parameter are:

F	Fixed records
U	Unblocked records
V	Variable records

`RECORD_LENGTH`
Optional Parameter

The record length in bytes.

`TYPE_FILE`
Optional Parameter

The type of data set with which the queue is associated.

Values for the parameter are:
`INPUT`
`LEAVE`
`OUTPUT`
`RDBACK`
`REREAD`

Output Parameters

`REASON`
The values for the parameter are:
`DCT_ERROR`
`DDNAME_NOT_FOUND`
`DIRECTORY_MGR_ERROR`
`LOGIC_ERROR`
`QUEUE_INTRA`
`QUEUE_NOT_FOUND`
`QUEUE_NOT_OPENED`
`QUEUE_OMITTED`
`QUEUE_OPEN`
`QUEUE_REMOTE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TDTM gate, ADD_REPLACE_TDQDEF function

Install a transient data queue definition.

Input Parameters

CATALOG_TDQ
Indicates whether to catalog the queue when it is installed.

Values for the parameter are:
`NO`
`YES`

QUEUE_NAME
The name of the queue to be installed.

TD_QUEUE_TOKEN
Can be specified instead of QUEUE. The token uniquely identifies a DCT entry that has already been built, but needs to be installed.

BLOCK_LENGTH
Optional Parameter

The block length of an extrapartition queue.

BUFFER_NUMBER
Optional Parameter

The number of buffers to be associated with an extrapartition queue.

DDNAME
Optional Parameter

The DDNAME to be associated with an extrapartition queue.

DISPOSITION
Optional Parameter

The disposition of the data set to be associated with an extrapartition queue.

Values for the parameter are:
`MOD`
`OLD`
`SHR`

DSNAME
Optional Parameter

The DSNAME of the data set to be associated with an extrapartition queue.

ERROR_OPTION
Optional Parameter

The action to be taken in the event of an I/O error. This input parameter applies to extrapartition queues only.

Values for the parameter are:
`IGNORE`
`SKIP`

FACILITY
Optional Parameter

The facility associated with this intrapartition queue when a trigger transaction is attached.

Values for the parameter are:
`FILE`

SYSTEM
TERMINAL

FACILITY_ID
Optional Parameter

Specified together with the FACILITY option, FACILITY_ID identifies the facility that the trigger transaction should be associated with.

INDIRECT_DEST
Optional Parameter

The destination queue if this queue is an indirect queue.

OPEN_TIME
Optional Parameter

Specifies whether this extrapartition queue should be opened as part of installation processing.

Values for the parameter are:
DEFERRED
INITIAL

RECORD_FORMAT
Optional Parameter

The format of records held in an extrapartition queue.

Values for the parameter are:
FIXBLK
FIXBLKA
FIXBLKM
FIXUNB
FIXUNBA
FIXUNBM
UNSPECIFIED
VARBLK
VARBLKA
VARBLKM
VARUNB
VARUNBA
VARUNBM

RECORD_LENGTH
Optional Parameter

The record length of an extrapartition queue in bytes.

RECOVERY
Optional Parameter

The recovery type of an intrapartition queue.

Values for the parameter are:
LG
NO
PH

REMOTE_NAME
Optional Parameter

The remote name of the queue if this is a remote queue definition.

REMOTE_SYSTEM
Optional Parameter

The remote system identifier (SYSID) if this is a remote queue definition.

REWIND
Optional Parameter

For extrapartition queues only, where the tape is positioned in relation to the end of the data set.

Values for the parameter are:
`LEAVE`
`REREAD`

SYSOUTCLASS
Optional Parameter

The SYSOUT class to be used for the associated output extrapartition queue.

TD_TYPE
Optional Parameter

The queue type.

Values for the parameter are:
`EXTRA`
`INDIRECT`
`INTRA`
`REMOTE`

TERMINAL_ID
Optional Parameter

The terminal associated with a transaction that is invoked when the trigger level is reached.

TRANSACTION_ID
Optional Parameter

The ATI transaction to be invoked when the trigger level is reached.

TRIGGER_LEVEL
Optional Parameter

The trigger level of the intrapartition queue.

TYPE_FILE
Optional Parameter

indicates whether this queue is:
- an input queue
- an output queue
- to be read backwards.

Values for the parameter are:
`INPUT`
`OUTPUT`
`RDBACK`

USERID
Optional Parameter

The userid to be associated with a trigger-level attached transaction.

WAIT
Optional Parameter

Specifies whether this logically recoverable intrapartition queue can wait for the resolution of an indoubt failure.

Values for the parameter are:
`NO`
`YES`

WAIT_ACTION
Optional Parameter

The action to be taken if this logically recoverable intrapartition queue suffers an indoubt failure.

Values for the parameter are:
`QUEUE`
`REJECT`

Output Parameters

REASON
The values for the parameter are:
`CATALOG_WRITE_FAILED`
`COLD_START_IN_PROGRESS`
`DDNAME_NOT_FOUND`
`DFHINTRA_NOT_OPENED`
`DIRECTORY_MGR_ERROR`
`DISABLE_PENDING`
`DUPLICATE`
`INSUFFICIENT_STORAGE`
`INVALID_FUNCTION`
`LOGIC_ERROR`
`NOT_CLOSED`
`NOT_DISABLED`
`NOT_SAME_TYPE`
`QUEUE_NOT_OPENED`
`SECURITY_FAILURE`
`USERID_NOTAUTHED`

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

TDTM gate, COMMIT_TDQDEFS function

Catalog all installed transient data queue definitions as part of cold start processing.

Input Parameters

TOKEN
The catalog to which the queue definitions are to be written.

Output Parameters

REASON
The values for the parameter are:
`CATALOG_WRITE_FAILED`
`DIRECTORY_MGR_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

TDTM gate, DISCARD_TDQDEF function

The DISCARD_TDQDEF function of the TDTM gate deletes an installed transient data queue definition and removes it from the catalog. A DELETEQ command is issued as part of the discard process.

Input Parameters

QUEUE_NAME
: The queue to be discarded.

TD_QUEUE_TOKEN
: Can be specified instead of QUEUE_NAME. TD_QUEUE_TOKEN identifies the queue to be discarded.

Output Parameters

REASON
: The values for the parameter are:
  - CATALOG_DELETE_FAILED
  - DIRECTORY_MGR_ERROR
  - DISABLE_PENDING
  - LOGIC_ERROR
  - NAME_STARTS_WITH_C
  - NOT_CLOSED
  - NOT_DISABLED
  - QUEUE_NOT_FOUND

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TDTM gate, END_BROWSE_TDQDEF function

The END_BROWSE_TDQDEF function of the TDTM gate terminates a browse session.

Input Parameters

BROWSE_TOKEN
: Identifies the browse session.

Output Parameters

REASON
: The values for the parameter are:
  - DIRECTORY_MGR_ERROR
  - LOGIC_ERROR

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TDTM gate, GET_NEXT_TDQDEF function

The GET_NEXT_TDQDEF function of the TDTM gate returns information about a queue as part of a browse operation.

Input Parameters

BROWSE_TOKEN
: Identifies the browse session.

Output Parameters

REASON
: The values for the parameter are:
  - DIRECTORY_MGR_ERROR
  - LOGIC_ERROR
  - NO_MORE_DATA_AVAILABLE

QUEUE_NAME
: The name of the queue.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ATI_FACILITY
Optional Parameter

The facility associated with this intrapartition queue when a trigger transaction is attached.

Values for the parameter are:
NOTERM
TERM

ATI_TERMID
Optional Parameter

Specified together with the FACILITY option, FACILITY_ID identifies the facility that the trigger transaction should be associated with.

ATI_TRANID
Optional Parameter

The ATI transaction to be invoked when the trigger level is reached.

ATI_USERID
Optional Parameter

The USERID associated with the ATI transaction that is invoked when the trigger level is reached.

BLOCK_LENGTH
Optional Parameter

The block length of an extrapartition queue.

BUFFER_NUMBER
Optional Parameter

The number of buffers to be associated with an extrapartition queue.

DDNAME
Optional Parameter

The DDNAME associated with an extrapartition queue.

DISPOSITION
Optional Parameter

The disposition of the data set associated with an extrapartition queue.

Values for the parameter are:
MOD
OLD
SHR

DSNAME
Optional Parameter

The DSNAME of the data set associated with the extrapartition queue.

EMPTY_STATUS
Optional Parameter

Indicates whether the queue contains any records, and whether the queue is full. This option applies to extrapartition queues only.

Values for the parameter are:
EMPTY
FULL
NOTEMPTY

ENABLE_STATUS
Optional Parameter

The status of the queue.

Values for the parameter are:
`DISABLED`
`DISABLING`
`ENABLED`

ERROR_OPTION
Optional Parameter

The action is to be taken in the event of an I/O error. This option applies to extrapartition queues only.

Values for the parameter are:
`IGNORE`
`SKIP`

INDIRECT_DEST
Optional Parameter

The destination queue if this queue is an indirect queue.

MEMBER
Optional Parameter

The member name when a PDS member is used for an extrapartition queue.

NUM_ITEMS
Optional Parameter

The number of committed items in the queue.

OPEN_STATUS
Optional Parameter

Indicates whether the queue is open.

Values for the parameter are:
`CLOSED`
`OPEN`

RECORD_FORMAT
Optional Parameter

The format of the records held on the extrapartition queue.

Values for the parameter are:
`FIXBLK`
`FIXBLKA`
`FIXBLKM`
`FIXUNB`
`FIXUNBA`
`FIXUNBM`
`UNDEFINED`
`VARBLK`
`VARBLKA`
`VARBLKM`
`VARUNB`
`VARUNBA`
`VARUNBM`

RECORD_LENGTH
Optional Parameter

The record length of the extrapartition queue.

RECOVERY
Optional Parameter

The recovery type of an intrapartition queue.

Values for the parameter are:
`LG`
`NO`
`PH`

REMOTE_NAME
Optional Parameter

The remote name of the queue if this is a remote queue definition.

REMOTE_SYSTEM
Optional Parameter

The remote system identifier (SYSID) for a remote queue definition.

REWIND
Optional Parameter

Where the tape is positioned in relation to the end of the data set. This parameter applies to extrapartition queues only.

Values for the parameter are:
`LEAVE`
`REREAD`

SYSOUTCLASS
Optional Parameter

The SYSOUT class to be used for the associated output extrapartition queue.

TD_TYPE
Optional Parameter

The queue type.

Values for the parameter are:
`EXTRA`
`INDIRECT`
`INTRA`
`REMOTE`

TERMINAL_ID
Optional Parameter

The terminal associated with a transaction that is invoked when the trigger level is reached.

TRANSACTION_ID
Optional Parameter

The ATI transaction to be invoked when the trigger level is reached.

TRIGGER_LEVEL
Optional Parameter

The trigger level of the intrapartition queue.

TYPE_FILE
Optional Parameter

specifies whether this queue is:
- an input queue
- an output queue
- a queue that is to be read backwards.

Values for the parameter are:
`INPUT`

OUTPUT
RDBACK

USERID_TOKEN
Optional Parameter

A token for the USERID that was specified for this intrapartition queue.

WAIT
Optional Parameter

Specifies whether this logically recoverable intrapartition queue can wait for the resolution of an indoubt failure.

Values for the parameter are:
NO
YES

WAIT_ACTION
Optional Parameter

The action to be taken if this logically recoverable intrapartition queue suffers an indoubt failure.

Values for the parameter are:
QUEUE
REJECT

TDTM gate, INQUIRE_TDQDEF function

The INQUIRE_TDQUEUE function of the TDTM gate is used to inquire on a specified queue.

Input Parameters

QUEUE_NAME
The name of the queue.

Output Parameters

REASON
The values for the parameter are:
DIRECTORY_MGR_ERROR
LOGIC_ERROR
QUEUE_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ATI_FACILITY
Optional Parameter

The facility associated with this intrapartition queue when a trigger transaction is attached.

Values for the parameter are:
NOTERM
TERM

ATI_TERMID
Optional Parameter

Specified together with the FACILITY option, FACILITY_ID identifies the facility that the trigger transaction should be associated with.

ATI_TRANID
Optional Parameter

The ATI transaction to be invoked when the trigger level is reached.

BLOCK_LENGTH
Optional Parameter

The block length of an extrapartition queue.

BUFFER_NUMBER
Optional Parameter

The number of buffers to be associated with an extrapartition queue.

DDNAME
Optional Parameter

The DDNAME associated with an extrapartition queue.

DISPOSITION
Optional Parameter

The disposition of the data set associated with an extrapartition queue.

Values for the parameter are:
`MOD`
`OLD`
`SHR`

DSNAME
Optional Parameter

The DSNAME of the data set associated with the extrapartition queue.

EMPTY_STATUS
Optional Parameter

Indicates whether the queue contains any records, and whether the queue is full. This option applies to extrapartition queues only.

Values for the parameter are:
`EMPTY`
`FULL`
`NOTEMPTY`

ENABLE_STATUS
Optional Parameter

The status of the queue.

Values for the parameter are:
`DISABLED`
`DISABLING`
`ENABLED`

ERROR_OPTION
Optional Parameter

The action is to be taken in the event of an I/O error. This option applies to extrapartition queues only.

Values for the parameter are:
`IGNORE`
`SKIP`

INDIRECT_DEST
Optional Parameter

The destination queue if this queue is an indirect queue.

MEMBER
Optional Parameter

The member name when a PDS member is used for an extrapartition queue.

NUM_ITEMS
Optional Parameter

The number of committed items in the queue.

OPEN_STATUS
Optional Parameter

Indicates whether the queue is open.

Values for the parameter are:
`CLOSED`
`OPEN`

RECORD_FORMAT
Optional Parameter

The format of the records held on the extrapartition queue.

Values for the parameter are:
`FIXBLK`
`FIXBLKA`
`FIXBLKM`
`FIXUNB`
`FIXUNBA`
`FIXUNBM`
`UNDEFINED`
`VARBLK`
`VARBLKA`
`VARBLKM`
`VARUNB`
`VARUNBA`
`VARUNBM`

RECORD_LENGTH
Optional Parameter

The record length of the extrapartition queue.

RECOVERY
Optional Parameter

The recovery type of an intrapartition queue.

Values for the parameter are:
`LG`
`NO`
`PH`

REMOTE_NAME
Optional Parameter

The remote name of the queue if this is a remote queue definition.

REMOTE_SYSTEM
Optional Parameter

The remote system identifier (SYSID) for a remote queue definition.

REWIND
Optional Parameter

Where the tape is positioned in relation to the end of the data set. This parameter applies to extrapartition queues only.

Values for the parameter are:
`LEAVE`
`REREAD`

SYSOUTCLASS
Optional Parameter

The SYSOUT class to be used for the associated output extrapartition queue.

TD_QUEUE_TOKEN
Optional Parameter

The token associated with the queue.

TD_TYPE
Optional Parameter

The queue type.

Values for the parameter are:
`EXTRA`
`INDIRECT`
`INTRA`
`REMOTE`

TERMINAL_ID
Optional Parameter

The terminal associated with a transaction that is invoked when the trigger level is reached.

TRANSACTION_ID
Optional Parameter

The ATI transaction to be invoked when the trigger level is reached.

TRIGGER_LEVEL
Optional Parameter

The trigger level of the intrapartition queue.

TYPE_FILE
Optional Parameter

specifies whether this queue is:
- an input queue
- an output queue
- a queue that is to be read backwards.

Values for the parameter are:
`INPUT`
`OUTPUT`
`RDBACK`

USERID_TOKEN
Optional Parameter

A token for the USERID that was specified for this intrapartition queue.

WAIT
Optional Parameter

Specifies whether this logically recoverable intrapartition queue can wait for the resolution of an indoubt failure.

Values for the parameter are:
`NO`
`YES`

WAIT_ACTION
Optional Parameter

The action to be taken if this logically recoverable intrapartition queue suffers an indoubt failure.

Values for the parameter are:
`QUEUE`
`REJECT`

TDTM gate, SET_TDQDEF function

The SET_TDQUEUE function of the TDTM gate updates attributes of an installed transient data queue.

Input Parameters

QUEUE_NAME
The name of the queue.

ATI_FACILITY
Optional Parameter

The facility associated with this intrapartition queue when a trigger transaction is attached.

Values for the parameter are:
NOTERM
TERM

ATI_TERMID
Optional Parameter

Specified together with the FACILITY option, FACILITY_ID identifies the facility that the trigger transaction should be associated with.

ATI_TRANID
Optional Parameter

The ATI transaction to be invoked when the trigger level is reached.

ATI_USERID
Optional Parameter

The USERID associated with the ATI transaction that is invoked when the trigger level is reached.

ENABLE_STATUS
Optional Parameter

The status of the queue.

Values for the parameter are:
DISABLED
DISABLING
ENABLED

TRIGGER_LEVEL
Optional Parameter

The trigger level of the intrapartition queue.

USERID_TOKEN
Optional Parameter

A token for the USERID that was specified for this intrapartition queue.

Output Parameters

REASON
The values for the parameter are:
CATALOG_WRITE_FAILED
DIRECTORY_MGR_ERROR
DISABLE_PENDING
IS_CXRF
LOGIC_ERROR
NOT_CLOSED
NOT_DISABLED
QUEUE_IS_INDOUBT
QUEUE_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

OLD_USER_TOKEN
Optional Parameter

The token associated with a previous USERID.

TDTM gate, START_BROWSE_TDQDEF function

The START_BROWSE_TDQDEF function of the TDTM gate initiates a browse from a specified queue, or from the start of the DCT.

Input Parameters

START_AT
Optional Parameter

The queue from which the browse should start.

Output Parameters

REASON
The values for the parameter are:
`DIRECTORY_MGR_ERROR`
`LOGIC_ERROR`

BROWSE_TOKEN
A token that uniquely identifies the browse session.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TDXM gate, BIND_SECONDARY_FACILITY function

The BIND_FACILITY function of the TDXM gate is used to associate a transaction with the definition for the transient data queue that caused the transaction to be trigger-level attached, where the principal facility is the queue itself (that is there is no terminal associated with the queue).

Output Parameters

REASON
The values for the parameter are:
`ABEND`

FACILITY_NAME
The name of the transient data queue that is associated with the transaction as its principal facility.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TDXM gate, INQUIRE_TRAN_DATA_FACILITY function

Return attributes of a transient data queue.

Input Parameters

TRANSIENT_DATA_TOKEN
Optional Parameter

A token that represents the transient data queue.

Output Parameters

FACILITY_NAME
The name of the transient data queue that is associated with the transaction as its principal facility.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFAL gate, ALLOCATE function

The ALLOCATE function of the TFAL gate is used to allocate a terminal for a transaction.

Input Parameters

REQUEST_ID
The four-character transaction identifier initiating the attach.

SYSTEM_TOKEN
The token identifying the CICS region to which the terminal is to be attached.

MODE_NAME
Optional Parameter

The eight-character mode-name of the terminal to be attached.

NON_PURGEABLE
Optional Parameter

Indicates whether or not the terminal is to be purgeable.

Values for the parameter are:
`NO`
`YES`

PRIVILEGED
Optional Parameter

Indicates whether or not the terminal is to be attached as a privileged terminal.

Values for the parameter are:
`NO`
`YES`

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMINAL_TOKEN
A token identifying the terminal that has been attached.

TFAL gate, CANCEL_AID function

The CANCEL_AID function of the TFAL gate is used to cancel a terminal-transaction AID.

Input Parameters

TERM_OWNER_NETNAME
The APPLID of the CICS region that owns the terminal.

TERMID
The four-character terminal identifier.

TRANID
The four-character transaction identifier.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFAL gate, CANCEL_AIDS_FOR_CONNECTION function

The CANCEL_AIDS_FOR_CONNECTION function of the TFAL gate is used to cancel AIDs for the given CICS region.

Input Parameters

CALLER
The method used to call this function.

Values for the parameter are:
`API`
`BUILDER`

FACILITY
The facility type associated with the AIDs.

Values for the parameter are:
`CONNECTION`
`TERMINAL`

FORCE
Indicates whether or not system AIDs are to be canceled.

Values for the parameter are:
`NO`
`YES`

SYSTEM_TOKEN
The token identifying the CICS region.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

AIDS_CANCELLED
Optional Parameter

Indicates whether or not AIDs were canceled as a result of this request.

Values for the parameter are:
`NO`
`YES`

TFAL gate, CANCEL_AIDS_FOR_TERMINAL function

The CANCEL_AIDS_FOR_TERMINAL function of the TFAL gate is used to cancel all AIDs for the given terminal.

Input Parameters

CALLER
The method used to call this function.

Values for the parameter are:
`API`
`BUILDER`
`BUILDER_REMDEL`

FACILITY
The facility type associated with the AIDs.

Values for the parameter are:
`CONNECTION`
`TERMINAL`

`TERMID`
The four-character terminal identifier.

`TERMINAL_TOKEN`
The token identifying the terminal.

`BMSONLY`
Optional Parameter

Indicates whether to cancel BMS AIDs only.

Values for the parameter are:
`NO`
`YES`

`FORCE`
Optional Parameter

Indicates whether or not system AIDs are to be canceled.

Values for the parameter are:
`NO`
`YES`

`TERM_OWNER_NETNAME`
Optional Parameter

The netname of the terminal owner.

Output Parameters

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

`AIDS_CANCELLED`
Optional Parameter

Indicates whether or not AIDs were canceled as a result of this request.

Values for the parameter are:
`NO`
`YES`

TFAL gate, CANCEL_SPECIFIC_AID function

Cancel a single, specified AID.

Input Parameters

`AID_TOKEN`
A token for the AID that is to be canceled.

Output Parameters

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

TFAL gate, CHECK_TRANID_IN_USE function

The CHECK_TRANID_IN_USE function of the TFAL gate is used to check whether any of the AID chains contain ferrences to the given TRANID.

Input Parameters

TRANID
    The four-character transaction identifier.

Output Parameters

IN_USE
    Indicates whether or not the transaction identifier specified by the TRANID parameter is in use.

    Values for the parameter are:
        NO
        YES

RESPONSE
    Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFAL gate, DISCARD_AIDS function

The DISCARD_AIDS function of the TFAL gate is used to attach a task which will release start data and free the AIDs in the chain addressed by the AID_TOKEN.

Input Parameters

AID_TOKEN
    The token identifying the chain of AIDs.

Output Parameters

RESPONSE
    Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFAL gate, FIND_TRANSACTION_OWNER function

The FIND_TRANSACTION_OWNER function of the TFAL gate is used to determine the CICS region that owns the given transaction (that is, at which the transaction instance originated).

Input Parameters

TERMINAL_TOKEN
    The token identifying the terminal.

TRANID
    The four-character transaction identifier.

Output Parameters

RESPONSE
    Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TRAN_OWNER_SYSID
    The four-character system identifier for the CICS region that owns the transaction instance.

TFAL gate, GET_MESSAGE function

The GET_MESSAGE function of the TFAL gate is used to get a message from a terminal.

Input Parameters

PREVIOUS_AID_TOKEN
    The AID token identifying the previous transaction that ran at this terminal.

TERMINAL_TOKEN
The token identifying the terminal.

Output Parameters

AID_TOKEN
The AID token identifying the current transaction for which the message was got.

BMS_TITLE_PRESENT
Indicates whether or not a BMS title is present on the terminal.

Values for the parameter are:
NO
YES

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TSQUEUE_NAME
the eight-character name of the temporary storage queue name of the message whose BMS AID was found.

TFAL gate, INITIALIZE_AID_POINTERS function

The INITIALIZE_AID_POINTERS function of the TFAL gate is used to initialize the AID pointers for the given CICS region.

Input Parameters

SYSTEM_TOKEN
The token identifying the CICS region.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFAL gate, INQUIRE_ALLOCATE_AID function

The INQUIRE_ALLOCATE_AID function of the TFAL gate is used to inquire about the AIDs allocated for the given CICS region.

Input Parameters

SYSTEM_TOKEN
The token identifying the CICS region.

PRIVILEGED
Optional Parameter

indicates whether or not to inquire only about privileged ISC type AIDs.

Values for the parameter are:
NO
YES

Output Parameters

EXISTS
Indicates whether or not the AID exists.

Values for the parameter are:
NO
YES

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFAL gate, LOCATE_AID function

The LOCATE_AID function of the TFAL gate is used for automatic transaction initiation to determine the AID for the specified terminal, and if found, to use the transaction identifier from the AID to attach the task.

Input Parameters

TERMID
The four-character terminal-identifier.

TYPE
Optional Parameter

The type of AID to be located.

Values for the parameter are:
BMS
INT
ISC
PUT
REMDEL
TDP

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TRANID
Optional Parameter

Te four-character transaction identifier associated with the specified terminal.

TFAL gate, LOCATE_REMDEL_AID function

The LOCATE_REMDEL_AID function of the TFAL gate is used to determine the AID (for a delete remote TERMINAL definition request) for the specified system (SYSTEM_TOKEN specified) or after the given (PREVIOUS_AID_TOKEN specified).

Input Parameters

PREVIOUS_AID_TOKEN
The AID token identifying the previous transaction that ran at this terminal.

SYSTEM_TOKEN
The token identifying the CICS region.

Output Parameters

AID_TOKEN
The AID token identifying the transaction to be deleted.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TARGET_SYSID
The four-character system identifier for the target CICS system.

TERM_OWNER_NETNAME
The eight-character netname from the REMDEL AID.

TERMID
The four-character terminal identifier from the REMDEL AID.

TFAL gate, LOCATE_SHIPPABLE_AID function

The LOCATE_SHIPPABLE_AID function of the TFAL gate is used to determine an AID (for a delete remote TERMINAL definition request or for a remote terminal request) to be shipped to the specified system.

Input Parameters

SYSTEM_TOKEN
The token identifying the CICS region.

Output Parameters

AID_TOKEN
the AID token identifying the transaction to be deleted.

LAST
Indicates that:
- there is a single qualifying AID or all qualifying AIDs have the same AIDTRMID (YES)
- *or* in addition to the AID returned there are other qualifying AIDs (NO).

Values for the parameter are:
NO
YES

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFAL gate, MATCH_TASK_TO_AID function

The MATCH_TASK_TO_AID function of the TFAL gate is used to inquire about AIDs for the given terminal and transaction.

Input Parameters

TERMINAL_TOKEN
The token identifying the terminal

TRANID
The four-character transaction identifier.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFAL gate, PURGE_ALLOCATE_AIDS function

The PURGE_ALLOCATE_AIDS function of the TFAL gate is used to delete purgeable allocate AIDs for a given connection after user exit XZIQUE in DFHZISP has issued return code 8 (delete all) or return code 12 (delete all for given modegroup).

Input Parameters

SYSTEM_TOKEN
The token identifying the CICS region.

MODE_NAME
Optional Parameter

The name of the modegroup. If this parameter is omitted, the default is all modegroups.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ALLOCATES_PURGED
Optional Parameter

The number of ALLOCATE AIDs purged.

TFAL gate, RECOVER_START_DATA function

The RECOVER_START_DATA function of the TFAL gate is used to retrieve a PUT-type AID stored in a DWE and rechain it onto the TCTSE in front of the first AID for the terminal.

Input Parameters

AID_TOKEN
The AID token identifying the transaction to be recovered.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFAL gate, REMOTE_DELETE function

The REMOTE_DELETE function of the TFAL gate is used to chain a REMOTE DELETE (REMDEL) AID onto the system entry of the specified target CICS region. The REMDEL AID tells the target region to delete its shipped definition of the specified terminal.

Input Parameters

TARGET_SYSID
the four-character system identifier for the target CICS region.

TERM_OWNER_NETNAME
Is the VTAM APPLID of the CICS region that "owns" the terminal.

Note: The terminal identifier can either be specified as TERMID and TERM_OWNER_NETNAME (where TERMID is the name known in the terminal owning system), or it can be specified by TERMINAL_TOKEN if the TCTTE address is known.

TERMID
The four-character terminal identifier for the terminal associated with the transaction.

TERMINAL_TOKEN
The token identifying the terminal.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFAL gate, REMOVE_EXPIRED_AID function

The REMOVE_EXPIRED_AID function of the TFAL gate is used to search all AID chains for a BMS AID that has yet to be initiated and which matches the eligibility parameters. Unchain the first such AID found, copy details from the AID into the caller's parameter list, and freemain the AID.

Input Parameters

ADJUSTED_EXPIRY_TIME
: Optional Parameter

  The adjusted threshold time

LDC
: Optional Parameter

  The logical device code.

  Note: If MSGID and LDC are specified, the expiry time is not checked.

MSGID
: Optional Parameter

  The BMS message identifier

NORMAL_EXPIRY_TIME
: Optional Parameter

  The normal threshold time

Output Parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TERMID
: The four-character terminal identifier for the terminal associated with the transaction.

TRANID
: The four-character transaction identifier associated with the specified terminal.

TSQUEUE_NAME
: The eight-character name of the temporary storage queue name of the message whose BMS AID was found.

TFAL gate, REMOVE_EXPIRED_REMOTE_AID function

Search for an uninitiated remote AID which is older than the expiry time specified by the caller. Unchain the AID and cleanup any associated resources.

Input Parameters

ADJUSTED_EXPIRY_TIME
: The adjusted threshold time

NORMAL_EXPIRY_TIME
: The normal threshold time

Output Parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SHIPPED
: Identifies whether the AID has been shipped.

TERM_OWNER_SYSID
: The system identifier of the CICS region that "owns" the terminal.

TERMID
The four-character terminal identifier for the terminal associated with the transaction.

TRANID
The four-character transaction identifier associated with the terminal.

TFAL gate, REMOVE_MESSAGE function

The REMOVE_MESSAGE function of the TFAL gate is used to find an uninitiated BMS AID for the specified terminal; unchain and freemain the AID, provided that the AID security fields match those of the currently signed-on operator; and return the TS queue name from the AID.

Input Parameters

TERMINAL_TOKEN
The token identifying the terminal.

MSGID
Optional Parameter

The BMS message identifier

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TSQUEUE_NAME
The eight-character name of the temporary storage queue name for the message whose BMS AID was found.

TFAL gate, REMOVE_REMOTE_DELETES function

The REMOVE_REMOTE_DELETES function of the TFAL gate is used to unchain and freemain all REMDEL AIDs from the AID chain of the specified system entry. Optional parameters TERMID and TERM_OWNER_NETNAME may be specified; in which case only those REMDEL AIDs which match the specified values are removed.

Input Parameters

SYSTEM_TOKEN
is the token identifying the CICS region.

Note: Specify either the TARGET_SYSID parameter or the SYSTEM_TOKEN parameter, not both.

TARGET_SYSID
The four-character system identifier for the target CICS region.

TERM_OWNER_NETNAME
Optional Parameter

The netname of the region that "owns" the terminal.

TERMID
Optional Parameter

The four-character terminal identifier for the terminal associated with the transaction.

Output Parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFAL gate, REROUTE_SHIPPABLE_AIDS function

The REROUTE_SHIPPABLE_AIDS function of the TFAL gate is used to redirect AIDs for remote terminals from one remote system to another.

Input Parameters

ORIGINAL_SYSTEM_TOKEN
: The token identifying the remote system which was the AIDs' original target.

PREV_TERM_OWNER_NETNAME
: The APPLID of the CICS region that previously owned the terminal.

TARGET_SYSTEM_TOKEN
: The token identifying the remote system which is the AIDs' new target.

TERM_OWNER_NETNAME
: The APPLID of the CICS region that owns the terminal.

TERMINAL_NETNAME
: The eight-character NETNAME which identifies the terminal whose AIDs are to be rerouted.

Output Parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFAL gate, RESCHEDULE_BMS function

The RESCHEDULE_BMS function of the TFAL gate is used to build a BMS AID and chain it to the front of the AID queue.

Input Parameters

BMS_TIMESTAMP
: The time stamp for a BMS AID that is used to test if AID is older than specified EXPIRY_TIME.

TERMINAL_TOKEN
: The token identifying the terminal.

TRANID
: The four-character transaction identifier associated with the specified terminal.

TSQUEUE_NAME
: The eight-character name of the temporary storage queue name of the message whose BMS AID was found.

BMS_TITLE_PRESENT
: Optional Parameter

  Indicates if there is a title in the message control record

  Values for the parameter are:
  `NO`
  `YES`

OPCLASS
: Optional Parameter

  Identifies the operator class.

Note: You can specify either the OPIDENT parameter or the OPCLASS parameter, not both.

OPIDENT
Optional Parameter

Identifies the operator.

Note: You can specify either the OPIDENT parameter or the OPCLASS parameter, not both.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFAL gate, RESET_AID_QUEUE function

The RESET_AID_QUEUE function of the TFAL gate is used to give DFHALP an opportunity to reset the AID queue when a transaction ends, and to bid for the use of the terminal if ATI tasks are waiting.

Input Parameters

TERMINAL_TOKEN
The token identifying the terminal.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFAL gate, RESTORE_FROM_KEYPOINT function

The RESTORE_FROM_KEYPOINT function of the TFAL gate is used to reschedule a chain of AIDs that we restored from the catalog during CICS system initialization.

Input Parameters

AID_TOKEN
A token denoting the chain of AIDs which are to be rescheduled.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFAL gate, RETRIEVE_START_DATA function

The RETRIEVE_START_DATA function of the TFAL gate is used to return the AID address and temporary storage queue name associated with the start data for the specified transaction and terminal.

Input Parameters

TERMINAL_TOKEN
The token identifying the terminal.

TRANID
The four-character transaction identifier associated with the specified terminal.

Output Parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TSQUEUE_NAME
: The eight-character name of the temporary storage queue name of the message whose BMS AID was found.

TFAL gate, SCHEDULE_BMS function

The SCHEDULE_BMS function of the TFAL gate is used to schedule a BMS AID.

Input Parameters

BMS_TIMESTAMP
: The timestamp for the BMS AID. This is used to test if the AID is older than its EXPIRY_TIME.

TERMID
: The four-character terminal identifier for the terminal associated with the transaction.

TRANID
: The four-character transaction identifier associated with the specified terminal.

TSQUEUE_NAME
: The eight-character name of the temporary storage queue name of the message whose BMS AID was found.

BMS_TITLE_PRESENT
: Optional Parameter

  Indicates if the title is in the message control record.

  Values for the parameter are:

  NO
  YES

OPCLASS
: Optional Parameter

  Identifies the operator class.

  Note: You can specify either the OPIDENT parameter or the OPCLASS parameter, not both.

OPIDENT
: Optional Parameter

  Identifies the operator.

  Note: You can specify either the OPIDENT parameter or the OPCLASS parameter, not both.

TERMINAL_NETNAME
: Optional Parameter

  The eight-character NETNAME which identifies the terminal.

Output Parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFAL gate, SCHEDULE_START function

The SCHEDULE_START function of the TFAL gate is used to schedule a PUT or INT type AID

Input Parameters

TERMID
The four-character terminal identifier for the terminal associated with the transaction.

TRANID
the four-character transaction identifier associated with the specified terminal.

CHANNEL_TOKEN
Optional Parameter

A token for the channel associated with the START request.

DYNAMIC_TRAN
Optional Parameter

Indicates if the transaction is dynamically routed.

Values for the parameter are:
`NO`
`YES`

FEPI
Optional Parameter

Indicates whether this is a FEPI START request.

Values for the parameter are:
`NO`
`YES`

IN_DOUBT
Optional Parameter

Indicates whether the Unit of Work making the request is in doubt, and, if so, that the request should not be scheduled until the Unit of Work is committed.

Values for the parameter are:
`NO`
`YES`

MODE_NAME
Optional Parameter

The mode name to be used.

RECOVERABLE_DATA
Optional Parameter

Indicates whether the request is associated with recoverable data.

Values for the parameter are:
`NO`
`YES`

ROUTABLE_START
Optional Parameter

Indicates if the START request can be routed.

Values for the parameter are:
`NO`
`YES`

ROUTED_FROM_TERMID
Optional Parameter

The four-character terminal identifier for the terminal from which a task was transaction-routed to issue this START request.

SHIPPED_VIA_SESSID
Optional Parameter

The identifier of the session via which this START request was function shipped.

SHIPPED_VIA_SYSID
Optional Parameter

Identifies the connection via which this request was function shipped or transaction routed.

START_DATA_LEN
Optional Parameter

The length of the data associated with the START request.

TERM_OWNER_NETNAME
Optional Parameter

The system identifier of the CICS region to which the request should be shipped.

Note: You can specify either the TERM_OWNER_SYSID parameter or TERM_OWNER_NETNAME parameter, not both.

TERM_OWNER_SYSID
Optional Parameter

The system identifier of the CICS region to which the request should be shipped.

Note: You can specify either the TERM_OWNER_SYSID parameter or TERM_OWNER_NETNAME parameter, not both.

TERMINAL_NETNAME
Optional Parameter

The eight-character NETNAME of the terminal associated with the transaction.

TERMINAL_TOKEN
Optional Parameter

The token identifying the terminal.

TOR_NETNAME
Optional Parameter

The netname of the CICS region that owns the terminal.

TRAN_OWNER_SYSID
Optional Parameter

The system identifier of the CICS region that "owns" the transaction.

TSQUEUE_NAME
Optional Parameter

The name of the temporary storage queue which contains the data associated with the START request.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFAL gate, SCHEDULE_TDP function

The SCHEDULE_TDP function of the TFAL gate is used to schedule a TDP type AID.

Input Parameters

TDQUEUE_NAME
The destination identifier for the TD queue.

TERMID
The four-character terminal identifier for the terminal associated with the transaction.

TRANID
The four-character transaction identifier associated with the specified terminal.

TERMINAL_NETNAME
Optional Parameter

The eight-character NETNAME of the terminal associated with the transaction.

Output Parameters

AID_TOKEN
The AID token identifying the transaction to be scheduled.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFAL gate, SLOWDOWN_PURGE function

The SLOWDOWN_PURGE function of the TFAL gate is used to search the specified system entry's AID chain for the first allocate-type AID associated with a stall-purgeable task, and cancel the identified transaction.

Input Parameters

SYSTEM_TOKEN
The four-character terminal identifier for the terminal associated with the transaction.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFAL gate, TAKE_KEYPOINT function

The TAKE_KEYPOINT function of the TFAL gate is used to return a chain of AIDs which are to be written to the global catalog.

Output Parameters

AID_TOKEN
The token identifying the chain of AIDs.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFAL gate, TERM_AVAILABLE_FOR_QUEUE function

The TERM_AVAILABLE_FOR_QUEUE function of the TFAL gate is used, when a terminal becomes available for allocation, to give DFHALP the chance to attach or resume a task which requires this terminal.

Input Parameters

TERMINAL_TOKEN
The token identifying the terminal.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFAL gate, TERMINAL_NOW_UNAVAILABLE function

The TERMINAL_NOW_UNAVAILABLE function of the TFAL gate is used to perform required actions when a terminal or connection becomes unavailable.

Input Parameters

TERMINAL_TOKEN
The token identifying the terminal.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFAL gate, UNCHAIN_AID function

The UNCHAIN_AID function of the TFAL gate is used to unchain and optionally freemain the specified AID.

Input Parameters

AID_TOKEN
The AID token identifying the transaction to be deleted.

FREEMAIN
Indicates whether freemain is wanted.

Values for the parameter are:
NO
YES

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFAL gate, UPDATE_TRANNUM_FOR_RESTART function

The UPDATE_TRANNUM_FOR_RESTART function of the TFAL gate is used to update the AID's TRANNUM to that of the restarted task.

Input Parameters

NEW_TRANNUM
The new TRANNUM to be set in the AID.

ORIGINAL_TRANNUM
The TRANNUM set in the AID when original task was attached.

TERMINAL_TOKEN
The token identifying the terminal.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFBF gate, BIND_FACILITY function

The BIND_FACILITY function of the TFBF gate is used to associate a transaction with the terminal.

Input Parameters

PARTITIONSET
Indicates if a partition set is to be used for the terminal facility.

The values for the parameter are:
NONE
NAME
OWN
KEEP

PARTITIONSET_NAME
Optional Parameter

The eight-character name of a partition set. This parameter is used only if the value of PARTITIONSET is NAME.

Output Parameters

REASON
The values for the parameter are:
ABEND
INVALID_FORMAT
INVALID_FUNCTION
NO_TERMINAL
REMOTE_SCHEDULE_FAILURE
SECURITY_FAILURE
TABLE_MANAGER_FAILURE
TRANSACTION_ABEND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFIQ gate, INQUIRE_MONITOR_DATA function

Return monitoring data for a terminal facility.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
NO_TERMINAL

The following values are returned when RESPONSE is INVALID:
INVALID_TERMINAL_TYPE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACCESS_METHOD
Optional Parameter

A value that indicates the access method for the terminal.

Values for the parameter are:
`ACC_NOTAPPLIC`
`BGAM`
`BSAM`
`BTAM`
`CONSOLE`
`TCAM`
`TCAMSNA`
`VTAM`

CONNECTION_NAME
Optional Parameter

The name of the connection that is associated with the terminal facility. If the facility is a surrogate, the value of the parameter is the name of the connection associated with the relay session entry. If the facility is a session, the value of the parameter is the name of the connection associated with the session.

DEVICE
Optional Parameter

The type of device represented by the terminal facility.

FACILITY_NAME
Optional Parameter

The four-character name of the terminal facility.

FACILITY_TYPE
Optional Parameter

The terminal facility type.

Values for the parameter are:
`IRC`
`IRC_XCF`
`IRC_XM`
`LU61`
`LU62`
`OTHER`

INPUT_MESSAGE_LENGTH
Optional Parameter

The length of the current input message for the terminal facility.

NATURE
Optional Parameter

Indicates the nature of the terminal facility.

Values for the parameter are:
`MODEL`
`SESSION`
`SURROGATE`
`TERMINAL`

NETID
Optional Parameter

The network identifier of the terminal facility.

NETNAME
Optional Parameter

The network name of the terminal facility.

REAL_NETNAME
Optional Parameter

The real network name if a network qualified name has been received from VTAM.

SESSION_TYPE
Optional Parameter

The type of session represented by the terminal facility.

Values for the parameter are:
`APPCPARALLEL`
`APPCSINGLE`
`LU61`
`TYPE_NOTAPPLIC`

TNADDR_PORT
Optional Parameter

The port number for a Telnet resource

TNADDR_TPADDR
Optional Parameter

The IP address for a Telnet resource.

TFIQ gate, INQUIRE_TERMINAL_FACILITY function

The INQUIRE_TERMINAL_FACILITY function of the TFIQ gate is used to inquire about attributes of a named terminal facility.

Input Parameters

TERMINAL_TOKEN
Optional Parameter

A token identifying a terminal.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`NO_TERMINAL`

The following values are returned when RESPONSE is INVALID:
`INVALID_TERMINAL_TYPE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CHANNEL_TOKEN
Optional Parameter

A token that identifies a channel that is to be associated with the terminal.

DEVICE
Optional Parameter

The type of device represented by the terminal facility.

FACILITY_NAME
Optional Parameter

The four-character name of the terminal facility.

FREE_REQUIRED
Optional Parameter

A binary value that indicates that the terminal facility is ready to be freed.

Values for the parameter are:
`NO`
`YES`

INSPECT_DATA
: Optional Parameter

  A token indicating the Language Environment runtime options for the terminal facility.

NATIONAL_LANGUAGE_IN_USE
: Optional Parameter

  The three-character code indicating the national language in use for the terminal facility.

NATURE
: Optional Parameter

  Indicates the nature of the terminal facility.

  Values for the parameter are:
  - MODEL
  - SESSION
  - SURROGATE
  - TERMINAL

NETNAME
: Optional Parameter

  The eight-character netname of the terminal facility.

OPERATOR_ID
: Optional Parameter

  The operator identifier associated with the terminal facility.

PSEUDO_CONV_COMMAREA
: Optional Parameter

  A block into which the communications area for a pseudo-conversational transaction is copied.

STORAGE_FREEZE
: Optional Parameter

  Indicates whether or not storage normally freed during the processing of a transaction for the terminal facility is to be frozen. The frozen storage is not freed until the end of the transaction.

  Values for the parameter are:
  - NO
  - YES

TERMINAL_TRAFFIC_READ
: Optional Parameter

  Indicates whether or not reading is supported.

  Values for the parameter are:
  - NO
  - YES

TERMINAL_TRAFFIC_WRITE
: Optional Parameter

  Indicates whether or not writing is supported.

  Values for the parameter are:
  - NO
  - YES

TERMINAL_USER_AREA
: Optional Parameter

  A block into which the terminal user area is copied.

TFIQ gate, SET_TERMINAL_FACILITY function

The SET_TERMINAL_FACILITY function of the TFIQ gate is used to set attributes of a named terminal facility.

Input Parameters

CHANNEL_TOKEN
Optional Parameter

A token that identifies a channel that is to be associated with the terminal.

COUNT_STORAGE_VIOLATION
Optional Parameter

Indicates whether or not storage violations are to be counted for this terminal facility.

Values for the parameter are:
- NO
- YES

INPUTMSG
Optional Parameter

A block into which the input message for a pseudo-conversational transaction is copied.

INSPECT_DATA
Optional Parameter

Data used by the Inspect tool.

NATIONAL_LANGUAGE_IN_USE
Optional Parameter

The three-character code indicating the national language in use for the terminal facility.

PSEUDO_CONV_COMMAREA
Optional Parameter

A block into which the communications area for a pseudo-conversational transaction is copied.

PSEUDO_CONV_IMMEDIATE
Optional Parameter

A binary value that indicates whether the terminal is to be set into a pseudo conversation.

Values for the parameter are:
- NO
- YES

PSEUDO_CONV_NEXT_TRANSID
Optional Parameter

The four-character identifier of the transaction to which control is passed on a normal return from a pseudo-conversational transaction (to which the pseudo_conversational data is passed).

STORAGE_FREEZE
Optional Parameter

Indicates whether or not storage normally freed during the processing of a transaction for the terminal facility is to be frozen. (The frozen storage is not freed until the end of the transaction.)

Values for the parameter are:
- NO

YES

TERMINAL_TOKEN
Optional Parameter

A token identifying a terminal.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
NO_TERMINAL
PERMANENT_TRANSID

The following values are returned when RESPONSE is INVALID:
INVALID_TERMINAL_TYPE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TFRF gate, RELEASE_FACILITY function

Release a transaction's principal facility.

Input Parameters

RESTART
Specifies whether to restart the transaction.

Values for the parameter are:
NO
YES

TERMINATION_TYPE
Specifies whether transaction termination is normal or abnormal.

Values for the parameter are:
ABNORMAL
NORMAL

TF_TOKEN
A token representing the terminal facility.

Output Parameters

REASON
The values for the parameter are:
INVALID_FORMAT
INVALID_FUNCTION
RESTART_FAILURE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XSWM gate, XRF_GET function

This function reads security rebuild records from the CAVM data set. A response of OK indicates that a security rebuild is required in the Alternate. A response of EXCEPTION and a reason of END_OF_DATA indicates that tracking has finished and that takeover is beginning.

Output Parameters

REASON
The values for the parameter are:
END_OF_DATA

`INVALID_DATA`
`SHUTDOWN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XSWM gate, XRF_PUT function

This function writes security rebuild records to the CAVM data set. This informs the Alternate that a security rebuild is required.

Output Parameters

REASON
The values for the parameter are:
`NOT_THERE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Application domain's call-back gates

Table 30 summarizes the domain's call-back gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 30. Application domain's call-back gates

Gate	Trace	Function	Format
APRD	AP D610 AP D611	START_DELIVERY DELIVER_RECOVERY END_DELIVERY DELIVER_FORGET	RMDE
APRD	AP D610 AP D611	TAKE_KEYPOINT	RMKP
APRD	AP D610 AP D611	PERFORM_COMMIT PERFORM_PREPARE START_BACKOUT DELIVER_BACKOUT_DATA END_BACKOUT PERFORM_SHUNT PERFORM_UNSHUNT	RMRO
BRXM	AP 2860 AP 2861	INIT_XM_CLIENT BIND_XM_CLIENT TRANSACTION_HANG ABEND_TERMINATE RELEASE_XM_CLIENT	XMAC

ECRL	EC 3570
	EC 3571
		CREATE
		DISCARD
		INQUIRE
		SET
			RLCB

ICRC		DELIVER_IC_RECOVERY_DATA SOLICIT_INQUIRES	TSIC

For descriptions of these functions and their input and output parameters, refer to descriptions of the following call-back formats:

"Resource life-cycle domain's call-back formats" on page 1547

"Recovery manager domain call-back formats" on page 1599
"Temporary Storage domain call-back formats" on page 1834
"Transaction Manager domain's callback formats" on page 1996

Application Manager Domain's generic gates

Table 31 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 31. Application Manager Domain's generic gates

Gate	Trace	Function	Format
APDM	AP 0900 AP 0901	INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM
APDS	AP 0500 AP 0501	TASK_REPLY PURGE_INHIBIT_QUERY	DSAT
APST	AP D400 AP D401	COLLECT_STATISTICS COLLECT_RESOURCE_STATS	STST
APSM	AP F110 AP F111	STORAGE_NOTIFY	SMNT
APTI	AP F300 AP F301	NOTIFY	TISR

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:
"Domain Manager domain's generic formats" on page 956
"Dispatcher domain's generic formats" on page 1031
"Statistics domain's generic formats" on page 1777
"Storage manager domain generic formats" on page 1709
"Timer domain's generic formats" on page 1790

Application Manager Domain's generic formats

Table 32 describes the generic formats owned by the application domain and shows the functions performed on the calls.

Table 32. Application Manager Domain's generic formats

Format	Calling module	Function
APUE	DFHUEM	SET_EXIT_STATUS

Note: In the descriptions of the formats that follow, the input parameters are input not to the application domain, but to the domain being called by the application domain. Similarly, the output parameters are output by the domain that was called by the application domain, in response to the call.

APUE gate, SET_EXIT_STATUS function

Enable or disable a user exit point.

Input Parameters

`EXIT_POINT`
Identifies the user exit to be enabled or disabled

`EXIT_STATUS`
The desired status of the exit.

Values for the parameter are:
`ACTIVE`
`INACTIVE`

Output Parameters

`REASON`
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is INVALID:
`INVALID_EXIT_POINT`
`INVALID_FUNCTION`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

Chapter 71. Business Application Manager Domain (BA)

The business application manager domain (also sometimes known as *business application manager*) is responsible for managing CICS business transaction services (BTS) processes, process types and activities. It deals with the hardening of the associated data to BTS repository files. Along with scheduler services domain and event manager domain it forms the CICS BTS function.

Business Application Manager Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the BA domain.

BAAC gate, ACQUIRE_ACTIVITY function

The ACQUIRE_ACTIVITY function of the BAAC gate is used to acquire the specified activity.

Input Parameters

ACTIVITYID
the buffer containing the activity identifier.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
ACTIVITY_ALREADY_ACQUIRED
ACTIVITY_NOT_FOUND
READ_FAILURE
RECORD_BUSY

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BAAC gate, ADD_ACTIVITY function

The ADD_ACTIVITY function of the BAAC gate is used to define a new activity in response to an EXEC CICS DEFINE ACTIVITY call.

Input Parameters

ACTIVITY_NAME
the 16-character activity name.

COMPLETION_EVENT
the 16-character completion event.

TRANID
the 4-character transaction id.

ACTIVITYID
Optional Parameter

the buffer containing the activity identifier.

PROGRAM
Optional Parameter

the 8-character program name associated with the root activity.

USERID
Optional Parameter

the 8-character userid.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`DUPLICATE_ACTIVITY_NAME`
`INVALID_NAME`
`NO_CURRENT_ACTIVITY`
`UNKNOWN_TRANSACTION_ID`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BAAC gate, ADD_REATTACH_ACQUIRED function

The ADD_REATTACH_ACQUIRED function of the BAAC gate is used to reattach an activity.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`NO_ACQUIRED_ACTIVITY`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BAAC gate, ADD_TIMER_REQUEST function

The ADD_TIMER_REQUEST function of the BAAC gate is used to add a delayed request to BAM domain in response to an EXEC CICS DEfINE TIMER call.

Input Parameters

DATETIME
the time at which the timer expires.

EVENT_VERSION
the version of the event.

REQUEST_TOKEN
the token representing the request.

TIMER_EVENT
the timer event name.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`NO_CURRENT_ACTIVITY`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BAAC gate, CANCEL_ACTIVITY function

The CANCEL_ACTIVITY function of the BAAC gate is used to synchronously cancel the named child activity or the acquired activity.

Input Parameters

ACTIVITY_NAME
Optional Parameter

the 16-character activity name.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`ACTIVITY_NOT_FOUND`
`FILE_NOT_AUTH`
`INVALID_ACTIVITYID`
`INVALID_MODE`
`NO_CURRENT_ACTIVITY`
`RECORD_BUSY`

The following values are returned when RESPONSE is INVALID:
`INVALID_BUFFER_LENGTH`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BAAC gate, CHECK_ACTIVITY function

The CHECK_ACTIVITY function of the BAAC gate is used to establish how the named child activity or acquired activity completed.

Input Parameters

ACTIVITY_NAME
Optional Parameter

the 16-character activity name.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`ACTIVITY_NOT_FOUND`
`NO_CURRENT_ACTIVITY`
`READ_FAILURE`
`RECORD_BUSY`

ABEND_CODE
the 4-character abend code.

ABEND_PROG
the 8-character name of the program which abended.

ACTMODE
the active mode of the process.

Values for the parameter are:
`ACTIVE`
`CANCELLING`
`COMPLETE`
`DORMANT`
`INITIAL`

COMPLETION_STATUS
is the completion status of the process.

Values for the parameter are:
`ABENDED`
`FORCEDCOMPLETE`
`INCOMPLETE`
`NORMAL`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SUSPENDED
indicates whether the process is suspended.

Values for the parameter are:
`NO`
`YES`

BAAC gate, DELETE_ACTIVITY function

The DELETE_ACTIVITY function of the BAAC gate is used to delete the named child activity from the repository.

Input Parameters

ACTIVITY_NAME
the 16-character activity name.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`ACTIVITY_NOT_FOUND`
`INVALID_MODE`
`NO_CURRENT_ACTIVITY`
`READ_FAILURE`
`RECORD_BUSY`

ACTMODE
the active mode of the process.

Values for the parameter are:
`ACTIVE`
`CANCELLING`
`COMPLETE`
`DORMANT`
`INITIAL`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BAAC gate, LINK_ACTIVITY function

The LINK_PROCESS function of the BAAC gate is used to invoke the named child activity or acquired activity synchronously, without a context switch.

Input Parameters

INPUT_EVENT
the 16-character name of the input event.

ACTIVITY_NAME
Optional Parameter

the 16-character activity name.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`ACTIVITY_NOT_FOUND`
`AUTOINSTALL_FAILED`

AUTOINSTALL_INVALID_DATA
AUTOINSTALL_MODEL_NOT_DEF
AUTOINSTALL_URM_FAILED
AUTOSTART_DISABLED
INVALID_EVENT
INVALID_MODE
JVM_PROFILE_NOT_FOUND
JVM_PROFILE_NOT_VALID
JVMPOOL_DISABLED
NO_COMPLETION_EVENT
NO_CURRENT_ACTIVITY
NO_EVENTS_PROCESSED
PENDING_ACTIVITY_EVENTS
PROGRAM_NOT_AUTHORISED
PROGRAM_NOT_DEFINED
PROGRAM_NOT_ENABLED
PROGRAM_NOT_LOADABLE
READ_FAILURE
RECORD_BUSY
REMOTE_PROGRAM
SECOND_H8_PROGRAM
SECOND_JVM_PROGRAM
SYSTEM_PROPERTIES_NOT_FND
USER_CLASS_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BAAC gate, RESET_ACTIVITY function

The RESET_ACTIVITY function of the BAAC gate is used to reset the state of the named child activity to initial, so it may be run again.

Input Parameters

ACTIVITY_NAME
the 16-character activity name.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
ACTIVITY_NOT_FOUND
FILE_NOT_AUTH
INVALID_MODE
NO_CURRENT_ACTIVITY
READ_FAILURE
RECORD_BUSY

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BAAC gate, RESUME_ACTIVITY function

The RESUME_ACTIVITY function of the BAAC gate is used to resume a previously suspended activity.

Input Parameters

ACTIVITY_NAME
Optional Parameter

the 16-character activity name.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- ACTIVITY_NOT_FOUND
- INVALID_MODE
- NO_ACQUIRED_ACTIVITY
- READ_FAILURE
- RECORD_BUSY

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BAAC gate, RETURN_END_ACTIVITY function

The RETURN_END_ACTIVITY function of the BAAC gate is used to indicate the completion of the current activity and so raise the completion event.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- NO_CURRENT_ACTIVITY

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BAAC gate, RUN_ACTIVITY function

The RUN_ACTIVITY function of the BAAC gate is used to execute the named child activity or the acquired activity either asynchronously or synchronously i.e. with a context switch.

Input Parameters

INPUT_EVENT
the 16-character name of the input event.

MODE
Indicates if the activity should run asynchronously or synchronously.

Values for the parameter are:
- ASYNC
- SYNC

ACTIVITY_NAME
Optional Parameter

the 16-character activity name.

FACILITY_TOKEN
Optional Parameter

the 8-character facility token.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- ACTIVITY_NOT_FOUND

ACTIVITY_SUSPENDED
INVALID_EVENT
INVALID_EVENT
INVALID_MODE
NO_COMPLETION_EVENT
NO_CURRENT_ACTIVITY
READ_FAILURE
RECORD_BUSY
REMOTE_PROGRAM
REMOTE_TRAN
RUN_SYNC_ABENDED
TRAN_NOT_AUTH

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BAAC gate, SUSPEND_ACTIVITY function

The SUSPEND_ACTIVITY function of the BAAC gate is used to suspend the named child activity or the acquired activity.

Input Parameters

ACTIVITY_NAME
Optional Parameter

the 16-character activity name.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
ACTIVITY_NOT_FOUND
INVALID_MODE
NO_ACQUIRED_ACTIVITY
READ_FAILURE
RECORD_BUSY

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BABR gate, COMMIT_BROWSE function

The COMMIT_BROWSE function of the BABR gate is used to release any CICS BTS browses associated with this UOW.

Input Parameters

CHAIN_HEAD
pointer to the head of the browse chain.

BABR gate, ENDBR_ACTIVITY function

The ENDBR_ACTIVITY function of the BABR gate is used to end the specified activity browse.

Input Parameters

BROWSE_TOKEN
is the token returned to the caller on the START_BROWSE_PROCESSTYPE call.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  INVALID_BROWSE_TOKEN
  INVALID_BROWSE_TYPE

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BABR gate, ENDBR_CONTAINER function

The ENDBR_CONTAINER function of the BABR gate is used to end the specified container browse.

Input Parameters

BROWSE_TOKEN
: is the token returned to the caller on the START_BROWSE_PROCESSTYPE call.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  INVALID_BROWSE_TOKEN
  INVALID_BROWSE_TYPE

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BABR gate, ENDBR_PROCESS function

The ENDBR_PROCESS function of the BABR gate is used to end the specified process browse.

Input Parameters

BROWSE_TOKEN
: is the token returned to the caller on the START_BROWSE_PROCESSTYPE call.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  INVALID_BROWSE_TOKEN
  INVALID_BROWSE_TYPE

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BABR gate, GETNEXT_ACTIVITY function

The GETNEXT_ACTIVITY function of the BABR gate is used to return the next activity in the specified browse.

Input Parameters

BROWSE_TOKEN
: is the token returned to the caller on the START_BROWSE_PROCESSTYPE call.

RETURNED_ACTIVITYID
: Optional Parameter

  is a buffer containing the activity identifier.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `BROWSE_END`
  `INVALID_BROWSE_TOKEN`
  `INVALID_BROWSE_TYPE`
  `RECORD_BUSY`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_BUFFER_LENGTH`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACTIVITY_NAME
: Optional Parameter

  is the 16-character activity name.

LEVEL
: Optional Parameter

  is the level into the activity tree.

BABR gate, GETNEXT_CONTAINER function

The GETNEXT_CONTAINER function of the BABR gate is used to return the next container in the specified browse.

Input Parameters

BROWSE_TOKEN
: is the token returned to the caller on the START_BROWSE_PROCESSTYPE call.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `BROWSE_END`
  `INVALID_BROWSE_TOKEN`
  `INVALID_BROWSE_TYPE`
  `RECORD_BUSY`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CONTAINER_NAME
: Optional Parameter

  is the 16-character container name.

BABR gate, GETNEXT_PROCESS function

The GETNEXT_PROCESS function of the BABR gate is used to return the next process in the specified browse.

Input Parameters

BROWSE_TOKEN
: is the token returned to the caller on the START_BROWSE_PROCESSTYPE call.

RETURNED_ACTIVITYID
: Optional Parameter

  is a buffer containing the activity identifier.

RETURNED_PROCESS_NAME
Optional Parameter

is a buffer containing the returned process name.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- BROWSE_END
- INVALID_BROWSE_TOKEN
- INVALID_BROWSE_TYPE
- RECORD_BUSY

The following values are returned when RESPONSE is INVALID:
- INVALID_BUFFER_LENGTH

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BABR gate, INQUIRE_ACTIVATION function

The INQUIRE_ACTIVATION function of the BABR gate is used to obtain information about the activation associated with a running transaction, if there is one.

Input Parameters

RETURNED_ACTIVITYID
is a buffer containing the activity identifier.

RETURNED_PROCESS_NAME
is a buffer containing the returned process name.

TRANSACTION_TOKEN
is a token representing an instance of a transaction.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- ACTIVITY_NOT_FOUND

The following values are returned when RESPONSE is INVALID:
- INVALID_BUFFER_LENGTH

ACTIVITY_NAME
is the 16-character activity name.

PROCESS_TYPE
is the 8-character process type.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BABR gate, INQUIRE_ACTIVITY function

The INQUIRE_ACTIVITY function of the BABR gate is used to obtain information about the specified activity.

Input Parameters

ACTIVITYID
Optional Parameter

the buffer containing the activity identifier.

RETURNED_ACTIVITYID
Optional Parameter

is a buffer containing the activity identifier.

RETURNED_PROCESS_NAME
Optional Parameter

is a buffer containing the returned process name.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`ACTIVITY_NOT_FOUND`
`FILE_NOT_AUTH`
`NO_CURRENT_ACTIVITY`
`RECORD_BUSY`

The following values are returned when RESPONSE is INVALID:
`INVALID_ACTIVITYID_LEN`
`INVALID_BUFFER_LENGTH`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ABEND_CODE
Optional Parameter

the 4-character abend code.

ABEND_PROGRAM
Optional Parameter

the 8-character name of the program which abended.

ACTIVITY_NAME
Optional Parameter

is the 16-character activity name.

COMPLETION_STATUS
Optional Parameter

is the completion status of the process.

Values for the parameter are:
`ABENDED`
`FORCED`
`INCOMPLETE`
`NORMAL`

EVENT_NAME
Optional Parameter

is the 16-character event name.

INIT_TRANSID
Optional Parameter

is the 4-character transaction identifier of the transaction under which the activity was initiated.

MODE
Optional Parameter

is the mode of the activity.

Values for the parameter are:
`ACTIVE`
`CANCELLING`

COMPLETE
DORMANT
INITIAL

PROCESS_TYPE
Optional Parameter

is the 8-character process type.

PROGRAM
Optional Parameter

is the 8-character program name.

SUSPENDED
Optional Parameter

indicates whether the process is suspended.

Values for the parameter are:
NO
YES

TRANSID
Optional Parameter

is the 4-character transaction identifier.

USERID
Optional Parameter

is the 8-character userid.

BABR gate, INQUIRE_CONTAINER function

The INQUIRE_CONTAINER function of the BABR gate is used to obtain information about the specified container.

Input Parameters

CONTAINER_NAME
the 16-character container name.

ACTIVITYID
Optional Parameter

the buffer containing the activity identifier.

PROCESS_NAME
Optional Parameter

the 36-character process name.

PROCESS_TYPE
Optional Parameter

is the 8-character process type.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
ACTIVITY_NOT_FOUND
CONTAINER_NOT_FOUND
FILE_NOT_AUTH
NO_CURRENT_ACTIVITY
PROCESS_NOT_FOUND
PROCESSTYPE_NOT_FOUND
RECORD_BUSY

The following values are returned when RESPONSE is INVALID:

`INVALID_ACTIVITYID_LEN`
`INVALID_PROCESSNAME_LEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DATA_ADDRESS
Optional Parameter

is the address of the container data.

DATA_LENGTH
Optional Parameter

is the length of the container data.

BABR gate, INQUIRE_PROCESS function

The INQUIRE_PROCESS function of the BABR gate is used to obtain information about the specified process.

Input Parameters

PROCESS_NAME
the 36-character process name.

PROCESS_TYPE
is the 8-character process type.

RETURNED_ACTIVITYID
Optional Parameter

is a buffer containing the activity identifier.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`FILE_NOT_AUTH`
`PROCESS_NOT_FOUND`
`PROCESSTYPE_NOT_FOUND`
`RECORD_BUSY`

The following values are returned when RESPONSE is INVALID:
`INVALID_BUFFER_LENGTH`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BABR gate, STARTBR_ACTIVITY function

The STARTBR_ACTIVITY function of the BABR gate is used to initiate a browse of activities from the specified activity identifier or from the root activity of the specified process.

Input Parameters

ACTIVITYID
Optional Parameter

the buffer containing the activity identifier.

PROCESS_NAME
Optional Parameter

the 36-character process name.

PROCESS_TYPE
Optional Parameter

is the 8-character process type.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`ACTIVITY_NOT_FOUND`
`FILE_NOT_AUTH`
`NO_CURRENT_ACTIVITY`
`PROCESS_NOT_FOUND`
`PROCESSTYPE_NOT_FOUND`
`RECORD_BUSY`

The following values are returned when RESPONSE is INVALID:
`INVALID_ACTIVITYID_LEN`
`INVALID_PROCESSNAME_LEN`

BROWSE_TOKEN
is the token used to identify this browse.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BABR gate, STARTBR_CONTAINER function

The STARTBR_CONTAINER function of the BABR gate is used to initiate a browse of containers associated with a specified activity or process.

Input Parameters

ACTIVITYID
Optional Parameter

the buffer containing the activity identifier.

PROCESS_NAME
Optional Parameter

the 36-character process name.

PROCESS_TYPE
Optional Parameter

is the 8-character process type.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`ACTIVITY_NOT_FOUND`
`FILE_NOT_AUTH`
`NO_CURRENT_ACTIVITY`
`PROCESS_NOT_FOUND`
`PROCESSTYPE_NOT_FOUND`
`RECORD_BUSY`

The following values are returned when RESPONSE is INVALID:
`INVALID_ACTIVITYID_LEN`
`INVALID_PROCESSNAME_LEN`

BROWSE_TOKEN
is the token used to identify this browse.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BABR gate, STARTBR_PROCESS function

The STARTBR_PROCESS function of the BABR gate is used to initiate a browse of the processes of a certain type.

Input Parameters

PROCESS_TYPE
is the 8-character process type.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- FILE_NOT_AUTH
- FILE_UNAVAILABLE
- PROCESSTYPE_NOT_FOUND
- RECORD_BUSY

BROWSE_TOKEN
is the token used to identify this browse.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BACR gate, COPY_CONTAINER function

Copy a container from one activity to another.

Input Parameters

CONTAINER_NAME
is the 16-character source container name.

ACTIVITY_NAME
Optional Parameter

is the 16-character name of the activity with which the source container is associated.

AS_CONTAINER
Optional Parameter

is the 16-character destination container name.

CONTAINER_SCOPE
Optional Parameter

identifies the scope of the source container.

Values for the parameter are:
- ACQUIRED_ACTIVITY
- ACQUIRED_PROCESS
- ACTIVITY
- CHILD_ACTIVITY
- PROCESS

TO_ACTIVITY
Optional Parameter

s the 16-character activity name of the activity with which the destination container is associated.

TO_PROCESS
Optional Parameter

is a value indicating if the destination container is to be a process container rather than an activity container.

Values for the parameter are:
`NO`
`YES`

Output Parameters

`REASON`
The following values are returned when RESPONSE is EXCEPTION:
`ACTIVITY_NOT_FOUND`
`CONTAINER_NOT_FOUND`
`CONTAINER_READONLY`
`INVALID_CONTAINER_NAME`
`NO_ACQUIRED_ACTIVITY`
`NO_ACQUIRED_PROCESS`
`NO_CURRENT_ACTIVITY`
`NO_CURRENT_PROCESS`
`RECORD_BUSY`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BACR gate, DELETE_CONTAINER function

The DELETE_CONTAINER function of the BACR gate is used to delete a named container and its associated data.

Input Parameters

`CONTAINER_NAME`
the 16-character container name.

`ACTIVITY_NAME`
Optional Parameter

the 16-character activity name.

`CONTAINER_SCOPE`
Optional Parameter

identifies the scope of this container.

Values for the parameter are:
`ACQUIRED_ACTIVITY`
`ACQUIRED_PROCESS`
`ACTIVITY`
`CHILD_ACTIVITY`
`PROCESS`

Output Parameters

`REASON`
The following values are returned when RESPONSE is EXCEPTION:
`ACTIVITY_NOT_FOUND`
`CONTAINER_NOT_FOUND`
`CONTAINER_READONLY`
`NO_ACQUIRED_ACTIVITY`
`NO_ACQUIRED_PROCESS`
`NO_CURRENT_ACTIVITY`
`NO_CURRENT_PROCESS`
`RECORD_BUSY`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BACR gate, GET_CONTAINER_INTO function

The GET_CONTAINER_INTO function of the BACR gate is used to place the data in a named container into an area provided by the caller.

Input Parameters

CONTAINER_NAME
the 16-character container name.

ITEM_BUFFER
is the buffer into which the container data is placed.

ACTIVITY_NAME
Optional Parameter

the 16-character activity name.

CONTAINER_SCOPE
Optional Parameter

identifies the scope of this container.

Values for the parameter are:
ACQUIRED_ACTIVITY
ACQUIRED_PROCESS
ACTIVITY
CHILD_ACTIVITY
PROCESS

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
ACTIVITY_NOT_FOUND
CONTAINER_NOT_FOUND
LENGTH_ERROR
NO_ACQUIRED_ACTIVITY
NO_ACQUIRED_PROCESS
NO_CURRENT_ACTIVITY
NO_CURRENT_PROCESS
RECORD_BUSY

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BACR gate, GET_CONTAINER_LENGTH function

The GET_CONTAINER_LENGTH function of the BACR gate is used to query the length of application data in a named container.

Input Parameters

CONTAINER_NAME
the 16-character container name.

ACTIVITY_NAME
Optional Parameter

the 16-character activity name.

CONTAINER_SCOPE
Optional Parameter

identifies the scope of this container.

Values for the parameter are:
ACQUIRED_ACTIVITY

ACQUIRED_PROCESS
ACTIVITY
CHILD_ACTIVITY
PROCESS

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
ACTIVITY_NOT_FOUND
CONTAINER_NOT_FOUND
INVALID_CONTAINER_NAME
NO_ACQUIRED_ACTIVITY
NO_ACQUIRED_PROCESS
NO_CURRENT_ACTIVITY
NO_CURRENT_PROCESS
RECORD_BUSY

CONTAINER_LENGTH
is the fullword length of the application data.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BACR gate, GET_CONTAINER_SET function

The GET_CONTAINER_SET function of the BACR gate is used to place the data in a named container into an area provided by BAM domain and return this area to the caller.

Input Parameters

CONTAINER_NAME
the 16-character container name.

ACTIVITY_NAME
Optional Parameter

the 16-character activity name.

CONTAINER_SCOPE
Optional Parameter

identifies the scope of this container.

Values for the parameter are:
ACQUIRED_ACTIVITY
ACQUIRED_PROCESS
ACTIVITY
CHILD_ACTIVITY
PROCESS

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
ACTIVITY_NOT_FOUND
CONTAINER_NOT_FOUND
NO_ACQUIRED_ACTIVITY
NO_ACQUIRED_PROCESS
NO_CURRENT_ACTIVITY
NO_CURRENT_PROCESS
RECORD_BUSY

ITEM_DATA
a block holding the named container's data.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BACR gate, MOVE_CONTAINER function

The MOVE_CONTAINER function of the BACM gate is used to move a container between activities. If a container of the same name as the destination container name already exists in the destination activity then it is overwritten.

Input Parameters

CONTAINER_NAME
is the 16-character source container name.

ACTIVITY_NAME
Optional Parameter

is the 16-character name of the activity with which the source container is associated.

AS_CONTAINER
Optional Parameter

is the 16-character destination container name.

CONTAINER_SCOPE
Optional Parameter

identifies the scope of the source container.

Values for the parameter are:

```
ACQUIRED_ACTIVITY
ACQUIRED_PROCESS
ACTIVITY
CHILD_ACTIVITY
PROCESS
```

TO_ACTIVITY
Optional Parameter

is the 16-character activity name of the activity with which the destination container is associated.

TO_PROCESS
Optional Parameter

is a value indicating if the destination container is to be a process container rather than an activity container.

Values for the parameter are:

```
NO
YES
```

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
ACTIVITY_NOT_FOUND
CONTAINER_NOT_FOUND
CONTAINER_READONLY
INVALID_CONTAINER_NAME
NO_ACQUIRED_ACTIVITY
NO_ACQUIRED_PROCESS
NO_CURRENT_ACTIVITY
```

`NO_CURRENT_PROCESS`
`RECORD_BUSY`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

BACR gate, PUT_CONTAINER function

The PUT_CONTAINER function of the BACR gate is used to place data into a named container.

Input Parameters

`CONTAINER_NAME`
the 16-character container name.

`ITEM_DATA`
a block holding the data to be placed in the named container.

`ACTIVITY_NAME`
Optional Parameter

the 16-character activity name.

`CONTAINER_SCOPE`
Optional Parameter

identifies the scope of this container.

Values for the parameter are:
`ACQUIRED_ACTIVITY`
`ACQUIRED_PROCESS`
`ACTIVITY`
`CHILD_ACTIVITY`
`PROCESS`

Output Parameters

`REASON`
The following values are returned when RESPONSE is EXCEPTION:
`ACTIVITY_NOT_FOUND`
`CONTAINER_NOT_FOUND`
`CONTAINER_READONLY`
`INVALID_CONTAINER_NAME`
`LENGTH_ERROR`
`NO_ACQUIRED_ACTIVITY`
`NO_ACQUIRED_PROCESS`
`NO_CURRENT_ACTIVITY`
`NO_CURRENT_PROCESS`
`RECORD_BUSY`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

BAPR gate, ACQUIRE_PROCESS function

The ACQUIRE_PROCESS function of the BAPR gate is used to acquire the named process.

Input Parameters

`PROCESS_NAME`
the 36-character process name.

PROCESSTYPE
the 8-character process type.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- FILE_NOT_AUTH
- OTHER_PROCESS_CURRENT
- PROCESS_NOT_FOUND
- PROCESSTYPE_NOT_FOUND
- RECORD_BUSY

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BAPR gate, ADD_PROCESS function

The ADD_PROCESS function of the BAPR gate is used to define a new process in reponse to an EXEC CICS(R) DEFINE PROCESS call.

Input Parameters

PROCESS_NAME
the 36-character process name.

PROCESSTYPE
the 8-character process type.

TRANID
the 4-character transaction id.

CHECK_UNIQUE
Optional Parameter

a Boolean value indicating whether a check should be made to ensure that the process name is unique within the scope of the process-type.

Values for the parameter are:
- NO
- YES

PROGRAM
Optional Parameter

the 8-character program name associated with the root activity.

USERID
Optional Parameter

the 8-character userid.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- DUPLICATE_PROCESS_NAME
- FILE_NOT_AUTH
- PROCESS_ALREADY_ACQUIRED
- PROCESSTYPE_NOT_ENABLED
- PROCESSTYPE_NOT_FOUND
- WRITE_FAILED

PROCESS_TOKEN
a token representing this process internally.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BAPR gate, CANCEL_PROCESS function

The CANCEL_PROCESS function of the BAPR gate is used to synchronously cancel the acquired process.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`FILE_NOT_AUTH`
`PROCESS_NOT_FOUND`
`PROCESSTYPE_NOT_FOUND`
`RECORD_BUSY`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BAPR gate, CHECK_PROCESS function

The CHECK_PROCESS function of the BAPR gate is used to establish how the acquired process completed.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`PROCESS_NOT_FOUND`
`RECORD_BUSY`

ABEND_CODE
the 4-character abend code.

ABEND_PROG
the 8-character name of the program which abended.

ACTMODE
the active mode of the process.

Values for the parameter are:
`ACTIVE`
`CANCELLING`
`COMPLETE`
`DORMANT`
`INITIAL`

COMPLETION_STATUS
is the completion status of the process.

Values for the parameter are:
`ABENDED`
`FORCEDCOMPLETE`
`INCOMPLETE`
`NORMAL`

RESPONSE
is the domain's response to the call.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`

INVALID
KERNERROR
PURGED

SUSPENDED
indicates whether the process is suspended.

Values for the parameter are:
NO
YES

BAPR gate, LINK_PROCESS function

The LINK_PROCESS function of the BAPR gate is used to invoke the acquired process synchronously, without a context switch.

Input Parameters

INPUT_EVENT
Optional Parameter

the 16-character name of the input event.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
AUTOINSTALL_FAILED
AUTOINSTALL_INVALID_DATA
AUTOINSTALL_MODEL_NOT_DEF
AUTOINSTALL_URM_FAILED
AUTOSTART_DISABLED
INVALID_EVENT
INVALID_MODE
JVM_PROFILE_NOT_FOUND
JVM_PROFILE_NOT_VALID
JVMPOOL_DISABLED
NO_EVENTS_PROCESSED
OTHER_PROCESS_CURRENT
PENDING_ACTIVITY_EVENTS
PROCESS_NOT_FOUND
PROCESS_SUSPENDED
PROCESSTYPE_NOT_FOUND
PROGRAM_NOT_AUTHORISED
PROGRAM_NOT_DEFINED
PROGRAM_NOT_ENABLED
PROGRAM_NOT_LOADABLE
REMOTE_PROGRAM
SECOND_H8_PROGRAM
SECOND_JVM_PROGRAM
SYSTEM_PROPERTIES_NOT_FND
USER_CLASS_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

BAPR gate, RESET_PROCESS function

The RESET_PROCESS function of the BAPR gate is used to reset the state of the acquired root activity to initial, so it may be run again.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `FILE_NOT_AUTH`
  `INVALID_MODE`
  `PROCESS_NOT_FOUND`
  `PROCESSTYPE_NOT_FOUND`
  `RECORD_BUSY`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BAPR gate, RESUME_PROCESS function

The RESUME_PROCESS function of the BAPR gate is used to resume a previously suspended process.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `PROCESS_NOT_FOUND`
  `RECORD_BUSY`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BAPR gate, RUN_PROCESS function

The RUN_PROCESS function of the BAPR gate is used to execute the acquired process (invoke the root activity), either asynchronously or synchronously i.e. with a context switch.

Input Parameters

MODE
: Indicates if the process should run asynchronously or synchronously.

  Values for the parameter are:
  `ASYNC`
  `SYNC`

FACILITY_TOKEN
: Optional Parameter

  the 8-character facility token.

INPUT_EVENT
: Optional Parameter

  the 16-character name of the input event.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `AUTOINSTALL_FAILED`
  `AUTOINSTALL_INVALID_DATA`
  `AUTOINSTALL_MODEL_NOT_DEF`
  `AUTOINSTALL_URM_FAILED`
  `AUTOSTART_DISABLED`
  `INVALID_EVENT`
  `INVALID_MODE`

JVM_PROFILE_NOT_FOUND
JVM_PROFILE_NOT_VALID
JVMPOOL_DISABLED
OTHER_PROCESS_CURRENT
PROCESS_NOT_FOUND
PROCESS_SUSPENDED
PROCESSTYPE_NOT_FOUND
PROGRAM_NOT_AUTHORISED
PROGRAM_NOT_DEFINED
PROGRAM_NOT_ENABLED
PROGRAM_NOT_LOADABLE
RECORD_BUSY
REMOTE_PROGRAM
REMOTE_TRAN
RUN_SYNC_ABENDED
SECOND_H8_PROGRAM
SECOND_JVM_PROGRAM
SYSTEM_PROPERTIES_NOT_FND
TRAN_NOT_AUTH
USER_CLASS_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BAPR gate, SUSPEND_PROCESS function

The SUSPEND_PROCESS function of the BAPR gate is used to suspend the acquired process.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
PROCESS_NOT_FOUND
RECORD_BUSY

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BATT gate, ADD_REPLACE_PROCESSTYPE function

The ADD_REPLACE_PROCESSTYPE function of the BATT gate is used to add a new process type definition or replace an existing process type definition. Process types are defined using RDO.

Input Parameters

AUDITLEVEL
determines the level of auditing to be undertaken for this process type.

Values for the parameter are:
ACTIVITY
FULL
OFF
PROCESS

AUDITLOG_NAME
is an 8-character name of the audit log to be associated with this process type. The log is defined using RDO.

CATALOG_PTDEF
indicates whether the definition should be written to the global catalog.

Values for the parameter are:
- NO
- YES

FILE_NAME
is an 8-character name of the repository file to be associated with this process type. The file is defined using RDO.

PROCESSTYPE_NAME
is an 8-character name.

STATUS
indicates whether the process type definition should be installed in a disabled or enabled state.

Values for the parameter are:
- DISABLED
- ENABLED

USERRECORDS
indicates whether user audit records are to be written to the log.

Values for the parameter are:
- NO
- YES

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- INSUFFICIENT_STORAGE
- NOT_DISABLED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BATT gate, COMMIT_PROCESSTYPE_TABLE function

The COMMIT_PROCESSTYPE_TABLE function of the BATT gate is used to commit the process type definitions to the global catalog.

Input Parameters

TOKEN
is the token identifying the table of process type definitions.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BATT gate, DISCARD_PROCESSTYPE function

The DISCARD_PROCESSTYPE function of the BATT gate is used to discard the named processtype definition.

Input Parameters

PROCESSTYPE_NAME
is an 8-character name.

Output Parameters

`REASON`
The following values are returned when RESPONSE is EXCEPTION:
`ENTRY_NOT_FOUND`
`NOT_DISABLED`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

BATT gate, END_BROWSE_PROCESSTYPE function

The END_BROWSE_PROCESSTYPE function of the BATT gate is used to end the browse identified by the browse token.

Input Parameters

`BROWSE_TOKEN`
is the token returned to the caller on the START_BROWSE_PROCESSTYPE call.

Output Parameters

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

BATT gate, GET_NEXT_PROCESSTYPE function

The GET_NEXT_PROCESSTYPE function of the BATT gate is used to return the name of the next process type in the browse, identified by the browse token.

Input Parameters

`BROWSE_TOKEN`
is the token returned to the caller on the START_BROWSE_PROCESSTYPE call.

Output Parameters

`REASON`
The following values are returned when RESPONSE is EXCEPTION:
`NO_MORE_DATA_AVAILABLE`

`PROCESSTYPE_NAME`
the 8-character process type name.

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

BATT gate, INQUIRE_PROCESSTYPE function

The INQUIRE_PROCESSTYPE function of the BATT gate is used to return information on the named process type.

Input Parameters

`PROCESSTYPE_NAME`
is an 8-character name.

Output Parameters

`REASON`
The following values are returned when RESPONSE is EXCEPTION:
`ENTRY_NOT_FOUND`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

AUDITLEVEL
Optional Parameter

identifies the level of auditing for this process type.

Values for the parameter are:
ACTIVITY
FULL
OFF
PROCESS

AUDITLOG_NAME
Optional Parameter

is an 8-character name of the audit log associated with this process type.

FILE_NAME
Optional Parameter

is the 8-character name of the repository file associated with this process type.

STATUS
Optional Parameter

indicates the status of the process type.

Values for the parameter are:
DISABLED
ENABLED

USERRECORDS
Optional Parameter

indicates whether user audit records are to being written to the log.

Values for the parameter are:
NO
YES

BATT gate, SET_PROCESSTYPE function

The SET_PROCESSTYPE function of the BATT gate is used to alter the named processtype definition.

Input Parameters

PROCESSTYPE_NAME
is an 8-character name.

AUDITLEVEL
Optional Parameter

determines the level of auditing to be undertaken for this process type.

Values for the parameter are:
ACTIVITY
FULL
OFF
PROCESS

STATUS
Optional Parameter

indicates whether the process type definition should be installed in a disabled or enabled state.

Values for the parameter are:
`DISABLED`
`ENABLED`

USERRECORDS
Optional Parameter

indicates whether user audit records are to be written to the log.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`ENTRY_NOT_FOUND`
`NOT_DISABLED`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BATT gate, START_BROWSE_PROCESSTYPE function

The START_BROWSE_PROCESSTYPE function of the BATT gate is used to initiate a browse of the process types known to this region.

Output Parameters

BROWSE_TOKEN
is the token used to identify this browse.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BAXM gate, BIND_ACTIVITY_REQUEST function

The BIND_ACTIVITY_REQUEST function of the BAXM gate is used to make the current UOW an activation of the activity specified in the activity request. This activation could be used to mark the activity complete abended because the previous activation failed, hence the abend information.

Input Parameters

REQUEST_BLOCK
a block used to hold the request data.

ABEND_CODE
Optional Parameter

the 4-character abend code.

ABEND_MSG
Optional Parameter

the 6-character abend message number.

ABEND_PROG
Optional Parameter

the 8-character abend program name.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

ACTIVITY_NOT_FOUND
READ_FAILURE
TIMEOUT

PROGRAM
is the 8-character program name.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RUN_PROGRAM
is used to indicate if a program is to be invoked on the program manager INITIAL_LINK.

Values for the parameter are:
NO
YES

BAXM gate, INIT_ACTIVITY_REQUEST function

The INIT_ACTIVITY_REQUEST function of the BAXM gate is used when the transaction requires a 3270 bridge facility, in which case the named bridge exit program is invoked.

Input Parameters

BRIDGE_EXIT
the 8-character name of the bridge exit program.

REQUEST_BLOCK
a block used to hold the request data.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Business Application Manager Domain's generic gates

Table 33 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 33. Business Application Manager Domain's generic gates

Gate	Trace	Function	Format
APUE	BA 0180 BA 0181	SET_EXIT_STATUS	APUE
DMDM	BA 0101 BA 0102	PRE_INITIALISE INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Application Manager Domain's generic formats" on page 867

"Domain Manager domain's generic formats" on page 956

Business application manager domain's call-back gates

Table 34 summarizes the domain's call-back gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 34. Business application manager domain's call-back gates

Gate	Trace	Function	Format
RMDE	BA 0140 BA 0141	START_DELIVERY DELIVER_RECOVERY END_DELIVERY	RMDE
RMKP	BA 0140 BA 0141	TAKE_KEYPOINT	RMKP
RMRO	BA 0140 BA 0141	PERFORM_PREPARE PERFORM_COMMIT START_BACKOUT DELIVER_BACKOUT_DATA END_BACKOUT PERFORM_SHUNT PERFORM_UNSHUNT	RMRO

For descriptions of these functions and their input and output parameters, refer to descriptions of the following call-back formats:

"Recovery manager domain call-back formats" on page 1599

Business application manager domain's generic formats

Table 35 describes the generic formats owned by the domain and shows the functions performed on the calls.

Table 35. Business application manager domain's generic formats

Format	Calling module	Function
BAGD		INQUIRE_DATA_LENGTH GET_DATA DESTROY_TOKEN

Note: In the descriptions of the formats that follow, the input parameters are input not to the business application manager domain, but to the domain being called by the business application manager domain. Similarly, the output parameters are output by the domain that was called by the business application manager domain, in response to the call.

Modules

Module	Function
DFHBAAC	DFHBAAC is the gate module for the following requests: ADD_ACTIVITY RUN_ACTIVITY CHECK_ACTIVITY RETURN_END_ACTIVITY DELETE_ACTIVITY SUSPEND_ACTIVITY RESUME_ACTIVITY CANCEL_ACTIVITY sliNK_ACTIVITY ACQUIRE_ACTIVITY RESET_ACTIVITY ADD_TIMER_REQUEST ADD_REATTACH_ACQUIRED
DFHBAAC0	Implements general activity class methods.
DFHBAAC1	Initializes the activity class.
DFHBAAC2	Implements the prepare method of the activity class.
DFHBAAC3	Implements the commit method of the activity class.
DFHBAAC4	Implements the delete method of the activity class.
DFHBAAC5	Implements the set_complete method of the activity class.
DFHBAAC6	Implements the invoke_exit method of the activity class.
DFHBAAR1	Intialises the audit class.
DFHBAAR2	Implements the write method of the audit class.
DFHBAA10	Implements the read_activity method of the activity class.
DFHBAA11	Implements the get_activity_instance method of the activity class.
DFHBAA12	Implements the run_sync method of the activity class.
DFHBABR	DFHBABR is the gate module for the following requests: STARTBR_ACTIVITY GETNEXT_ACTIVITY ENDBR_ACTIVITY INQUIRE_ACTIVITY STARTBR_CONTAINER GETNEXT_CONTAINER ENDBR_CONTAINER INQUIRE_CONTAINER STARTBR_PROCESS GETNEXT_PROCESS ENDBR_PROCESS INQUIRE_PROCESS INQUIRE_ACTIVATION COMMIT_BROWSE
DFHBABU1	Initializes the buffer class.
DFHBACO1	Initialization of the BAAC class: obtains and initializes the class data and sets its address into the BADM object.
DFHBACR	DFHBACR is the gate module for the following requests: DELETE_CONTAINER GET_CONTAINER_INTO GET_CONTAINER_SET PUT_CONTAINER

Module	Function
DFHBADM	DFHBADM is the gate module for the following requests: PRE_INITIALISE INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN
DFHBADUF	Formats the BAM domain control blocks
DFHBADU1	Formats the BAM domain control blocks
DFHBALR2	Implements the create_key method of the logical record class.
DFHBALR3	Implements the write_buffer method of the logical record class.
DFHBALR4	Implements the read_key method of the logical record class.
DFHBALR5	Implements the read_record method of the logical record class.
DFHBALR6	Implements the delete_record method of the logical record class.
DFHBALR7	Implements the get_browse_token method of the logical record class.
DFHBALR8	Implements the read_next_record method of the logical record class.
DFHBALR9	Implements the release_browse_token method of the logical record class.
DFHBAOFI	Initialises the object factory class.
DFHBAPR	DFHBAPR is the gate module for the following requests: ADD_PROCESS RUN_PROCESS CHECK_PROCESS SUSPEND_PROCESS RESUME_PROCESS CANCEL_PROCESS LINK_PROCESS ACQUIRE_PROCESS RESET_PROCESS
DFHBAPR0	Implements general process class methods.
DFHBAPT1	Initialises the processtype class.
DFHBAPT2	Implements the rebuild_table method of the processtype class.
DFHBAPT3	Implements the purge_catalog method of the processtype class.
DFHBARUC	The BTS repository utility program.
DFHBARUD	The BTS repository utility program.
DFHBARUP	The BTS repository utility program.
DFHBASP	DFHBASP is the gate module for the following requests: PERFORM_PREPARE PERFORM_COMMIT PERFORM_SHUNT PERFORM_UNSHUNT START_BACKOUT DELIVER_BACKOUT_DATA END_BACKOUT START_RECOVERY DELIVER_RECOVERY END_RECOVERY TAKE_KEYPOINT
DFHBATRI	Interprets BAM domain trace entries

Module	Function
DFHBATT	DFHBATT is the gate module for the following requests: ADD_REPLACE_PROCESSTYPE INQUIRE_PROCESSTYPE START_BROWSE_PROCESSTYPE GET_NEXT_PROCESSTYPE END_BROWSE_PROCESSTYPE DISCARD_PROCESSTYPE COMMIT_PROCESSTYPE_TABLE
DFHBAUE	DFHBAUE is the gate module for the following requests: SET_EXIT_STATUS
DFHBAVP1	Initialises the variable length subpool class.
DFHBAXM	DFHBAXM is the gate module for the following requests: INIT_ACTIVITY_REQUEST BIND_ACTIVITY_REQUEST

Exits

There are two user exit points in BAM domain, XRSINDI and XBADEACT. See the *CICS Customization Guide* for further details.

Chapter 72. CICS Catalog Domain (CC)

The catalog domain manages the global and local catalog.

CICS Catalog Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the CC domain.

CCCC gate, ADD function

The ADD function of the CCCC gate is used to add a record.

Input Parameters

DATA_IN
is the data to be added to the record.

NAME
is used to construct a record key, together with the domain and the type.

TYPE
identifies a block of data.

Output Parameters

REASON
The values for the parameter are:

```
CATALOG_FULL
DUPLICATE
INVALID_DATA_LENGTH
IO_ERROR
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CCCC gate, DELETE function

The DELETE function of the CCCC gate is used to delete a record.

Input Parameters

NAME
is used to construct a record key, together with the domain and the type.

TYPE
identifies a block of data.

WRITE_TOKEN
Optional Parameter

is an optional token corresponding to a START_WRITE. This avoids the need for additional connects or disconnects.

Output Parameters

REASON
The values for the parameter are:

```
BAD_TOKEN
IO_ERROR
RECORD_NOT_FOUND
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CCCC gate, END_BROWSE function

The END_BROWSE function of the CCCC gate is used to end a browse session.

Input Parameters

BROWSE_TOKEN
is the token identifying this browse session.

Output Parameters

REASON
The values for the parameter are:
BAD_TOKEN
IO_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CCCC gate, END_WRITE function

The END_WRITE function of the CCCC gate is used to end a write session.

Input Parameters

WRITE_TOKEN
is an optional token corresponding to a START_WRITE. This avoids the need for additional connects or disconnects.

Output Parameters

REASON
The values for the parameter are:
BAD_TOKEN
IO_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CCCC gate, GET function

The GET function of the CCCC gate is used to get a record.

Input Parameters

DATA_OUT
If the response is OK, this contains a copy of the specified record.

NAME
is used to construct a record key, together with the domain and the type.

TYPE
identifies a block of data.

Output Parameters

REASON
The values for the parameter are:
INVALID_DATA_LENGTH
IO_ERROR
RECORD_NOT_FOUND

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CCCC gate, GET_NEXT function

The GET_NEXT function of the CCCC gate is used to get the next record.

Input Parameters

BROWSE_TOKEN
: is the token identifying this browse session.

DATA_OUT
: If the response is OK, this contains a copy of the specified record.

Output Parameters

REASON
: The values for the parameter are:

```
BAD_TOKEN
BROWSE_END
INVALID_DATA_LENGTH
IO_ERROR
```

NAME_OUT
: The name that was supplied when the record was created.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CCCC gate, GET_UPDATE function

The GET_UPDATE function of the CCCC gate is used to get a record and to establish a thread. This thread, identified by a token, is used in a corresponding PUT_REPLACE.

Input Parameters

DATA_OUT
: If the response is OK, this contains a copy of the specified record.

NAME
: is used to construct a record key, together with the domain and the type.

TYPE
: identifies a block of data.

Output Parameters

REASON
: The values for the parameter are:

```
INVALID_DATA_LENGTH
IO_ERROR
RECORD_NOT_FOUND
```

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

UPDATE_TOKEN
: Token to be used by the corresponding PUT_REPLACE.

CCCC gate, PUT_REPLACE function

The PUT_REPLACE function of the CCCC gate is used to replace a record.

Input Parameters

`DATA_IN`
: is the data to be added to the record.

`UPDATE_TOKEN`
: is the token obtained from a previous GET_UPDATE, used to identify an existing record in the catalog.

Output Parameters

`REASON`
: The values for the parameter are:

```
BAD_TOKEN
CATALOG_FULL
INVALID_DATA_LENGTH
IO_ERROR
```

`RESPONSE`
: Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

CCCC gate, START_BROWSE function

The START_BROWSE function of the CCCC gate is used to start a browse session.

Input Parameters

`TYPE`
: identifies a block of data.

Output Parameters

`REASON`
: The values for the parameter are:

```
IO_ERROR
```

`BROWSE_TOKEN`
: is the token identifying this browse session.

`RESPONSE`
: Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

CCCC gate, START_WRITE function

The START_WRITE function of the CCCC gate is used to start a write session.

Output Parameters

`REASON`
: The values for the parameter are:

```
IO_ERROR
```

`RESPONSE`
: Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

`WRITE_TOKEN`
: is the token identifying a unique file string (thread).

CCCC gate, STARTUP_CLOSE function

Close the thread that is used for catalog domain requests during startup.

Output Parameters

`REASON`
: The values for the parameter are:

NO_STARTUP_OPEN
NOT_FOR_LCD

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CCCC gate, STARTUP_OPEN function

Open a thread that is used for catalog domain requests during startup.

Output Parameters

REASON
The values for the parameter are:
NOT_FOR_LCD
THREAD_IN_USE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CCCC gate, TYPE_PURGE function

The TYPE_PURGE function of the CCCC gate is used to purge records. This deletes all records within the specified TYPE block for that domain.

Input Parameters

TYPE
identifies a block of data.

Output Parameters

REASON
The values for the parameter are:
IO_ERROR
TYPE_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CCCC gate, WRITE function

The WRITE function of the CCCC gate is used to write a record.

Input Parameters

DATA_IN
is the data to be added to the record.

NAME
is used to construct a record key, together with the domain and the type.

TYPE
identifies a block of data.

Output Parameters

REASON
The values for the parameter are:
BAD_TOKEN
CATALOG_FULL
INVALID_DATA_LENGTH
IO_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CCCC gate, WRITE_NEXT function

The WRITE_NEXT function of the CCCC gate is used to write the next record.

Input Parameters

DATA_IN
is the data to be added to the record.

NAME
is used to construct a record key, together with the domain and the type.

TYPE
identifies a block of data.

WRITE_TOKEN
is an optional token corresponding to a START_WRITE. This avoids the need for additional connects or disconnects.

Output Parameters

REASON
The values for the parameter are:
`BAD_TOKEN`
`CATALOG_FULL`
`INVALID_DATA_LENGTH`
`IO_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CICS Catalog Domain's generic gates

Table 36 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 36. CICS Catalog Domain's generic gates

Gate	Trace	Function	Format
DMDM	Global catalog domain: GC 1010 GC 1040 Local catalog domain LC 1010 LC 1040	PRE_INITIALISE INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM

In preinitialization processing, the local catalog domain opens the CICS local catalog, DFHLCD. There is no preinitialization processing for the global catalog domain.

In initialization processing, the global catalog domain opens the CICS global catalog, DFHGCD.

In quiesce processing, the local and global catalog domains close their respective catalog data sets.

In termination processing, the CICS catalog domains perform no termination processing. They do not close either the local catalog or the global catalog; the operating system closes these data sets.

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

Modules

Module	Function
DFHCCCC	Handles the following functions: ADD DELETE GET WRITE GET_UPDATE PUT_REPLACE START_BROWSE GET_NEXT END_BROWSE TYPE_PURGE START_WRITE WRITE_NEXT END_WRITE
DFHCCDM	Handles the initialization and termination of the CICS catalog domains.
DFHCCDUF	Catalog dump formatting routine.
DFHCCTRI	Trace interpreter routine for the catalog domains.
DFHCCUTL	Offline utility to initialize the local catalog.

Chapter 73. Directory manager domain (DD)

The directory manager domain manages directories of named tokens.

Directory manager domain's specific gates

The specific gates provide access for other domains to functions that are provided by the DD domain.

DDAP gate, BIND_LDAP function

The BIND_LDAP function of the DDAP gate establishes a session with an LDAP server.

Input Parameters

CACHE_SIZE

Optional parameter

a fullword that specifies the number of bytes available for caching LDAP search results. A value of zero indicates an unlimited cache size. If CACHE_SIZE is specified, CACHE_TIME_LIMIT must also be specified. If neither parameter is specified, results will not be cached.

CACHE_TIME_LIMIT

Optional parameter

a fullword that specifies the amount of time (in seconds) that LDAP search results are cached. A value of zero indicates an unlimited cache time limit.

DISTINGUISHED_NAME

specifies the location of the LDAP distinguished name, of the user permitted to bind to the chosen server. The block-descriptor is two fullwords of data, in which the first word contains the address of the data, and the second word contains the length in bytes of the data.

LDAP_BIND_PROFILE

specifies the location of the name of a RACF profile in the LDAPBIND class that contains the URL and credentials for the LDAP server being accessed. The block-descriptor is two fullwords of data, in which the first word contains the address of the data, and the second word contains the length in bytes of the data.

LDAP_SERVER_URL

specifies the location of the LDAP URL (in the format ldap://server:port) of the LDAP server being accessed. If the colon and port number are omitted, the port defaults to 389. The block-descriptor is two fullwords of data, in which the first word contains the address of the data, and the second word contains the length in bytes of the data.

PASSWORD

specifies the location of the password for the user identified in the DISTINGUISHED_NAME input. The block-descriptor is two fullwords of data, in which the first word contains the address of the data, and the second word contains the length in bytes of the data.

Output Parameters

REASON

The following values are returned when RESPONSE is EXCEPTION:

`NOTAUTH`

NOTFOUND
LDAP_INACTIVE
INVALID_LDAP_URL

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LDAP_RESPONSE
Optional parameter

specifies the return code that is sent by the LDAP API, in response to receiving URL and user credentials.

LDAP_SESSION_TOKEN
the name of the fullword token that specifies the LDAP connection.

DDAP gate, END_BROWSE_RESULTS function

The END_BROWSE_RESULTS function of the DDAP gate allows you to end the browse session that was started by the START_BROWSE_RESULTS call.

Input Parameters

SEARCH_TOKEN
the name of the fullword token that is returned by the SEARCH_LDAP function.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
INVALID_TOKEN
NOTFOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LDAP_RESPONSE
Optional parameter

specifies the return code that is sent by the LDAP API.

DDAP gate, FLUSH_LDAP_CACHE function

The FLUSH_LDAP_CACHE function of the DDAP gate removes the contents of all cached search responses for the specified LDAP connection.

Input Parameters

LDAP_SESSION_TOKEN
the name of the fullword token that was returned by the BIND_LDAP function.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
INVALID_TOKEN
LDAP_INACTIVE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LDAP_RESPONSE
Optional parameter

specifies the return code that is sent by the LDAP API.

DDAP gate, FREE_SEARCH_RESULTS function

The FREE_SEARCH_RESULTS function of the DDAP gate releases all storage held by the SEARCH_LDAP function.

Input Parameters

SEARCH_TOKEN
the name of the fullword token that is returned by the SEARCH_LDAP function.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
INVALID_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

LDAP_RESPONSE
Optional parameter

specifies the return code that is sent by the LDAP API.

DDAP gate, GET_ATTRIBUTE_VALUE function

The GET_ATTRIBUTE_VALUE function of the DDAP gate allows you to retrieve the value associated with an attribute returned by the SEARCH_LDAP call.

Input Parameters

ATTRIBUTE_TYPE
Optional parameter

specifies the keyword CHARACTER or BINARY, indicating the format of the attribute. If this parameter is not specified, a value of CHARACTER is assumed.

LDAP_ATTRIBUTE_NAME
specifies the location of the LDAP attribute name. The block-descriptor is two fullwords of data, in which the first word contains the address of the attribute name, and the second word contains the length in bytes of the attribute name. For more information on block-descriptors, see XPI syntax.

LDAP_ATTRIBUTE_VALUE
indicates the buffer where you want the attribute value returned. A group of three fullwords are specified for the buffer-descriptor:

- The address where the result is returned.
- The maximum size in bytes, of the data returned.
- The actual length in bytes of the result. This can be specified as *, and the length is then returned in DDAP_LDAP_ATTRIBUTE_VALUE_N.

For more information on buffer-descriptors, see XPI syntax.

SEARCH_TOKEN
the name of the fullword token that is returned by the SEARCH_LDAP function.

VALUE_ARRAY_POSITION
Optional parameter

specifies the position of the requested value, in the value array for the current attribute. This parameter is only required if multiple values are expected. Array indexing starts at position 1.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `INVALID_TOKEN`
  `NOTFOUND`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LDAP_RESPONSE
: Optional parameter

  specifies the return code that is sent by the LDAP API.

DDAP gate, GET_NEXT_ATTRIBUTE function

The GET_NEXT_ATTRIBUTE function of the DDAP gate allows you to get the next attribute in a series, from an entry returned by the SEARCH_LDAP call.

Input Parameters

LDAP_ATTRIBUTE_NAME
: indicates the buffer where you want the attribute name returned. A group of three fullwords are specified for the buffer-descriptor:
  - The address where the data is returned.
  - The maximum size in bytes, of the data returned.
  - The actual length in bytes of the data. This can be specified as *, and the length is then returned in DDAP_LDAP_ATTRIBUTE_NAME_N.

  For more information on buffer-descriptors, see XPI syntax.

SEARCH_TOKEN
: the name of the fullword token that is returned by the SEARCH_LDAP function.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `BROWSE_END`
  `INVALID_TOKEN`
  `NOT_FOUND`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LDAP_RESPONSE
: Optional parameter

  specifies the return code that is sent by the LDAP API.

VALUE_COUNT
: Optional parameter

  a fullword containing the number of values returned for this attribute. There is usually one value returned.

DDAP gate, GET_NEXT_ENTRY function

The GET_NEXT_ENTRY function of the DDAP gate allows you to get the next entry, from a series of entries returned by the SEARCH_LDAP call.

Input Parameters

DISTINGUISHED_NAME
: Optional parameter

indicates the buffer where you want the distinguished name of the next entry in the search returned. A group of three fullwords are specified for the buffer-descriptor:

- The address where the data is returned.
- The maximum size in bytes, of the data is returned.
- The actual length in bytes of the data. This can be specified as *, and the length is then returned in DDAP_DISTINGUISHED_NAME_N.

For more information on buffer-descriptors, see XPI syntax.

SEARCH_TOKEN
the name of the fullword token that is returned by the SEARCH_LDAP function.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
INVALID_TOKEN
BROWSE_END
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ATTRIBUTE_COUNT
Optional parameter

specifies the number of attributes in the retrieved entry.

LDAP_RESPONSE
Optional parameter

specifies the return code that is sent by the LDAP API.

DDAP gate, SEARCH_LDAP function

The SEARCH_LDAP function of the DDAP gate sends a search request to a specified LDAP server.

Input Parameters

DISTINGUISHED_NAME
specifies the location of the LDAP distinguished name. The block-descriptor is two fullwords of data, in which the first word contains the address of the data, and the second word contains the length in bytes of the data. For more information on block-descriptors, see XPI syntax.

FILTER
Optional parameter

specifies the location of an LDAP filter string that limits the search. If this parameter is not specified or is zero, the search filter is set to `(objectClass=*)`. The block-descriptor is two fullwords of data, in which the first word contains the address of the data, and the second word contains the length in bytes of the data. For more information on block-descriptors, see XPI syntax.

LDAP_SESSION_TOKEN
the name of the fullword token that was returned by the BIND_LDAP function.

SEARCH_TIME_LIMIT
Optional parameter

specifies the time limit for the search (in seconds). If the search is not successful within this time limit, the search is abandoned. If this parameter is not specified or is zero, the search time is unlimited.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
    `INVALID_TOKEN`
    `NOTFOUND`
    `TIMED_OUT`
    `LDAP_INACTIVE`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ENTRY_COUNT
: Optional parameter

  the number of LDAP entries returned by the search.

LDAP_RESPONSE
: Optional parameter

  specifies the return code that is sent by the LDAP API.

SEARCH_TOKEN
: the name of the fullword token that identifies and holds the current position in the search.

DDAP gate, START_BROWSE_RESULTS function

The START_BROWSE_RESULTS function of the DDAP gate allows you to browse the results (attributes or entries) returned by the SEARCH_LDAP call.

Input Parameters

DISTINGUISHED_NAME
: Optional parameter

  indicates the buffer where you want the distinguished name of the first, or only located result returned. A group of three fullwords are specified for the buffer-descriptor:
  - The address where the data is returned.
  - The length of the buffer in bytes, where the data is returned.
  - The maximum length in bytes of the data. This can be specified as *, and the length is then returned in DDAP_DISTINGUISHED_NAME_N.

  For more information on buffer-descriptors, see XPI syntax.

SEARCH_TOKEN
: the name of the fullword token that is returned by the SEARCH_LDAP function.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
    `INVALID_TOKEN`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ENTRY_COUNT
: Optional parameter

  a fullword indicating the number of attributes that can be browsed in the current entry.

LDAP_RESPONSE
: Optional parameter

specifies the return code that is sent by the LDAP API.

DDAP gate, UNBIND_LDAP function

The UNBIND_LDAP function of the DDAP gate terminates a session with an LDAP server.

Input Parameters

LDAP_SESSION_TOKEN
: the name of the fullword token that was returned by the BIND_LDAP function.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  - INVALID_TOKEN
  - LDAP_INACTIVE

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LDAP_RESPONSE
: Optional parameter

  specifies the return code that is sent by the LDAP API.

DDBR gate, END_BROWSE function

The END_BROWSE function of the DDBR gate is used to end a browse on a directory.

Input Parameters

BROWSE_TOKEN
: is the token for the browse.

DIRECTORY_TOKEN
: is the token for the directory.

Output Parameters

REASON
: The following values are returned when RESPONSE is INVALID:
  - INVALID_BROWSE
  - INVALID_DIRECTORY

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DDBR gate, GET_NEXT_ENTRY function

The GET_NEXT_ENTRY function of the DDBR gate is used to get the next entry name in alphabetical order in a directory.

Input Parameters

BROWSE_TOKEN
: is the token for the browse.

DIRECTORY_TOKEN
: is the token for the directory.

ENTRY_NAME
: is the address of the entry name. The length is fixed for the directory.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `BROWSE_END`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_BROWSE`
  `INVALID_DIRECTORY`
  `INVALID_NAME`

DATA_TOKEN
: is the data associated with the entry name when it was deleted.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DDBR gate, START_BROWSE function

The START_BROWSE function of the DDBR gate is used to start an alphabetical browse through all of the entries in a directory.

Input Parameters

DIRECTORY_TOKEN
: is the token for the directory.

AT_NAME
: Optional Parameter

  is the address of an entry name at which the browse is to start. The first name found will be the first which is greater than or equal to this in alphabetical order.

TASK_RELATED
: Optional Parameter

  is an optional parameter which indicates whether the browse will end at task end.

  Values for the parameter are:
  `NO`
  `YES`

Output Parameters

REASON
: The following values are returned when RESPONSE is INVALID:
  `INVALID_DIRECTORY`

BROWSE_TOKEN
: is the token for this browse.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DDDI gate, ADD_ENTRY function

The ADD_ENTRY function of the DDDI gate is used to add an entry to a directory.

Input Parameters

DATA_TOKEN
: is the data to be associated with the entry name in the directory.

DIRECTORY_TOKEN
: is the token for the directory.

ENTRY_NAME
is the address of the entry name. The length is fixed for the directory.

SUSPEND
indicates whether Storage Manager GETMAIN requests should be conditional or unconditional.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`DUPLICATE`
`INSUFFICIENT_STORAGE`

The following values are returned when RESPONSE is INVALID:
`INVALID_DIRECTORY`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUPLICATE_DATA_TOKEN
Optional Parameter

is the data currently associated with the entry name if it already exists in the directory.

DDDI gate, CREATE_DIRECTORY function

The CREATE_DIRECTORY function of the DDDI gate is used to create a new directory with entry names of a given length.

Input Parameters

DIRECTORY_NAME
is the four_character name of the directory to be created.

NAME_LENGTH
is the length of entry names in the directory. This value must be a multiple of four, and less than 256.

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
`DUPLICATE_DIRECTORY`
`INVALID_NAME_LEN`

DIRECTORY_TOKEN
is the directory token

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DDDI gate, DELETE_ENTRY function

The DELETE_ENTRY function of the DDDI gate is used to delete an entry from a directory.

Input Parameters

DIRECTORY_TOKEN
is the token for the directory.

ENTRY_NAME
is the address of the entry name. The length is fixed for the directory.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`NOT_FOUND`

The following values are returned when RESPONSE is INVALID:
`INVALID_DIRECTORY`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DATA_TOKEN
Optional Parameter

is the data associated with the entry name when it was deleted.

DDDI gate, REPLACE_DATA function

The REPLACE_DATA function of the DDDI gate is used to replace the data associated with an existing entry name in a directory.

Input Parameters

DIRECTORY_TOKEN
is the token for the directory.

ENTRY_NAME
is the address of the entry name. The length is fixed for the directory.

NEW_DATA_TOKEN
is the new data to be associated with the entry name.

PRIOR_DATA_TOKEN
Optional Parameter

is an optional parameter that indicates the data expected to be associated with the entry name just before it being replaced.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`DATA_CHANGED`
`NOT_FOUND`

The following values are returned when RESPONSE is INVALID:
`INVALID_DIRECTORY`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DDLO gate, LOCATE function

The LOCATE function of the DDLO gate is used to locate the data associated with an existing entry name in a directory.

Input Parameters

DIRECTORY_TOKEN
is the token for the directory.

ENTRY_NAME
is the address of the entry name. The length is fixed for the directory.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `NOT_FOUND`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_DIRECTORY`

DATA_TOKEN
: is the data associated with the entry name when it was deleted.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Directory manager domain's generic gates

Table 37 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 37. Directory manager domain's generic gates

Gate	Trace	Functions	Format
DDDM	DD 0101 DD 0102	PRE_INITIALISE INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

Chapter 74. Document Handler Domain (DH)

The document handler domain manages CICS Documents.

Document Handler Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the DH domain.

DHDH gate, CREATE_DOCUMENT function

The CREATE_DOCUMENT function of the DHDH gate is used to create a new CICS document.

Input Parameters

BINARY
: Optional Parameter

  is a buffer containing a block of binary data to be added to the document.

HOST_CODEPAGE
: Optional Parameter

  is the character encoding for the block of data being added to the document. This parameter is taken into account for the TEXT and TEMPLATE_BUFFER options and ignored for all other options.

PRIVATE_DATA
: Optional Parameter

  indicates that the block of data is private, and should not be exposed in trace records.

  Values for the parameter are:
  `NO`
  `YES`

RETRIEVED_DOCUMENT
: Optional Parameter

  is a buffer containing a document in a retrieved format which is to be added to the document.

SOURCE_DOCUMENT
: Optional Parameter

  is the document token of an existing document created by the same CICS task which is to be added to the document.

SYMBOL_DELIMITER
: Optional Parameter

  is the character used to delimit symbol name-value pairs.

SYMBOL_LIST
: Optional Parameter

  is a buffer containing a list of symbols to be added to the symbol table of the document.

TEMPLATE_BUFFER
: Optional Parameter

  is a buffer containing a template to be added to the document.

TEMPLATE_IN_ERROR
Optional Parameter

is a buffer which is used by the Document Handler domain to return the name of a DOCTEMPLATE in which an error has been detected. This parameter is only meaningful when specified with the TEMPLATE_NAME option or the TEMPLATE_BUFFER option where the template in the TEMPLATE_BUFFER option contains an embedded template.

TEMPLATE_NAME
Optional Parameter

is the name of an RDO defined DOCTEMPLATE which is to be added to the document.

TEXT
Optional Parameter

is a buffer containing a block of text to be added to the document.

UNESCAPED_DATA
Optional Parameter

indicates if CICS should unescape symbol values in the data.

Values for the parameter are:
```
NO
YES
```

Output Parameters

REASON
The values for the parameter are:
```
CODEPAGE_NOT_SPECIFIED
EMBED_DEPTH_EXCEEDED
INVALID_HOST_CODEPAGE
INVALID_RETRIEVE_FORMAT
INVALID_SYMBOL_LIST_LENGTH
INVALID_TEMPLATE_LENGTH
INVALID_TEMPLATE_SYNTAX
IO_ERROR
SOURCE_DOC_NOT_FOUND
SYMBOL_NAME_INVALID
SYMBOL_VALUE_INVALID
TEMPLATE_NOT_FOUND
TEMPLATE_NOT_USABLE
```

DOCUMENT_TOKEN
is the token identifying the newly created document.

ERROR_OFFSET
is the offset into a template where a syntax error has been detected.

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

DOCUMENT_SIZE
Optional Parameter

is the size of the data in a document.

RETRIEVE_SIZE
Optional Parameter

is the maximum size in bytes that a retrieved copy of the document can be.

DHDH gate, DELETE_BOOKMARK function

The DELETE_BOOKMARK function of the DHDH gate is used to delete a bookmark in an existing document.

Input Parameters

BOOKMARK_NAME
is the 16 byte name of a bookmark to be added to the document.

DOCUMENT_TOKEN
is the token which identifies the document into which the data will be inserted.

Output Parameters

REASON
The values for the parameter are:

```
BOOKMARK_NOT_FOUND
DOCUMENT_NOT_FOUND
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RETRIEVE_SIZE
is the maximum size in bytes that a retrieved copy of the document can be.

DHDH gate, DELETE_DATA function

The DELETE_DATA function of the DHDH gate is used to delete the data between 2 bookmarks in an existing document.

Input Parameters

DOCUMENT_TOKEN
is the token which identifies the document into which the data will be inserted.

FROM_BOOKMARK
is the name of a bookmark which identifies the start of the data which is to be replaced.

FROM_POSITION
identifies the beginning or end of the document as the start of the data which is to be replaced in the document.

TO_BOOKMARK
is the name of a bookmark which identifies the end of the data which is to be replaced.

TO_POSITION
identifies the beginning or end of the document as the end of the data which is to be replaced in the document.

Output Parameters

REASON
The values for the parameter are:

```
DOCUMENT_NOT_FOUND
FROM_BOOKMARK_NOT_FOUND
INVALID_BOOKMARK_SEQUENCE
TO_BOOKMARK_NOT_FOUND
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RETRIEVE_SIZE
is the maximum size in bytes that a retrieved copy of the document can be.

DHDH gate, DELETE_DOCUMENT function

The DELETE_DOCUMENT function of the DHDH gate is used to delete a document.

Input Parameters

DOCUMENT_TOKEN
is the token which identifies the document into which the data will be inserted.

Output Parameters

REASON
The values for the parameter are:
DOCUMENT_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DHDH gate, INQUIRE_DOCUMENT function

The INQUIRE_DOCUMENT function of the DHDH gate is used to obtain information about the document.

Input Parameters

DOCUMENT_TOKEN
is the token which identifies the document into which the data will be inserted.

Output Parameters

REASON
The values for the parameter are:
DOCUMENT_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DOCUMENT_SIZE
Optional Parameter

is the size of the data in a document.

RETRIEVE_SIZE
Optional Parameter

is the maximum size in bytes that a retrieved copy of the document can be.

DHDH gate, INSERT_BOOKMARK function

The INSERT_BOOKMARK function of the DHDH gate is used to insert a bookmark into an existing document.

Input Parameters

BOOKMARK_NAME
is the 16 byte name of a bookmark to be added to the document.

DOCUMENT_TOKEN
is the token which identifies the document into which the data will be inserted.

INSERT_AT
is the name of a bookmark which identifies the position at which the data should be inserted.

INSERT_POINT
identifies the beginning or end as the position at which data should be inserted into a document.

Output Parameters

REASON
The values for the parameter are:
`DOCUMENT_NOT_FOUND`
`DUPLICATE_BOOKMARK`
`INSERTPOINT_NOT_FOUND`
`INVALID_BOOKMARK_NAME`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RETRIEVE_SIZE
is the maximum size in bytes that a retrieved copy of the document can be.

DHDH gate, INSERT_DATA function

The INSERT_DATA function of the DHDH gate is used to insert a block of data into an existing document.

Input Parameters

BINARY
is a buffer containing a block of binary data to be added to the document.

DOCUMENT_TOKEN
is the token which identifies the document into which the data will be inserted.

INSERT_AT
is the name of a bookmark which identifies the position at which the data should be inserted.

INSERT_POINT
identifies the beginning or end as the position at which data should be inserted into a document.

RETRIEVED_DOCUMENT
is a buffer containing a document in a retrieved format which is to be added to the document.

SOURCE_DOCUMENT
is the document token of an existing document created by the same CICS task which is to be added to the document.

SYMBOL
is the name of a symbol defined in the symbol table. The value associated with the symbol will be added to the document.

TEMPLATE_BUFFER
is a buffer containing a template to be added to the document.

TEMPLATE_NAME
is the name of an RDO defined DOCTEMPLATE which is to be added to the document.

TEXT
is a buffer containing a block of text to be added to the document.

HOST_CODEPAGE
Optional Parameter

is the character encoding for the block of data being added to the document. This parameter is taken into account for the TEXT and TEMPLATE_BUFFER options and ignored for all other options.

PRIVATE_DATA
Optional Parameter

indicates that the block of data is private, and should not be exposed in trace records.

Values for the parameter are:

NO
YES

TEMPLATE_IN_ERROR
Optional Parameter

is a buffer which is used by the Document Handler domain to return the name of a DOCTEMPLATE in which an error has been detected. This parameter is only meaningful when specified with the TEMPLATE_NAME option or the TEMPLATE_BUFFER option where the template in the TEMPLATE_BUFFER option contains an embedded template.

Output Parameters

REASON
The values for the parameter are:
CODEPAGE_NOT_SPECIFIED
DOCUMENT_NOT_FOUND
EMBED_DEPTH_EXCEEDED
INSERTPOINT_NOT_FOUND
INVALID_HOST_CODEPAGE
INVALID_RETRIEVE_FORMAT
INVALID_TEMPLATE_LENGTH
INVALID_TEMPLATE_SYNTAX
IO_ERROR
SOURCE_DOC_NOT_FOUND
SYMBOL_NOT_FOUND
TEMPLATE_NOT_FOUND
TEMPLATE_NOT_USABLE

ERROR_OFFSET
is the offset into a template where a syntax error has been detected.

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

RETRIEVE_SIZE
is the maximum size in bytes that a retrieved copy of the document can be.

DHDH gate, REPLACE_DATA function

The REPLACE_DATA function of the DHDH gate is used to replace the data between 2 bookmarks in an existing document.

Input Parameters

BINARY
is a buffer containing a block of binary data to be added to the document.

DOCUMENT_TOKEN
is the token which identifies the document into which the data will be inserted.

FROM_BOOKMARK
is the name of a bookmark which identifies the start of the data which is to be replaced.

FROM_POSITION
identifies the beginning or end of the document as the start of the data which is to be replaced in the document.

RETRIEVED_DOCUMENT
is a buffer containing a document in a retrieved format which is to be added to the document.

SOURCE_DOCUMENT
is the document token of an existing document created by the same CICS task which is to be added to the document.

SYMBOL
is the name of a symbol defined in the symbol table. The value associated with the symbol will be added to the document.

TEMPLATE_BUFFER
is a buffer containing a template to be added to the document.

TEMPLATE_NAME
is the name of an RDO defined DOCTEMPLATE which is to be added to the document.

TEXT
is a buffer containing a block of text to be added to the document.

TO_BOOKMARK
is the name of a bookmark which identifies the end of the data which is to be replaced.

TO_POSITION
identifies the beginning or end of the document as the end of the data which is to be replaced in the document.

HOST_CODEPAGE
Optional Parameter

is the character encoding for the block of data being added to the document. This parameter is taken into account for the TEXT and TEMPLATE_BUFFER options and ignored for all other options.

PRIVATE_DATA
Optional Parameter

Indicates that the block of data is private, and should not be exposed in trace records.

Values for the parameter are:
NO
YES

TEMPLATE_IN_ERROR
Optional Parameter

is a buffer which is used by the Document Handler domain to return the name of a DOCTEMPLATE in which an error has been detected. This parameter is only meaningful when specified with the TEMPLATE_NAME option or the TEMPLATE_BUFFER option where the template in the TEMPLATE_BUFFER option contains an embedded template.

Output Parameters

REASON
The values for the parameter are:
CODEPAGE_NOT_SPECIFIED
DOCUMENT_NOT_FOUND
EMBED_DEPTH_EXCEEDED
FROM_BOOKMARK_NOT_FOUND
INVALID_HOST_CODEPAGE
INVALID_RETRIEVE_FORMAT
INVALID_TEMPLATE_LENGTH
INVALID_TEMPLATE_SYNTAX
IO_ERROR
SOURCE_DOC_NOT_FOUND
SYMBOL_NOT_FOUND
SYMBOL_NOT_FOUND
TEMPLATE_NOT_FOUND
TEMPLATE_NOT_USABLE
TO_BOOKMARK_NOT_FOUND

ERROR_OFFSET
is the offset into a template where a syntax error has been detected.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RETRIEVE_SIZE
is the maximum size in bytes that a retrieved copy of the document can be.

DHDH gate, RETRIEVE_WITH_CTLINFO function

The RETRIEVE_WITH_CTLINFO function of the DHDH gate is used to retrieve a copy of an existing document. The retrieved copy will contain embedded control information.

Input Parameters

DOCUMENT_BUFFER
is a buffer into which the Document Handler domain will place the copy of the document.

DOCUMENT_TOKEN
is the token which identifies the document into which the data will be inserted.

Output Parameters

REASON
The values for the parameter are:
DOCUMENT_NOT_FOUND
OUTPUT_BUFFER_OVERFLOW

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DHDH gate, RETRIEVE_WITHOUT_CTLINFO function

The RETRIEVE_WITHOUT_CTLINFO function of the DHDH gate is used to retrieve a copy of an existing document. The retrieved copy will only contain the data in the document.

Input Parameters

DOCUMENT_BUFFER
is a buffer into which the Document Handler domain will place the copy of the document.

DOCUMENT_TOKEN
is the token which identifies the document into which the data will be inserted.

CLIENT_CODEPAGE
Optional Parameter

is the character encoding that the retrieved document should be converted to when it is placed in the buffer.

Output Parameters

REASON
The values for the parameter are:
CCSID_CONVERSION_ERROR
DOCUMENT_NOT_FOUND
INVALID_CCSID_COMBINATION
INVALID_CLIENT_CODEPAGE
INVALID_HOST_CODEPAGE
OUTPUT_BUFFER_OVERFLOW

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DHDH gate, SET_PARAMETERS function

Set document handler domain parameters.

Input Parameters

DEFAULT_CODEPAGE
The default code page used by the document handler domain.

Output Parameters

REASON
The values for the parameter are:
INVALID_HOST_CODEPAGE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DHFS gate, DELETE_HFS_FILE function

The DELETE_HFS_FILE function is used to remove a link to a z/OS UNIX file. The link may be the pathname to the file. If this is the only remaining link to the file, the file is deleted.

Input Parameters

PATHNAME
The path of the z/OS UNIX file.

Output Parameters

REASON
The values for the parameter are:
ABEND
LOOP
NOT_FOUND
NOTAUTH
UNLINK_FAILED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USS_RESPONSE
Optional Parameter

The response from UNIX System Services.

DHFS gate, END_BROWSE_DIRECTORY function

The END_BROWSE_DIRECTORY function terminates the browse of the z/OS UNIX directory.

Input Parameters

BROWSE_TOKEN
A token representing the browse session.

Output Parameters

REASON
The values for the parameter are:

ABEND
LOOP

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USS_RESPONSE
Optional Parameter

The response from UNIX System Services.

DHFS gate, GET_NEXT_IN_DIRECTORY function

The GET_NEXT_IN_DIRECTORY function returns the next file entry in the current directory buffer. If there are no file entries left, a new directory block is read in. If the number of entries read in is then zero, this indicates the end of the directory, and EXCEPTION/BROWSE_END is returned.

Input Parameters

BROWSE_TOKEN
A token representing the browse session.

FILENAME
A buffer in which the file name is returned.

Output Parameters

REASON
The values for the parameter are:
ABEND
BROWSE_END
INVALID_BROWSE_TOKEN
LOOP

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USS_RESPONSE
Optional Parameter

The response from UNIX System Services.

DHFS gate, INQUIRE_HFS_FILE function

The INQUIRE_HFS_FILE routine finds the attributes of a z/OS UNIX file without opening it.

Input Parameters

PATHNAME
The path of the z/OS UNIX file.

Output Parameters

REASON
The values for the parameter are:
ABEND
FILE_TOO_LARGE
LOOP
NOT_FOUND
NOTAUTH
STAT_FAILED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LAST_MODIFIED_ABSTIME
Optional Parameter

The date and time the file was last modified, expressed in CICS ABSTIME format.

SIZE
Optional Parameter

The size of the file in bytes.

TYPE
Optional Parameter

Indicates if the PATHNAME specifies a file or a directory.

Values for the parameter are:
`DIRECTORY`
`FILE`

USS_RESPONSE
Optional Parameter

The response from UNIX System Services.

DHFS gate, MAKE_HFS_DIRECTORY function

Create a directory in z/OS UNIX.

Input Parameters

PATHNAME
The path of the z/OS UNIX directory to be created.

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`ALREADY_EXISTS`
`LOOP`
`NOTAUTH`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USS_RESPONSE
Optional Parameter

The response from UNIX System Services.

DHFS gate, READ_HFS_FILE function

The READ_HFS_FILE function is used to read an entire z/OS UNIX file into a user-specified buffer.

Input Parameters

CONTENT
A buffer into which the file is to be read.

PATHNAME
The path to the file.

CONVERT_NEWLINE
Optional Parameter

Specifies the character to which all EBCDIC newline characters ('15'x) are converted. It is typically used before converting the file to ASCII, where a newline character is not valid.

Output Parameters

REASON
The values for the parameter are:
ABEND
FILE_TOO_LARGE
LOOP
NOT_FOUND
NOTAUTH
OPEN_FAILED
READ_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LAST_MODIFIED_ABSTIME
Optional Parameter

The date and time the file was last modified, expressed in CICS ABSTIME format.

SIZE
Optional Parameter

The size of the file in bytes.

TYPE
Optional Parameter

Indicates if the PATHNAME specifies a file or a directory.

Values for the parameter are:
DIRECTORY
FILE

USS_RESPONSE
Optional Parameter

The response from UNIX System Services.

DHFS gate, START_BROWSE_DIRECTORY function

The START_BROWSE_DIRECTORY function starts a browse of the filenames recorded in the z/OS UNIX directory

Input Parameters

PATHNAME
The path of the z/OS UNIX directory to be browsed.

Output Parameters

REASON
The values for the parameter are:
ABEND
LOOP
NOT_DIRECTORY
NOT_FOUND
NOTAUTH
OPEN_FAILED
READ_ERROR

BROWSE_TOKEN
A token representing the browse session.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USS_RESPONSE
Optional Parameter

The response from UNIX System Services.

DHFS gate, WRITE_HFS_FILE function

:p.The WRITE_HFS_FILE function is used to write an entire z/OS UNIX file from a single user-specified buffer.

Input Parameters

CONTENT
A buffer from which the file is to written.

PATHNAME
The path to the file.

APPEND
Optional Parameter

Specifies whether data is to be appended to the existing file. The default is `NO`: any existing data is overwritten.

Values for the parameter are:
- `NO`
- `YES`

CREATE_DIRECTORY
Optional Parameter

Specifies whether the directory into which the file is being written should be created if it does not exist. The default is `NO`: if the directory is missing, a `NOT_FOUND` exception is returned.

Values for the parameter are:
- `NO`
- `YES`

Output Parameters

REASON
The values for the parameter are:
- `ABEND`
- `LOOP`
- `NOT_FOUND`
- `NOTAUTH`
- `OPEN_FAILED`
- `READ_ONLY`
- `WRITE_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USS_RESPONSE
Optional Parameter

The response from UNIX System Services.

DHSL gate, ADD_SYMBOL_LIST function

The ADD_SYMBOL_LIST function of the DHSL gate is used to add a list of symbols to the symbol table at one time.

Input Parameters

DOCUMENT_TOKEN
is the token which identifies the document into which the data will be inserted.

SYMBOL_LIST
is a buffer containing a list of symbols to be added to the symbol table of the document.

PRIVATE_DATA
Optional Parameter

indicates that the symbols contain private data that should not be exposed in trace records.

Values for the parameter are:
NO
YES

SYMBOL_DELIMITER
Optional Parameter

is the character used to delimit symbol name-value pairs.

UNESCAPED_DATA
Optional Parameter

indicates if CICS should unescape symbol values in the data.

Values for the parameter are:
NO
YES

Output Parameters

REASON
The values for the parameter are:
DOCUMENT_NOT_FOUND
FREEMAIN_ERROR
GETMAIN_ERROR
INVALID_LENGTH
SYMBOL_NAME_INVALID
SYMBOL_VALUE_INVALID

ERROR_OFFSET
is the offset into a template where a syntax error has been detected.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DHSL gate, EXPORT_SYMBOL_LIST function

The EXPORT_SYMBOL_LIST function of the DHSL gate is used to export all the symbols in the symbol table in a form that can be re-imported with IMPORT_SYMBOL_LIST.

Input Parameters

DOCUMENT_TOKEN
is the token which identifies the document into which the data will be inserted.

SYMBOL_LIST_BUFFER
is a buffer that is to contain the exported symbol list.

Output Parameters

REASON
: The values for the parameter are:
  DOCUMENT_NOT_FOUND
  INVALID_LENGTH
  OUTPUT_BUFFER_OVERFLOW

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DHSL gate, IMPORT_SYMBOL_LIST function

The IMPORT_SYMBOL_LIST function of the DHSL gate is used to import all the symbols in the symbol table that were exported with EXPORT_SYMBOL_LIST.

Input Parameters

DOCUMENT_TOKEN
: is the token which identifies the document into which the data will be inserted.

SYMBOL_LIST
: is a buffer containing a list of symbols to be added to the symbol table of the document.

Output Parameters

REASON
: The values for the parameter are:
  DOCUMENT_NOT_FOUND

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DHSL gate, SET_SYMBOL_VALUE_BY_API function

The SET_SYMBOL_VALUE_BY_API function of the DHSL gate is used to set the value of a symbol in the symbol table. If the symbol does not exist in the table, it will be added. If the symbol does exist in the table, it will always be replaced.

Input Parameters

DOCUMENT_TOKEN
: is the token which identifies the document into which the data will be inserted.

SYMBOL_NAME
: is the name of the symbol in the symbol table.

VALUE
: is the value to be associated with the symbol.

PRIVATE_DATA
: Optional Parameter

  indicates that the symbol value is private, and should not be exposed in trace records.

  Values for the parameter are:
  NO
  YES

UNESCAPED_DATA
: Optional Parameter

  indicates if CICS should unescape symbol values in the data.

  Values for the parameter are:
  NO

YES

Output Parameters

REASON
The values for the parameter are:
DOCUMENT_NOT_FOUND
FREEMAIN_ERROR
GETMAIN_ERROR
INVALID_LENGTH
SYMBOL_NAME_INVALID

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DHSL gate, SET_SYMBOL_VALUE_BY_SSI function

The SET_SYMBOL_VALUE_BY_SSI function of the DHSL gate is used to set the value of a symbol in the symbol table. If the symbol does not exist in the table, it will be added. If the symbol does exist in the table, it will only be replaced if it was previously set using the SET_SYMBOL_VALUE_BY_SSI function.

Input Parameters

DOCUMENT_TOKEN
is the token which identifies the document into which the data will be inserted.

SYMBOL_NAME
is the name of the symbol in the symbol table.

VALUE
is the value to be associated with the symbol.

Output Parameters

REASON
The values for the parameter are:
DOCUMENT_NOT_FOUND
FREEMAIN_ERROR
GETMAIN_ERROR
INVALID_LENGTH
SYMBOL_NAME_INVALID

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DHTM gate, ADD_REPLACE_DOCTEMPLATE function

The ADD_REPLACE_DOCTEMPLATE function of the DHTM gate is used to install a document template into the currently executing CICS system.

Input Parameters

APPENDCRLF
specifies whether CICS is to delete trailing blanks from and append carriage-return line-feed to each logical record of the template .

Values for the parameter are:
NO
YES

CATALOG_DOC
Specifies if the changes to the doucment template are to be added to the catalog.

Values for the parameter are:
`NO`
`YES`

DOCTEMPLATE
is the name of the DOCTEMPLATE resource that is to be added.

HFSPATH
When the template resides in a z/OS UNIX System Services file, the fully qualified (absolute) or relative name of the file.

RESOURCE_NAME
is the name of the resource containing the DOCTEMPLATE.

RESOURCE_TYPE
specifies the type of resource containing the DOCTEMPLATE.

Values for the parameter are:
`EXITPGM`
`FILE`
`HFSFILE`
`PDS_MEMBER`
`PROGRAM`
`TDQUEUE`
`TSQUEUE`

TEMPLATE_NAME
is the name of an RDO defined DOCTEMPLATE which is to be added to the document.

TYPE
specifies the format of the contents of the template.

Values for the parameter are:
`BINARY`
`EBCDIC`

DDNAME
Optional Parameter

is the DDNAME of the PDS containing the DOCTEMPLATE resource if the resource resides on a PDS.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`DIRECTORY_ERROR`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`BROWSE_END`
`DDNAME_NOT_FOUND`
`FREEMAIN_FAILED`
`GETMAIN_FAILED`
`IO_ERROR`
`MEMBER_NOT_FOUND`
`NAME_IN_USE`
`NOT_FOUND`
`NOT_USABLE`
`TRUNCATED`

The following values are returned when RESPONSE is INVALID:
`INVALID_BROWSE_TOKEN`
`INVALID_FORMAT`

INVALID_FUNCTION
INVALID_RESOURCE_TYPE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DATASET
Optional Parameter

is the dataset name of the PDS containing the DOCTEMPLATE resource if the resource resides on a PDS.

DOCTEMPLATE_IN_USE
Optional Parameter

is the name of the DOCTEMPLATE definition that uses the same TEMPLATE_NAME as the resource being defined.

DHTM gate, DELETE_DOCTEMPLATE function

The DELETE_DOCTEMPLATE function of the DHTM gate deletes a previously installed DOCTEMPLATE.

Input Parameters

DOCTEMPLATE
is the name of the DOCTEMPLATE resource that is to be added.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
DIRECTORY_ERROR
LOOP

The following values are returned when RESPONSE is EXCEPTION:
BROWSE_END
DDNAME_NOT_FOUND
FREEMAIN_FAILED
GETMAIN_FAILED
IO_ERROR
MEMBER_NOT_FOUND
NAME_IN_USE
NOT_FOUND
NOT_USABLE
TRUNCATED

The following values are returned when RESPONSE is INVALID:
INVALID_BROWSE_TOKEN
INVALID_FORMAT
INVALID_FUNCTION
INVALID_RESOURCE_TYPE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DHTM gate, END_BROWSE function

The END_BROWSE function of the DHTM gate is used to terminate a browse of installed DOCTEMPLATE definitions.

Input Parameters

BROWSE_TOKEN
: is the token identifying this browse of the DOCTEMPLATE definitions.

Output Parameters

REASON
: The values for the parameter are:
  `INVALID_BROWSE_TOKEN`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DHTM gate, GET_NEXT function

The GET_NEXT function of the DHTM gate returns information about the next installed DOCTEMPLATE in the browse.

Input Parameters

BROWSE_TOKEN
: is the token identifying this browse of the DOCTEMPLATE definitions.

Output Parameters

REASON
: The values for the parameter are:
  `BROWSE_END`
  `INVALID_BROWSE_TOKEN`

APPENDCRLF
: specifies whether CICS is to delete trailing blanks from and append carriage-return line-feed to each logical record of the template .

  Values for the parameter are:
  `NO`
  `YES`

DATASET
: is the dataset name of the PDS containing the DOCTEMPLATE resource if the resource resides on a PDS.

DDNAME
: is the DDNAME of the template PDS if the RESOURCE_TYPE indicates a PDS.

DOCTEMPLATE
: is the name of the DOCTEMPLATE resource as it is known to RDO.

HFSPATH
: When the template resides in a z/OS UNIX System Services file, the fully qualified (absolute) or relative name of that file.

RESOURCE_NAME
: is the name of the CICS or non-CICS resource.

RESOURCE_TYPE
: is the CICS or non-CICS resource type associated with the template.

  Values for the parameter are:
  `EXITPGM`
  `FILE`
  `HFSFILE`
  `PDS_MEMBER`
  `PROGRAM`
  `TDQUEUE`
  `TSQUEUE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TEMPLATE_NAME
is the full name of the template as known outside RDO.

TYPE
specifies the format of the contents of the template.

Values for the parameter are:
BINARY
EBCDIC

DHTM gate, INITIALIZE_DOCTEMPLATES function

The INITIALIZE_DOCTEMPLATES function of the DHSL gate is used to initialize the state required by the template manager.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
DIRECTORY_ERROR
LOOP

The following values are returned when RESPONSE is EXCEPTION:
BROWSE_END
DDNAME_NOT_FOUND
FREEMAIN_FAILED
GETMAIN_FAILED
IO_ERROR
MEMBER_NOT_FOUND
NAME_IN_USE
NOT_FOUND
NOT_USABLE
TRUNCATED

The following values are returned when RESPONSE is INVALID:
INVALID_BROWSE_TOKEN
INVALID_FORMAT
INVALID_FUNCTION
INVALID_RESOURCE_TYPE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DHTM gate, INQUIRE_DOCTEMPLATE function

The INQUIRE_DOCTEMPLATE function of the DHTM gate returns information about a previously installed document template.

Input Parameters

DOCTEMPLATE
is the name of the DOCTEMPLATE resource that is to be added.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND

`DIRECTORY_ERROR`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`BROWSE_END`
`DDNAME_NOT_FOUND`
`FREEMAIN_FAILED`
`GETMAIN_FAILED`
`IO_ERROR`
`MEMBER_NOT_FOUND`
`NAME_IN_USE`
`NOT_FOUND`
`NOT_USABLE`
`TRUNCATED`

The following values are returned when RESPONSE is INVALID:
`INVALID_BROWSE_TOKEN`
`INVALID_FORMAT`
`INVALID_FUNCTION`
`INVALID_RESOURCE_TYPE`

APPENDCRLF
specifies whether CICS is to delete trailing blanks from and append carriage-return line-feed to each logical record of the template .

Values for the parameter are:
`NO`
`YES`

DATASET
is the dataset name of the PDS containing the DOCTEMPLATE resource if the resource resides on a PDS.

DDNAME
is the DDNAME of the template PDS if the RESOURCE_TYPE indicates a PDS.

HFSPATH
When the template resides in a z/OS UNIX System Services file, the fully qualified (absolute) or relative name of the z/OS UNIX file.

RESOURCE_NAME
is the name of the CICS or non-CICS resource.

RESOURCE_TYPE
is the CICS or non-CICS resource type associated with the template.

Values for the parameter are:
`EXITPGM`
`FILE`
`HFSFILE`
`PDS_MEMBER`
`PROGRAM`
`TDQUEUE`
`TSQUEUE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TEMPLATE_NAME
is the full name of the template as known outside RDO.

TYPE
specifies the format of the contents of the template.

Values for the parameter are:
`BINARY`

EBCDIC

DHTM gate, INQUIRE_TEMPLATE_STATUS function

The INQUIRE_TEMPLATE_STATUS function of the DHTM gate is used to inquire the install status of one or more templates.

Input Parameters

TEMPLATE_NAME_LIST
A list of template names whose install status is sought.

TEMPLATE_STATUS_LIST
is a list of install status indicators for the templates named in the TEMPLATE_NAME_LIST

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
DIRECTORY_ERROR
LOOP

The following values are returned when RESPONSE is EXCEPTION:
BROWSE_END
DDNAME_NOT_FOUND
FREEMAIN_FAILED
GETMAIN_FAILED
IO_ERROR
MEMBER_NOT_FOUND
NAME_IN_USE
NOT_FOUND
NOT_USABLE
TRUNCATED

The following values are returned when RESPONSE is INVALID:
INVALID_BROWSE_TOKEN
INVALID_FORMAT
INVALID_FUNCTION
INVALID_RESOURCE_TYPE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DHTM gate, READ_TEMPLATE function

The READ_TEMPLATE function of the DHTM gate is used to read a named template into a buffer provided by the caller.

Input Parameters

TEMPLATE_BUFFER
is a buffer containing a template to be added to the document.

TEMPLATE_NAME
is the name of an RDO defined DOCTEMPLATE which is to be added to the document.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND

DIRECTORY_ERROR
LOOP

The following values are returned when RESPONSE is EXCEPTION:
BROWSE_END
DDNAME_NOT_FOUND
FREEMAIN_FAILED
GETMAIN_FAILED
IO_ERROR
MEMBER_NOT_FOUND
NAME_IN_USE
NOT_FOUND
NOT_USABLE
TRUNCATED

The following values are returned when RESPONSE is INVALID:
INVALID_BROWSE_TOKEN
INVALID_FORMAT
INVALID_FUNCTION
INVALID_RESOURCE_TYPE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DOCTEMPLATE
Optional Parameter

is the name of the DOCTEMPLATE resource as it is known to RDO.

TYPE
Optional Parameter

specifies the format of the contents of the template.

Values for the parameter are:
BINARY
EBCDIC

DHTM gate, START_BROWSE function

The START_BROWSE function of the DHTM gate is used to initiate a browse of installed DOCTEMPLATE definitions.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
DIRECTORY_ERROR
LOOP

The following values are returned when RESPONSE is EXCEPTION:
BROWSE_END
DDNAME_NOT_FOUND
FREEMAIN_FAILED
GETMAIN_FAILED
IO_ERROR
MEMBER_NOT_FOUND
NAME_IN_USE
NOT_FOUND
NOT_USABLE
TRUNCATED

The following values are returned when RESPONSE is INVALID:

```
INVALID_BROWSE_TOKEN
INVALID_FORMAT
INVALID_FUNCTION
INVALID_RESOURCE_TYPE
```

BROWSE_TOKEN
is a token identifying this DOCTEMPLATE browse.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Document handler domain's generic gates

Table 38 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 38. Document handler domain's generic gates

Gate	Trace	Functions	Format
APUE	DH 0D01 DH 0D02 DH 0D03 DH 0D04 DH 0D05 DH 0D06 DH 0D07 DH 0D08	SET_EXIT_STATUS	APUE
DDDM	DD 0101 DD 0102	PRE_INITIALISE INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Application Manager Domain's generic formats" on page 867

"Domain Manager domain's generic formats" on page 956

Document handler domain's call-back gates

Table 39 summarizes the domain's call-back gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the call-back formats for calls to the gates.

Table 39. Document handler domain's call-back gates

Gate	Trace	Functions	Format
RMDE	DH 0301 DH 0302 DH 0303 DH 0304 DH 0306 DH 0308	START_DELIVERY DELIVER_RECOVERY END_DELIVERY	RMDE

Table 39. Document handler domain's call-back gates (continued)

Gate	Trace	Functions	Format
RMKP	DH 0301 DH 0302 DH 0303 DH 0304 DH 0307 DH 0308	TAKE_KEYPOINT	RMKP
RMRO	DH 0301 DH 0302 DH 0303 DH 0304 DH 0305 DH 0308	PERFORM_PREPARE PERFORM_COMMIT PERFORM_SHUNT PERFORM_UNSHUNT START_BACKOUT END_BACKOUT	RMRO

For descriptions of these functions and their input and output parameters, refer to descriptions of the following call-back formats:

"Recovery manager domain call-back formats" on page 1599

Modules

Module	Function
DFHDHDH	Handles the following requests: CREATE_DOCUMENT INSERT_DATA INSERT_BOOKMARK REPLACE_DATA DELETE_DOCUMENT DELETE_DATA DELETE_BOOKMARK RETRIEVE_WITH_CTLINFO RETRIEVE_WITHOUT_CTLINFO INQUIRE_DOCUMENT
DFHDHDM	Handles the following requests: INITIALIZE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN
DFHDHDUF	DH domain offline dump formatting routine
DFHDHPB	Processes data supplied on the BINARY parameter of CREATE_DOCUMENT, INSERT_DATA and REPLACE_DATA calls of DFHDHDH.
DFHDHPD	Processes data supplied on the SOURCE_DOCUMENT parameter of CREATE_DOCUMENT, INSERT_DATA and REPLACE_DATA calls of DFHDHDH.
DFHDHPM	Processes data supplied on the TEMPLATE_NAME parameter of CREATE_DOCUMENT, INSERT_DATA and REPLACE_DATA calls of DFHDHDH.
DFHDHPR	Reads templates held as member's of partitioned datasets.
DFHDHPS	Processes data supplied on the SYMBOL parameter of INSERT_DATA and REPLACE_DATA calls of DFHDHDH.

Module	Function
DFHDHPT	Processes data supplied on the TEXT parameter of CREATE_DOCUMENT, INSERT_DATA and REPLACE_DATA calls of DFHDHDH.
DFHDHPU	Processes data supplied on the TEMPLATE_BUFFER parameter of CREATE_DOCUMENT, INSERT_DATA and REPLACE_DATA calls of DFHDHDH.
DFHDHPX	Processes data supplied on the RETRIEVED_DOCUMENT parameter of CREATE_DOCUMENT, INSERT_DATA and REPLACE_DATA calls of DFHDHDH.
DFHDHRM	Handles the following requests: PERFORM_PREPARE PERFORM_COMMIT PERFORM_SHUNT PERFORM_UNSHUNT START_BACKOUT END_BACKOUT START_DELIVERY DELIVER_RECOVERY END_DELIVERY TAKE_KEYPOINT
DFHDHSL	Handles the following requests: SET_SYMBOL_VALUE_BY_API, SET_SYMBOL_VALUE_BY_SSI, ADD_SYMBOL_LIST EXPORT_SYMBOL_LIST IMPORT_SYMBOL_LIST
DFHDHTM	Handles the following requests: INITIALIZE_DOCTEMPLATES ADD_REPLACE_DOCTEMPLATE DELETE_DOCTEMPLATE INQUIRE_DOCTEMPLATE INQUIRE_TEMPLATE_STATUS START_BROWSE GET_NEXT END_BROWSE READ_TEMPLATE
DFHDHTRI	Interprets DH domain trace entries
DFHDHUE	Handles the following requests: SET_EXIT_STATUS

Chapter 75. Domain Manager Domain (DM)

The domain manager domain maintains permanent information about other domains.

Domain Manager Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the DM domain.

DMDM gate, ADD_DOMAIN function

The ADD_DOMAIN function of the DMDM gate adds a new domain to the DM table (on the CICS(R) catalog) of all domains. Because the add is placed on the catalog, it survives system failure. A delete is required to remove the entry.

Input Parameters

DOMAIN_ID
is the unique character pair, usually an abbreviated form of the domain name.

DOMAIN_NAME
is a unique string, 1 through 8 characters, which is the name of the domain.

DOMAIN_TOKEN
is the unique index that corresponds to the new table entry for the domain.

PROGRAM_NAME
is a unique string, 1 through 8 characters, which is the name of the initialization module for the specified domain.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
- ABEND
- LOADER_ERROR
- LOOP

The following values are returned when RESPONSE is EXCEPTION:
- DUPLICATE_DOMAIN_NAME
- DUPLICATE_DOMAIN_TOKEN
- INSUFFICIENT_STORAGE
- PROGRAM_NOT_FOUND

RESPONSE
is DFHDMEN's response to the call.

Values for the parameter are:
- OK
- EXCEPTION
- DISASTER
- INVALID
- KERNERROR

DMDM gate, QUIESCE_SYSTEM function

The QUIESCE_SYSTEM function of the DMDM gate is used to call the domain manager to cause a normal shutdown of the system.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  - `ABEND`
  - `INSUFFICIENT_STORAGE`
  - `LOOP`

  The following values are returned when RESPONSE is INVALID:
  - `SYSTEM_INITIALISING`

RESPONSE
: is DFHDMEN's response to the call.

  Values for the parameter are:
  - `OK`
  - `EXCEPTION`
  - `DISASTER`
  - `INVALID`
  - `KERNERROR`

DMDM gate, SET_PHASE function

When a domain issues SET_PHASE during initialization, it is declaring that it is now prepared to support a given set of services.

Input Parameters

PHASE
: specifies the set of services that are to be available.

STATUS
: is either ACTIVE or INACTIVE.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  - `ABEND`
  - `LOOP`

  The following values are returned when RESPONSE is INVALID:
  - `INVALID_PHASE`
  - `SYSTEM_NOT_INITIALISING`
  - `SYSTEM_NOT_QUIESCING`

RESPONSE
: is DFHDMEN's response to the call.

  Values for the parameter are:
  - `OK`
  - `EXCEPTION`
  - `DISASTER`
  - `INVALID`
  - `KERNERROR`

DMDM gate, WAIT_PHASE function

The WAIT_PHASE function of the DMDM gate is used to wait until the services required to carry on the work are available.

Input Parameters

PHASE
: specifies the set of services that are to be available.

STATUS
is either ACTIVE or INACTIVE.

DOMAIN_TOKEN
Optional Parameter

is the unique index that corresponds to the new table entry for the domain.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`DOMAIN_TOKEN_NOT_ACTIVE`

The following values are returned when RESPONSE is INVALID:
`INVALID_PHASE`
`SYSTEM_NOT_INITIALISING`
`SYSTEM_NOT_QUIESCING`

RESPONSE
is DFHDMEN's response to the call.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`

DMEN gate, DELETE function

The DELETE function of the DMEN gate is used to deregister an interest in an ENF event.

Input Parameters

EVENT
is the event in which the caller is registering an interest

Values for the parameter are:
`SMSVSAM_OPERATIONAL`

LISTEN_GATE
is the gate number of the gate at which the caller wants to be notified when the event occurs.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`LISTEN_NOT_ACTIVE`

RESPONSE
is DFHDMEN's response to the call.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

DMEN gate, LISTEN function

The LISTEN function of the DMEN gate is issued to register an interest in an event notification facility (ENF) event. The MVS(TM) event notification facility is a generalized communication facility which allows subsystems to broadcast notification of events.

Input Parameters

EVENT
is the event in which the caller is registering an interest.

Values for the parameter are:
`SMSVSAM_OPERATIONAL`

LISTEN_GATE
is the gate number of the gate at which the caller wants to be notified when the event occurs.

Output Parameters

REASON
The values for the parameter are:
`DUPLICATE_LISTEN`
`UNKNOWN_EVENT`

RESPONSE
is DFHDMEN's response to the call.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

DMIQ gate, END_BROWSE function

The END_BROWSE function of the DMIQ gate is used to release the browse thread at any time.

Input Parameters

BROWSE_TOKEN
is the token identifying this browse session.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is INVALID:
`BROWSE_TOKEN_NOT_FOUND`

RESPONSE
is DFHDMEN's response to the call.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`

DMIQ gate, GET_NEXT function

The GET_NEXT function of the DMIQ gate is used to return the next available record or an END indication.

Input Parameters

BROWSE_TOKEN
is the token identifying this browse session.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
END_LIST

The following values are returned when RESPONSE is INVALID:
BROWSE_TOKEN_NOT_FOUND

DOMAIN_ID
is the unique character pair, usually an abbreviated form of the domain name.

DOMAIN_NAME
is a unique string, 1 through 8 characters, which is the name of the domain.

DOMAIN_PHASE
is the current phase level for that domain.

DOMAIN_STATUS
is ACTIVE or INACTIVE.

DOMAIN_TOKEN
is the unique index that corresponds to the new table entry for the domain.

RESPONSE
is DFHDMEN's response to the call.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR

DMIQ gate, INQ_DOMAIN_BY_ID function

The INQ_DOMAIN_BY_ID function of the DMIQ gate is used to get the domain's token, name, status, and phase for the specified domain ID.

Input Parameters

DOMAIN_ID
is the unique character pair, usually an abbreviated form of the domain name.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is INVALID:
DOMAIN_ID_NOT_FOUND

DOMAIN_NAME
is a unique string, 1 through 8 characters, which is the name of the domain.

DOMAIN_PHASE
is the current phase level for that domain.

DOMAIN_STATUS
is ACTIVE or INACTIVE.

DOMAIN_TOKEN
is the unique index that corresponds to the new table entry for the domain.

RESPONSE
is DFHDMEN's response to the call.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR

DMIQ gate, INQ_DOMAIN_BY_NAME function

The INQ_DOMAIN_BY_NAME function of the DMIQ gate is used to get the domain's token, ID, status, and phase for the specified domain name.

Input Parameters

DOMAIN_NAME
is a unique string, 1 through 8 characters, which is the name of the domain.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is INVALID:
DOMAIN_NAME_NOT_FOUND

DOMAIN_ID
is the unique character pair, usually an abbreviated form of the domain name.

DOMAIN_PHASE
is the current phase level for that domain.

DOMAIN_STATUS
is ACTIVE or INACTIVE.

DOMAIN_TOKEN
is the unique index that corresponds to the new table entry for the domain.

RESPONSE
is DFHDMEN's response to the call.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR

DMIQ gate, INQ_DOMAIN_BY_TOKEN function

The INQ_DOMAIN_BY_TOKEN function of the DMIQ gate is used to get the domain's name, ID, status, and phase for the specified domain token.

Input Parameters

DOMAIN_TOKEN
: is the unique index that corresponds to the new table entry for the domain.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `LOOP`

  The following values are returned when RESPONSE is INVALID:
  `DOMAIN_TOKEN_NOT_FOUND`

DOMAIN_ID
: is the unique character pair, usually an abbreviated form of the domain name.

DOMAIN_NAME
: is a unique string, 1 through 8 characters, which is the name of the domain.

DOMAIN_PHASE
: is the current phase level for that domain.

DOMAIN_STATUS
: is ACTIVE or INACTIVE.

RESPONSE
: is DFHDMEN's response to the call.

  Values for the parameter are:
  `OK`
  `EXCEPTION`
  `DISASTER`
  `INVALID`
  `KERNERROR`

DMIQ gate, START_BROWSE function

The START_BROWSE function of the DMIQ gate is used to create a browse thread. The GET_NEXT function request issued after this command returns the first domain in the active domain list.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `LOOP`

BROWSE_TOKEN
: is the token identifying this browse session.

RESPONSE
: is DFHDMEN's response to the call.

  Values for the parameter are:
  `OK`
  `EXCEPTION`
  `DISASTER`
  `INVALID`
  `KERNERROR`

Domain manager domain's generic gates

Table 40 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 40. Domain manager domain's generic gates

Gate	Trace	Functions	Format
DSAT	none	TASK_REPLY	DSAT

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Dispatcher domain's generic formats" on page 1031

Domain Manager domain's generic formats

Table 41 describes the generic formats owned by the domain and shows the functions performed on the calls.

Table 41. Domain Manager domain's generic formats

Format	Calling module	Function
DMDM	DFHKETCB	PRE_INITIALIZE
	DFHDMDS	INITIALIZE_DOMAIN
	DFHDMDS	QUIESCE_DOMAIN
	DFHKETCB	TERMINATE_DOMAIN

Note: In the descriptions of the formats, the input parameters are input not to the Domain Manager domain, but to the domain being called by the application domain. Similarly, the output parameters are output by the domain that was called by the Domain Manager domain, in response to the call.

DMDM gate, INITIALISE_DOMAIN function

A generic function which the domain manager domain uses to call other domains to perform initialization.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

ABEND
INSUFFICIENT_STORAGE
LOOP

The following values are returned when RESPONSE is INVALID:

ALREADY_INITIALISED

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DMDM gate, PRE_INITIALISE function

A generic function which the domain manager domain uses to call other domains to perform the early stages of initialization.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `INSUFFICIENT_STORAGE`
  `LOOP`

DUMP_REQUIRED
: A binary value that indicates whether a dump is required if pre-initialization failed.

  Values for this parameter are
  `NO`
  `YES`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DMDM gate, QUIESCE_DOMAIN function

A generic function which the domain manager domain uses to call other domains when the system is required to shut down normally.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `INSUFFICIENT_STORAGE`
  `LOOP`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DMDM gate, TERMINATE_DOMAIN function

A generic function which the domain manager domain uses to call other domains when the system is required to shut-down quickly. The call is always made under the job step TCB.

Input Parameters

CANCEL
: A binary value that indicates that the request is being issued as a result of an operator cancel. This means that attached subtasks are no longer dispatchable.

  Values for the parameter are:
  `NO`
  `YES`

CLEAN_UP
: A binary value that indicates that the request is being issued under a clean-up only ESTAE exit. This implies restrictions for terminate logic, specifically that ATTACH cannot be issued.

  Values for the parameter are:
  `NO`
  `YES`

TERMINATION_TYPE
: Indicates whether the domain is to be terminated immediately or quiesced.

  Values for the parameter are:
  `IMMEDIATE`

QUIESCE

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Domain Manager domain call-back formats

The Domain Manager domain call-back formats enable the domain to call other domains using a format provided by the Domain Manager domain.

DMEN gate, NOTIFY_SMSVSAM_OPERATIONAL function

Domains that have registered their interest in ENF events are invoked at their identified listen gates when the ENF event occurs. A unique DMEN notify function is provided for each event to allow event specific parameters to be specified in a meaningful way.

Input Parameters

NOTIFY_PLIST
is a parameter list specific to the ENF event being notified, which was supplied by the subsystem issuing the ENF signal.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
RESTART_RLS_FAILED

RESPONSE
is DFHDMEN's response to the call.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

Modules

Module	Function
DFHDMDM	Handles the following requests: INITIALIZE_DOMAIN PRE_INITIALIZE QUIESCE_DOMAIN QUIESCE_SYSTEM TERMINATE_DOMAIN SET_PHASE WAIT_PHASE ADD_DOMAIN
DFHDMDS	Handles the TASK_REPLY request

Module	Function
DFHDMDUF	Formats the DM domain control blocks in a CICS system dump
DFHDMEN	Handles LISTEN, DELETE, NOTIFY_SMSVSAM_OPERATIONAL
DFHDMENF	Broadcasts ENF events to interested domains
DFHDMIQ	Handles the following requests: START_BROWSE GET_NEXT END_BROWSE INQUIRE_DOMAIN_BY_ID INQUIRE_DOMAIN_BY_NAME INQUIRE_DOMAIN_BY_TOKEN
DFHDMSVC	Provides authorized services for the DM ENF support
DFHDMTRI	Interprets DM domain trace entries
DFHDMWQ	Handles the following requests: INITIALIZE SET_UP_WAIT RESUME_WAITERS RESUME_DOMAIN_WAITERS RESUME_PHASE_WAITERS

Chapter 76. Debugging profile domain (DP)

The Debugging profile domain manages debugging profiles.

Debugging profile domain's specific gates

The specific gates provide access for other domains to functions that are provided by the DP domain.

DPFM gate, ACTIVATE_DEBUG_PROFILE function

Activate a debugging profile.

Input Parameters

CURRENT_USERID
The userid of the user making the request

OWNER_USERID
The userid of the debugging profile's owner

PROFILE_NAME
The name of the debugging profile

SESSION_TYPE
The session type specified in the debugging profile.

Values for the parameter are:
LU3270
TCP

IP_NAME_OR_ADDR_BLOCK
Optional Parameter

A block of storage containing the IP name or IP address

LU_3270_DISPLAY
Optional Parameter

The 3270 display terminal specified in the debugging profile to be used by Debug Tool

PORT
Optional Parameter

The port number specified in the debugging profile

SOCKET_TYPE
Optional Parameter

Specifies whether the debugging client and debugging server will communicate using a single socket or more than one socket.

Values for the parameter are:
MULTIPLE
SINGLE

Output Parameters

REASON
The values for the parameter are:
ABEND
ALREADY_ACTIVE
DISASTER_PERCOLATION
FILE_ERROR

FILE_FULL
INTERNAL_ERROR
PROFILE_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PATTERN_MATCH_NUMBER
Optional Parameter

A metric computed from the contents of the debugging profile, which is compared with the pattern match number form other profiles to determine which of the profiles is the best match for a program instance.

DPFM gate, DELETE_DEBUG_PROFILE function

Delete a debugging profile from the debugging profile data set.

Input Parameters

CURRENT_USERID
The userid of the user making the request

OWNER_USERID
The userid of the debugging profile's owner

PROFILE_NAME
The name of the debugging profile

Output Parameters

REASON
The values for the parameter are:
ABEND
DISASTER_PERCOLATION
FILE_ERROR
INTERNAL_ERROR
PROFILE_ACTIVE
PROFILE_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DPFM gate, END_PM_BROWSE function

End the browse for pattern matching.

Output Parameters

REASON
The values for the parameter are:
ABEND
DISASTER_PERCOLATION
FILE_ERROR
INTERNAL_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DPFM gate, GET_DEBUG_PROFILE function

Retrieve a debugging profile from the debugging profile data set.

Input Parameters

OWNER_USERID
The userid of the debugging profile's owner

PROFILE_NAME
The name of the debugging profile

BEAN_BLOCK
Optional Parameter

A block of storage containing the bean name

CLASS_BLOCK
Optional Parameter

A block of storage containing the class name

IP_NAME_OR_ADDR_BLOCK
Optional Parameter

A block of storage containing the IP name or IP address

LE_OPTIONS_BLOCK
Optional Parameter

A block of storage containing Language Environment options

METHOD_BLOCK
Optional Parameter

A block of storage containing the method name

Output Parameters

REASON
The values for the parameter are:

```
ABEND
DISASTER_PERCOLATION
FILE_ERROR
INTERNAL_ERROR
PROFILE_NOT_FOUND
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACTIVATE_USERID
Optional Parameter

For an active debugging profile, the user ID of the user who made it active.

APPLID
Optional Parameter

The Applid specified in the debugging profile

COMMAND_FILE
Optional Parameter

The command file specified in the debugging profile

COMP_UNIT
Optional Parameter

The compile unit name specified in the debugging profile

JVM_PROFILE
Optional Parameter

The JVM profile specified in the debugging profile

LU_3270_DISPLAY
Optional Parameter

The 3270 display terminal to be used by Debug Tool

NETNAME
Optional Parameter

The terminal's network name specified in the debugging profile

PATTERN_MATCH_NUMBER
Optional Parameter

A metric computed from the contents of the debugging profile, which is compared with the pattern match number form other profiles to determine which of the profiles is the best match for a program instance.

PORT
Optional Parameter

The port number specified in the debugging profile

PREFERENCE_FILE
Optional Parameter

The preference file specified in the debugging profile

PROGRAM
Optional Parameter

The program name specified in the debugging profile

PROMPT
Optional Parameter

The prompt specified in the debugging profile

SESSION_TYPE
Optional Parameter

The session type specified in the debugging profile.

Values for the parameter are:
- `LU3270`
- `TCP`

SOCKET_TYPE
Optional Parameter

Specifies whether the debugging client and debugging server will communicate using a single socket or more than one socket.

Values for the parameter are:
- `MULTIPLE`
- `SINGLE`

STATUS
Optional Parameter

The status of the debugging profile.

Values for the parameter are:
- `ACTIVE`
- `INACTIVE`

TERMID
Optional Parameter

The terminal ID specified in the debugging profile

TEST_LEVEL
Optional Parameter

The test level specified in the debugging profile.

Values for the parameter are:
- `ALL`
- `ERROR`

NONE

TRANID
Optional Parameter

The transaction ID specified in the debugging profile

TYPE
Optional Parameter

The type of debugging profile.

Values for the parameter are:
C
E
J
LE

USERID
Optional Parameter

The user ID specified in the debugging profile

DPFM gate, INACTIVATE_DEBUG_PROFILE function

Inactivate a debug_profile on the debugging profile data set.

Input Parameters

CURRENT_USERID
The userid of the user making the request

OWNER_USERID
The userid of the debugging profile's owner

PROFILE_NAME
The name of the debugging profile

Output Parameters

REASON
The values for the parameter are:
ABEND
ALREADY_INACTIVE
DISASTER_PERCOLATION
FILE_ERROR
FILE_FULL
INTERNAL_ERROR
PROFILE_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

DPFM gate, READNEXT_PM_PROFILE function

Read the next profile on the debugging profile data set for pattern match.

Input Parameters

BEAN_BLOCK
Optional Parameter

A block of storage containing the bean name

CLASS_BLOCK
Optional Parameter

A block of storage containing the class name

IP_NAME_OR_ADDR_BLOCK
Optional Parameter

A block of storage containing the IP name or IP address

LE_OPTIONS_BLOCK
Optional Parameter

A block of storage containing Language Environment options

MANGLED_METHOD_BLOCK
Optional Parameter

A block of storage containing the mangled method name

Output Parameters

REASON
The values for the parameter are:

```
ABEND
DISASTER_PERCOLATION
END_OF_PROFILES
FILE_ERROR
INTERNAL_ERROR
```

APPLID
The Applid specified in the debugging profile

COMMAND_FILE
The command file specified in the debugging profile

COMP_UNIT
The compile unit name specified in the debugging profile

JVM_PROFILE
The JVM profile specified in the debugging profile

LU_3270_DISPLAY
The 3270 display terminal to be used by Debug Tool

NETNAME
The terminal's network name specified in the debugging profile

OWNER_USERID
The userid of the profile's owner

PATTERN_MATCH_NUMBER
A metric computed from the contents of the debugging profile, which is compared with the pattern match number form other profiles to determine which of the profiles is the best match for a program instance.

PORT
The port number specified in the debugging profile

PREFERENCE_FILE
The preference file specified in the debugging profile

PROFILE_NAME
The name of the debugging profile

PROGRAM
The program name specified in the debugging profile

PROMPT
The prompt specified in the debugging profile

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SESSION_TYPE
The session type specified in the debugging profile.

Values for the parameter are:

```
LU3270
TCP
```

SOCKET_TYPE
Specifies whether the debugging client and debugging server will communicate using a single socket or more than one socket.

Values for the parameter are:
`MULTIPLE`
`SINGLE`

TERMID
The terminal ID specified in the debugging profile

TEST_LEVEL
The test level specified in the debugging profile.

Values for the parameter are:
`ALL`
`ERROR`
`NONE`

TRANID
The transaction ID specified in the debugging profile

TYPE
The type of debugging profile.

Values for the parameter are:
`C`
`E`
`J`
`LE`

USERID
The user ID specified in the debugging profile

ACTIVATE_USERID
Optional Parameter

For an active debugging profile, the user ID of the user who made it active.

DPFM gate, REPLACE_DEBUG_PROFILE function

Replace a debug_profile on the debugging profile data set.

Input Parameters

OWNER_USERID
The userid of the debugging profile's owner

PROFILE_NAME
The name of the debugging profile

APPLID
Optional Parameter

The Applid specified in the debugging profile

BEAN_BLOCK
Optional Parameter

A block of storage containing the bean name

CLASS_BLOCK
Optional Parameter

A block of storage containing the class name

COMMAND_FILE
Optional Parameter

The command file specified in the debugging profile

COMP_UNIT
Optional Parameter

The compile unit name specified in the debugging profile

IP_NAME_OR_ADDR_BLOCK
Optional Parameter

A block of storage containing the IP name or IP address

JVM_PROFILE
Optional Parameter

The JVM profile specified in the debugging profile

LE_OPTIONS_BLOCK
Optional Parameter

A block of storage containing Language Environment options

LU_3270_DISPLAY
Optional Parameter

The 3270 display terminal specified in the debugging profile to be used by Debug Tool

METHOD_BLOCK
Optional Parameter

A block of storage containing the method name

NETNAME
Optional Parameter

The terminal's network name specified in the debugging profile

PORT
Optional Parameter

The port number specified in the debugging profile

PREFERENCE_FILE
Optional Parameter

The preference file specified in the debugging profile

PROGRAM
Optional Parameter

The program name specified in the debugging profile

PROMPT
Optional Parameter

The prompt specified in the debugging profile

SESSION_TYPE
Optional Parameter

The session type specified in the debugging profile.

Values for the parameter are:
- LU3270
- TCP

SOCKET_TYPE
Optional Parameter

Specifies whether the debugging client and debugging server will communicate using a single socket or more than one socket.

Values for the parameter are:
- MULTIPLE
- SINGLE

TERMID
Optional Parameter

The terminal ID specified in the debugging profile

TEST_LEVEL
Optional Parameter

The test level specified in the debugging profile.

Values for the parameter are:
ALL
ERROR
NONE

TRANID
Optional Parameter

The transaction ID specified in the debugging profile

TYPE
Optional Parameter

The type of debugging profile.

Values for the parameter are:
C
E
J
LE

USERID
Optional Parameter

The user ID specified in the debugging profile

Output Parameters

REASON
The values for the parameter are:
ABEND
APPLID_INVALID
BEAN_INVAL_FOR_TYPE_C
BEAN_INVAL_FOR_TYPE_J
BEAN_INVALID
CLASS_INVAL_FOR_TYPE_E
CLASS_INVALID
CMD_FILE_INVALID
COMP_UNIT_INVALID
DISASTER_PERCOLATION
FILE_ERROR
FILE_FULL
INTERNAL_ERROR
JVM_PROFILE_INVALID
METHOD_INVAL_FOR_TYPE_J
METHOD_INVALID
NETNAME_INVALID
PREF_FILE_INVALID
PROFILE_NAME_BLANK
PROFILE_NAME_INVALID
PROGRAM_INVALID
PROMPT_INVALID
TERMID_INVALID
TRANID_INVALID
USERID_INVALID

NEW_PROFILE_CREATED
Indicates whether a new profile was created.

Values for the parameter are:
`NO`
`YES`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MANGLE_CODE
Optional Parameter

Indicates how a bean, method, or class name was mangled.

Values for the parameter are:
`IDL_KEYWORD`
`MANGLED_TO_SELF`
`PROPERTY_ACC`
`UNDERSCORE`

DPFM gate, SAVE_DEBUG_PROFILE function

Save a debug profile on the debug profile data set.

Input Parameters

OWNER_USERID
The userid of the debugging profile's owner

PROFILE_NAME
The name of the debugging profile

APPLID
Optional Parameter

The Applid specified in the debugging profile

BEAN_BLOCK
Optional Parameter

A block of storage containing the bean name

CLASS_BLOCK
Optional Parameter

A block of storage containing the class name

COMMAND_FILE
Optional Parameter

The command file specified in the debugging profile

COMP_UNIT
Optional Parameter

The compile unit name specified in the debugging profile

IP_NAME_OR_ADDR_BLOCK
Optional Parameter

A block of storage containing the IP name or IP address

JVM_PROFILE
Optional Parameter

The JVM profile specified in the debugging profile

LE_OPTIONS_BLOCK
Optional Parameter

A block of storage containing Language Environment options

LU_3270_DISPLAY
Optional Parameter

The 3270 display terminal specified in the debugging profile to be used by Debug Tool

METHOD_BLOCK
Optional Parameter

A block of storage containing the method name

NETNAME
Optional Parameter

The terminal's network name specified in the debugging profile

PORT
Optional Parameter

The port number specified in the debugging profile

PREFERENCE_FILE
Optional Parameter

The preference file specified in the debugging profile

PROGRAM
Optional Parameter

The program name specified in the debugging profile

PROMPT
Optional Parameter

The prompt specified in the debugging profile

SESSION_TYPE
Optional Parameter

The session type specified in the debugging profile.

Values for the parameter are:
`LU3270`
`TCP`

SOCKET_TYPE
Optional Parameter

Specifies whether the debugging client and debugging server will communicate using a single socket or more than one socket.

Values for the parameter are:
`MULTIPLE`
`SINGLE`

TERMID
Optional Parameter

The terminal ID specified in the debugging profile

TEST_LEVEL
Optional Parameter

The test level specified in the debugging profile.

Values for the parameter are:
`ALL`
`ERROR`
`NONE`

TRANID
Optional Parameter

The transaction ID specified in the debugging profile

TYPE
Optional Parameter

The type of debugging profile.

Values for the parameter are:

```
C
E
J
LE
```

USERID
Optional Parameter

The user ID specified in the debugging profile

Output Parameters

REASON
The values for the parameter are:

```
ABEND
APPLID_INVALID
BEAN_INVAL_FOR_TYPE_C
BEAN_INVAL_FOR_TYPE_J
BEAN_INVALID
CLASS_INVAL_FOR_TYPE_E
CLASS_INVALID
CMD_FILE_INVALID
COMP_UNIT_INVALID
DISASTER_PERCOLATION
DUPLICATE_PROFILE
FILE_ERROR
FILE_FULL
INTERNAL_ERROR
JVM_PROFILE_INVALID
METHOD_INVAL_FOR_TYPE_J
METHOD_INVALID
NETNAME_INVALID
PREF_FILE_INVALID
PROFILE_NAME_BLANK
PROFILE_NAME_INVALID
PROGRAM_INVALID
PROMPT_INVALID
TERMID_INVALID
TRANID_INVALID
USERID_INVALID
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MANGLE_CODE
Optional Parameter

Indicates how a bean, method, or class name was mangled.

Values for the parameter are:

```
IDL_KEYWORD
MANGLED_TO_SELF
PROPERTY_ACC
UNDERSCORE
```

DPFM gate, START_PM_BROWSE function

Start a browse for pattern matching.

Input Parameters

MATCH_TYPE
Optional Parameter

The type of debugging profile to match during the browse operation.

Values for the parameter are:
`TYPE_J`
`TYPE_LE`

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`DISASTER_PERCOLATION`
`FILE_ERROR`
`INTERNAL_ERROR`
`NO_PROFILES`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DPIQ gate, INQUIRE_DEBUG_TASK function

Inquire DP domain debug settings.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`ABEND`
`OUT_OF_RANGE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DEBUG_TASK
Optional Parameter

Specifies whether Debug Tool is to be used to debug an application.

Values for the parameter are:
`NO`
`YES`

DPIQ gate, INQUIRE_PARAMETERS function

Inquire DP domain parameters.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`ABEND`
`OUT_OF_RANGE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DEBUGTOOL
Optional Parameter

The value of the DEBUGTOOL system initialization parameter.

Values for the parameter are:
`DEBUGTOOL_NO`
`DEBUGTOOL_YES`

DTLEVEL
Optional Parameter

Specifies whether the level of Debug Tool supports the CADP transaction.

Values for the parameter are:
`DTNEW_NO`
`DTNEW_YES`

DPIQ gate, SET_DEBUG_PROFILE function

Set DP domain parameters.

Input Parameters

DEBUG_PROFILE
Optional Parameter

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`ABEND`
`OUT_OF_RANGE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DPIQ gate, SET_DEBUGGING function

Sets the state of the debugging profile domain.

Input Parameters

DOMAIN_STATE
The desired state of the domain.

Values for the parameter are:
`DISABLED`
`ENABLED`

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`ABEND`
`OUT_OF_RANGE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DPIQ gate, SET_PARAMETERS function

Set DP domain parameters.

Input Parameters

DEBUGTOOL
Optional Parameter

The value of the DEBUGTOOL system initialization parameter.

Values for the parameter are:
`DEBUGTOOL_NO`
`DEBUGTOOL_YES`

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`ABEND`
`OUT_OF_RANGE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DPLM gate, ENDBR_DEBUG_PROFILES function

End the browse for pattern matching.

Input Parameters

BROWSE_LIST_TOKEN
A token which uniquely identifies the list of profiles.

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`DISASTER_PERCOLATION`
`FILE_ERROR`
`INTERNAL_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CURRENT_PAGE
Optional Parameter

Specifies which page of the list of profiles is currently displayed

DPLM gate, READNEXT_DEBUG_PROFILE function

Returns one profile to the caller for display on the screen. Largely for the benefit of the 3270 version of CADP, the readnext can optionally position itself based on a page size parameter so that it is possible to easily implement scrolling up and down. The default if no position is specified is to return the next profile.

Input Parameters

BROWSE_LIST_TOKEN
A token which uniquely identifies the list of profiles.

BEAN_BLOCK
Optional Parameter

A block of storage containing the bean name

CLASS_BLOCK
Optional Parameter

A block of storage containing the class name

LE_OPTIONS_BLOCK
Optional Parameter

A block of storage containing Language Environment options

MANGLED_METHOD_BLOCK
Optional Parameter

A block of storage containing the mangled method name

METHOD_BLOCK
Optional Parameter

A block of storage containing the method name

PAGE_SIZE
Optional Parameter

The number of profiles which can be shown on a page of the display

POSITION
Optional Parameter

Specifies the position in the list of the next profile to be read.

Values for the parameter are:

```
NEXT_PROFILE
PAGE_BACK
PAGE_FORWARD
TOP
TOP_CURRENT_PAGE
```

Output Parameters

REASON
The values for the parameter are:

```
ABEND
ALREADY_AT_BOTTOM
ALREADY_AT_TOP
DISASTER_PERCOLATION
END_OF_PROFILES
INTERNAL_ERROR
```

APPLID
The Applid specified in the debugging profile

COMMAND_FILE
The command file specified in the debugging profile

COMP_UNIT
The compile unit name specified in the debugging profile

INPUT
The action specified for the profile.

Values for the parameter are:

```
ACTIVATE
CLEAR
COPY
DELETE
INACTIVATE
```

JVM_PROFILE
The JVM profile specified in the debugging profile

NETNAME
The terminal's network name specified in the debugging profile

OWNER_USERID
The userid of the profile's owner

PREFERENCE_FILE
The preference file specified in the debugging profile

PROFILE_NAME
The name of the debugging profile

PROGRAM
The program name specified in the debugging profile

PROMPT
The prompt specified in the debugging profile

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STATUS
The status of the debugging profile.

Values for the parameter are:
ACTIVE
INACTIVE

TERMID
The terminal ID specified in the debugging profile

TEST_LEVEL
The test level specified in the debugging profile.

Values for the parameter are:
ALL
ERROR
NONE

TRANID
The transaction ID specified in the debugging profile

TYPE
The type of debugging profile.

Values for the parameter are:
C
E
J
N

USERID
The user ID specified in the debugging profile

ACTIVATE_USERID
Optional Parameter

For an active debugging profile, the user ID of the user who made it active.

CURRENT_PAGE
Optional Parameter

Specifies which page of the list of profiles is currently displayed

INVALID_INPUT
Optional Parameter

Whatever was (invalidly) typed as an input

PATTERN_MATCH_NUMBER
Optional Parameter

A metric computed from the contents of the debugging profile, which is compared with the pattern match number form other profiles to determine which of the profiles is the best match for a program instance.

PROFILE_NUMBER
Optional Parameter

The position of the current profile in the list

DPLM gate, READNEXT_INPUT function

When inputs are typed in against profiles they are saved with the profile in the linked list so that they are still retrievable for redisplay after scrolling up and down. READNEXT_INPUT allows easy retrieval of just those profiles with inputs against them so that they can be processed when enter is pressed. All the data in the profile is returned as it is required if the input to be processed is COPY.

Input Parameters

BROWSE_LIST_TOKEN
A token which uniquely identifies the list of profiles.

INPUT_FILTER
Specifies profiles of interest, based on any actions that have been specified for the profile.

Values for the parameter are:
ACTIVATES
ALL_INPUTS
COPIES
DELETES
INACTIVATES

BEAN_BLOCK
Optional Parameter

A block of storage containing the bean name

CLASS_BLOCK
Optional Parameter

A block of storage containing the class name

LE_OPTIONS_BLOCK
Optional Parameter

A block of storage containing Language Environment options

MANGLED_METHOD_BLOCK
Optional Parameter

A block of storage containing the mangled method name

METHOD_BLOCK
Optional Parameter

A block of storage containing the method name

POSITION
Optional Parameter

Specifies the position in the list of the next profile to be read.

Values for the parameter are:
NEXT_PROFILE
TOP

Output Parameters

REASON
The values for the parameter are:
ABEND
DISASTER_PERCOLATION
END_OF_INPUTS
INTERNAL_ERROR

APPLID
The Applid specified in the debugging profile

COMMAND_FILE
The command file specified in the debugging profile

COMP_UNIT
The compile unit name specified in the debugging profile

INPUT
The action specified for the profile.

Values for the parameter are:
`ACTIVATE`
`CLEAR`
`COPY`
`DELETE`
`INACTIVATE`

JVM_PROFILE
The JVM profile specified in the debugging profile

NETNAME
The terminal's network name specified in the debugging profile

OWNER_USERID
The userid of the profile's owner

PREFERENCE_FILE
The preference file specified in the debugging profile

PROFILE_NAME
The name of the debugging profile

PROGRAM
The program name specified in the debugging profile

PROMPT
The prompt specified in the debugging profile

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STATUS
The status of the debugging profile.

Values for the parameter are:
`ACTIVE`
`INACTIVE`

TERMID
The terminal ID specified in the debugging profile

TEST_LEVEL
The test level specified in the debugging profile.

Values for the parameter are:
`ALL`
`ERROR`
`NONE`

TRANID
The transaction ID specified in the debugging profile

TYPE
The type of debugging profile.

Values for the parameter are:
`C`
`E`
`J`
`N`

USERID
The user ID specified in the debugging profile

ACTIVATE_USERID
Optional Parameter

For an active debugging profile, the user ID of the user who made it active.

CURRENT_PAGE
Optional Parameter

Specifies which page of the list of profiles is currently displayed

INVALID_INPUT
Optional Parameter

Whatever was (invalidly) typed as an input

PATTERN_MATCH_NUMBER
Optional Parameter

A metric computed from the contents of the debugging profile, which is compared with the pattern match number form other profiles to determine which of the profiles is the best match for a program instance.

DPLM gate, RESTARTBR_DEBUG_PROFILES function

Resume browsing a list of debugging profiles.

Input Parameters

BROWSE_LIST_TOKEN
A token which uniquely identifies the list of profiles.

CURRENT_USERID
The userid of the user making the request

Output Parameters

REASON
The values for the parameter are:

```
ABEND
DISASTER_PERCOLATION
FILE_ERROR
INTERNAL_ERROR
NO_PROFILES
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CURRENT_PAGE
Optional Parameter

Specifies which page of the list of profiles is currently displayed

NUMBER_IN_LIST
Optional Parameter

The number of profiles in the list

DPLM gate, STARTBR_DEBUG_PROFILES function

Start browsing a list of debug profiles.

Input Parameters

CURRENT_USERID
The userid of the user making the request

FILTER_ACTIVE
Specifies whether the list contains active profiles only, or active and inactive profiles.

Values for the parameter are:

`ACTIVE_P`
`ALL_P`

FILTER_USER
Specifies whether the list contains profiles for just the current user, or all users.

Values for the parameter are:

`ALL_U`
`CURRENT_USER`

SORT_TYPE
Specifies the field used to sort the list.

Values for the parameter are:

`APPL`
`COMP_U`
`NAME`
`NETN`
`OWNER`
`PROG`
`STAT`
`TERM`
`TRAN`
`TYP`
`USER`

Output Parameters

REASON
The values for the parameter are:

`ABEND`
`DISASTER_PERCOLATION`
`FILE_ERROR`
`INTERNAL_ERROR`
`NO_PROFILES`

BROWSE_LIST_TOKEN
A token which uniquely identifies the list of profiles.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CURRENT_PAGE
Optional Parameter

Specifies which page of the list of profiles is currently displayed

NUMBER_IN_LIST
Optional Parameter

The number of profiles in the list

DPLM gate, UPDATE_PROFILE_IN_LIST function

Update the specified in-memory linked list element with the input supplied so that it may be kept until ready to process later. CLEAR may be used to clear an input that has been handled.

Input Parameters

BROWSE_LIST_TOKEN
A token which uniquely identifies the list of profiles.

INPUT
The action specified for the profile.

Values for the parameter are:
- `ACTIVATE`
- `CLEAR`
- `COPY`
- `DELETE`
- `INACTIVATE`

OWNER_USERID
The userid of the debugging profile's owner

PROFILE_NAME
The name of the debugging profile

INVALID_INPUT
Optional Parameter

An invalid action character that cannot be interpreted as one of the values of the INPUT parameter.

Output Parameters

REASON
The values for the parameter are:
- `ABEND`
- `DISASTER_PERCOLATION`
- `INTERNAL_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CURRENT_PAGE
Optional Parameter

Specifies which page of the list of profiles is currently displayed

DPPM gate, PATTERN_MATCH_PROFILE function

Determines if an active debugging profile matches the parameters supplied.

Input Parameters

MATCH_TYPE
The type of debugging profile.

Values for the parameter are:
- `LE`
- `NON_LE`

APPLID
Optional Parameter

The Applid specified in the debugging profile

BEAN_BLOCK
Optional Parameter

A block of storage containing the bean name

CLASS_BLOCK
Optional Parameter

A block of storage containing the class name

COMP_UNIT
Optional Parameter

The compile unit name specified in the debugging profile

IP_NAME_OR_ADDR_BLOCK
Optional Parameter

A block of storage containing the IP name or IP address

LE_OPTIONS_BLOCK
Optional Parameter

A block of storage containing Language Environment options

MANGLED_METHOD_BLOCK
Optional Parameter

A block of storage containing the mangled method name

NETNAME
Optional Parameter

The terminal's network name specified in the debugging profile

PROGRAM
Optional Parameter

The program name specified in the debugging profile

TERMID
Optional Parameter

The terminal ID specified in the debugging profile

TRANID
Optional Parameter

The transaction ID specified in the debugging profile

USERID
Optional Parameter

The user ID specified in the debugging profile

Output Parameters

REASON
The values for the parameter are:

```
ABEND
DISASTER_PERCOLATION
FILE_ERROR
INTERNAL_ERROR
NO_MATCH
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

COMMAND_FILE
Optional Parameter

The command file specified in the debugging profile

JVM_PROFILE
Optional Parameter

The JVM profile specified in the debugging profile

LU_3270_DISPLAY
Optional Parameter

The 3270 display terminal to be used by Debug Tool

PORT
Optional Parameter

The port number specified in the debugging profile

PREFERENCE_FILE
Optional Parameter

The preference file specified in the debugging profile

PROFILE_APPLID
Optional Parameter

The Applid specified in the matching profile

PROFILE_COMP_UNIT
Optional Parameter

The compile unit name specified in the matching profile

PROFILE_NETNAME
Optional Parameter

The terminal's network name specified in the matching profile

PROFILE_PROGRAM
Optional Parameter

The program name specified in the matching profile

PROFILE_TERMID
Optional Parameter

The terminal ID specified in the matching profile

PROFILE_TRANID
Optional Parameter

The transaction ID specified in the matching profile

PROFILE_USERID
Optional Parameter

The user ID specified in the matching profile

PROMPT
Optional Parameter

The prompt specified in the debugging profile

SESSION_TYPE
Optional Parameter

The session type specified in the debugging profile.

Values for the parameter are:
`LU3270`
`TCP`

SOCKET_TYPE
Optional Parameter

Specifies whether the debugging client and debugging server will communicate using a single socket or more than one socket.

Values for the parameter are:
`MULTIPLE`
`SINGLE`

TEST_LEVEL
Optional Parameter

The test level specified in the debugging profile.

Values for the parameter are:
`ALL`
`ERROR`
`NONE`

DPPM gate, PATTERN_MATCH_TASK function

Determines if an active debugging profile matches the parameters supplied.

Input Parameters

APPLID
The Applid specified in the debugging profile

NETNAME
The terminal's network name specified in the debugging profile

TERMID
The terminal ID specified in the debugging profile

TRANID
The transaction ID specified in the debugging profile

USERID
The user ID specified in the debugging profile

Output Parameters

REASON
The values for the parameter are:

```
ABEND
DISASTER_PERCOLATION
FILE_ERROR
INTERNAL_ERROR
NO_MATCH
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DPUM gate, GET_USER_DEFAULTS function

Get user defaults. If none already, returns global defaults.

Input Parameters

CURRENT_SESSION_TYPE
The session type specified for the current user.

Values for the parameter are:

```
LU3270
TCP
```

CURRENT_USERID
The userid of the user making the request

CURRENT_TERMID
Optional Parameter

The TERMID of the terminal making the request.

IP_NAME_OR_ADDR_BLOCK
Optional Parameter

A block of storage containing the IP name or IP address

LE_OPTIONS_BLOCK
Optional Parameter

A block of storage containing Language Environment options

Output Parameters

REASON
The values for the parameter are:

```
ABEND
DISASTER_PERCOLATION
FILE_ERROR
INTERNAL_ERROR
```

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

COMMAND_FILE
: Optional Parameter

  The command file specified in the debugging profile

FILTER_ACTIVE
: Optional Parameter

  Specifies whether the list contains active profiles only, or active and inactive profiles.

  Values for the parameter are:
  `ACTIVE_P`
  `ALL_P`

FILTER_USER
: Optional Parameter

  Specifies whether the list contains profiles for just the current user, or all users.

  Values for the parameter are:
  `ALL_U`
  `CURRENT_USER`

JVM_PROFILE
: Optional Parameter

  The JVM profile specified in the debugging profile

LU_3270_DISPLAY
: Optional Parameter

  The 3270 display terminal to be used by Debug Tool

PORT
: Optional Parameter

  The port number specified in the debugging profile

PREFERENCE_FILE
: Optional Parameter

  The preference file specified in the debugging profile

PROMPT
: Optional Parameter

  The prompt specified in the debugging profile

SESSION_TYPE
: Optional Parameter

  The session type specified in the debugging profile.

  Values for the parameter are:
  `LU3270`
  `TCP`

SOCKET_TYPE
: Optional Parameter

  Specifies whether the debugging client and debugging server will communicate using a single socket or more than one socket.

  Values for the parameter are:
  `MULTIPLE`
  `SINGLE`

SORT_TYPE
: Optional Parameter

Specifies the field used to sort the list.

Values for the parameter are:
`APPL`
`COMP_U`
`NAME`
`NETN`
`OWNER`
`PROG`
`STAT`
`TERM`
`TRAN`
`TYP`
`USER`

SUPPRESS_PANEL
Optional Parameter

Specifies whether the debugging device panel is to be suppressed.

Values for the parameter are:
`NOSUPPRESS`
`SUPPRESS`

TEST_LEVEL
Optional Parameter

The test level specified in the debugging profile.

Values for the parameter are:
`ALL`
`ERROR`
`NONE`

TYPE
Optional Parameter

The type of debugging profile.

Values for the parameter are:
`C`
`E`
`J`
`LE`

DPUM gate, SAVE_USER_DEFAULTS function

Save user defaults. Never returns duplicate response - saves or updates.

Input Parameters

CURRENT_USERID
The userid of the user making the request

COMMAND_FILE
Optional Parameter

The command file specified in the debugging profile

FILTER_ACTIVE
Optional Parameter

Specifies whether the list contains active profiles only, or active and inactive profiles.

Values for the parameter are:
`ACTIVE_P`

ALL_P

FILTER_USER
Optional Parameter

Specifies whether the list contains profiles for just the current user, or all users.

Values for the parameter are:
ALL_U
CURRENT_USER

IP_NAME_OR_ADDR_BLOCK
Optional Parameter

A block of storage containing the IP name or IP address

JVM_PROFILE
Optional Parameter

The JVM profile specified in the debugging profile

LE_OPTIONS_BLOCK
Optional Parameter

A block of storage containing Language Environment options

LU_3270_DISPLAY
Optional Parameter

The 3270 display terminal specified in the debugging profile to be used by Debug Tool

PORT
Optional Parameter

The port number specified in the debugging profile

PREFERENCE_FILE
Optional Parameter

The preference file specified in the debugging profile

PROMPT
Optional Parameter

The prompt specified in the debugging profile

SESSION_TYPE
Optional Parameter

The session type specified in the debugging profile.

Values for the parameter are:
LU3270
TCP

SOCKET_TYPE
Optional Parameter

Specifies whether the debugging client and debugging server will communicate using a single socket or more than one socket.

Values for the parameter are:
MULTIPLE
SINGLE

SORT_TYPE
Optional Parameter

Specifies the field used to sort the list.

Values for the parameter are:
APPL
COMP_U

NAME
NETN
OWNER
PROG
STAT
TERM
TRAN
TYP
USER

SUPPRESS_PANEL
Optional Parameter

Specifies whether the debugging device panel is to be suppressed.

Values for the parameter are:
NOSUPPRESS
SUPPRESS

TEST_LEVEL
Optional Parameter

The test level specified in the debugging profile.

Values for the parameter are:
ALL
ERROR
NONE

TYPE
Optional Parameter

The type of debugging profile.

Values for the parameter are:
C
E
J
LE

Output Parameters

REASON
The values for the parameter are:
ABEND
CMD_FILE_INVALID
DISASTER_PERCOLATION
FILE_ERROR
FILE_FULL
INTERNAL_ERROR
IP_BLANK
IP_INVALID
JVM_PROFILE_INVALID
PORT_BLANK
PORT_INVALID
PREF_FILE_INVALID
PROMPT_INVALID
3270_DISPLAY_BLANK
3270_DISPLAY_INVALID

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DPWD gate, PROCESS_PAGE function

Process a request for an html page in the following format:

Input Parameters

ITOKEN
A token representing a chain of input values. These are name-value pairs from either the page options, or from the form.

PAGE
The page to be processed

MSG_INSERT1
Optional Parameter

An insert for the message. If this field is null there is no first insert.

MSG_INSERT2
Optional Parameter

An insert for the message. If this field is null there is no second insert.

MSG_NUM
Optional Parameter

The message number of a message to be displayed when the page is formatted.

MSG_TYPE
Optional Parameter

The type of message to be displayed when the page is formatted, in the absence of a more serious message. If this value is not present then by default no message is displayed.

Values for the parameter are:
`ERROR`
`INFO`

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`DISASTER_PERCOLATION`
`FILE_ERROR`
`INTERNAL_ERROR`

OTOKEN
A token representing a chain of output html tags.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DPWD gate, PROCESS_SUBMIT function

Process a submitted form request. The input options will be read by the page processor from ITOKEN. The page processor will generate an output page request in OTOKEN.

Input Parameters

BUTTON
The action button used to submit the form.

ITOKEN
A token representing a chain of input values. These are name-value pairs from either the page options, or from the form.

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`DISASTER_PERCOLATION`
`FILE_ERROR`
`INTERNAL_ERROR`

OTOKEN
A token representing a chain of output html tags.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DPWE gate, PROCESS_PAGE function

Process a request for an html page in the following format:

Input Parameters

ITOKEN
A token representing a chain of input values. These are name-value pairs from either the page options, or from the form.

PAGE
The page to be processed

MSG_INSERT1
Optional Parameter

An insert for the message. If this field is null there is no first insert.

MSG_INSERT2
Optional Parameter

An insert for the message. If this field is null there is no second insert.

MSG_NUM
Optional Parameter

The message number of a message to be displayed when the page is formatted.

MSG_TYPE
Optional Parameter

The type of message to be displayed when the page is formatted, in the absence of a more serious message. If this value is not present then by default no message is displayed.

Values for the parameter are:
`ERROR`
`INFO`

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`DISASTER_PERCOLATION`
`FILE_ERROR`
`INTERNAL_ERROR`

OTOKEN
A token representing a chain of output html tags.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DPWE gate, PROCESS_SUBMIT function

Process a submitted form request. The input options will be read by the page processor from ITOKEN. The page processor will generate an output page request in OTOKEN.

Input Parameters

BUTTON
The action button used to submit the form.

ITOKEN
A token representing a chain of input values. These are name-value pairs from either the page options, or from the form.

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`DISASTER_PERCOLATION`
`FILE_ERROR`
`INTERNAL_ERROR`

OTOKEN
A token representing a chain of output html tags.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DPWJ gate, PROCESS_PAGE function

Process a request for an html page in the following format:

Input Parameters

ITOKEN
A token representing a chain of input values. These are name-value pairs from either the page options, or from the form.

PAGE
The page to be processed

MSG_INSERT1
Optional Parameter

An insert for the message. If this field is null there is no first insert.

MSG_INSERT2
Optional Parameter

An insert for the message. If this field is null there is no second insert.

MSG_NUM
Optional Parameter

The message number of a message to be displayed when the page is formatted.

MSG_TYPE
Optional Parameter

The type of message to be displayed when the page is formatted, in the absence of a more serious message. If this value is not present then by default no message is displayed.

Values for the parameter are:
`ERROR`
`INFO`

Output Parameters

`REASON`
: The values for the parameter are:

```
ABEND
DISASTER_PERCOLATION
FILE_ERROR
INTERNAL_ERROR
```

`OTOKEN`
: A token representing a chain of output html tags.

`RESPONSE`
: Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

DPWJ gate, PROCESS_SUBMIT function

Process a submitted form request. The input options will be read by the page processor from ITOKEN. The page processor will generate an output page request in OTOKEN.

Input Parameters

`BUTTON`
: The action button used to submit the form.

`ITOKEN`
: A token representing a chain of input values. These are name-value pairs from either the page options, or from the form.

Output Parameters

`REASON`
: The values for the parameter are:

```
ABEND
DISASTER_PERCOLATION
FILE_ERROR
INTERNAL_ERROR
```

`OTOKEN`
: A token representing a chain of output html tags.

`RESPONSE`
: Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

DPWL gate, PROCESS_PAGE function

Process a request for an html page in the following format:

Input Parameters

`ITOKEN`
: A token representing a chain of input values. These are name-value pairs from either the page options, or from the form.

`PAGE`
: The page to be processed

`MSG_INSERT1`
: Optional Parameter

  An insert for the message. If this field is null there is no first insert.

`MSG_INSERT2`
: Optional Parameter

  An insert for the message. If this field is null there is no second insert.

MSG_NUM
Optional Parameter

The message number of a message to be displayed when the page is formatted.

MSG_TYPE
Optional Parameter

The type of message to be displayed when the page is formatted, in the absence of a more serious message. If this value is not present then by default no message is displayed.

Values for the parameter are:
`ERROR`
`INFO`

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`DISASTER_PERCOLATION`
`FILE_ERROR`
`INTERNAL_ERROR`

OTOKEN
A token representing a chain of output html tags.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DPWL gate, PROCESS_SUBMIT function

Process a submitted form request. The input options will be read by the page processor from ITOKEN. The page processor will generate an output page request in OTOKEN.

Input Parameters

BUTTON
The action button used to submit the form.

ITOKEN
A token representing a chain of input values. These are name-value pairs from either the page options, or from the form.

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`DISASTER_PERCOLATION`
`FILE_ERROR`
`INTERNAL_ERROR`

OTOKEN
A token representing a chain of output html tags.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DPXM gate, BIND_XM_CLIENT function

The BIND_XM_CLIENT call flows from the transaction manager to the DP Domain during transaction initialization after Recovery Manager initialisation is complete.

The DP domain does a scan of the active debugging profiles to determine if it is possible that debugging could be required in this transaction. If it is not then DP domain is not invoked again until transaction termination.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `LOOP`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_FORMAT`
  `INVALID_FUNCTION`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DPXM gate, INIT_XM_CLIENT function

The INIT_XM_CLIENT call flows from the transaction manager to the DP Domain during transaction initialization. The DP domain allocates the DP domain transaction lifetime control block, and anchors it in the AP domain's transaction token.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `LOOP`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_FORMAT`
  `INVALID_FUNCTION`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DPXM gate, RELEASE_XM_CLIENT function

The RELEASE_XM_CLIENT call is made from the transaction manager to the DP Domain during transaction termination. DP domain transaction lifetime resources are released.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `LOOP`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_FORMAT`
  `INVALID_FUNCTION`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Debugging profile domain's generic gates

Table 42 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 42. Debugging profile domain's generic gates

Gate	Trace	Functions	Format
DPDM	DP 0101 DP 0102	PRE_INITIALISE INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DPDM

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

Chapter 77. Dispatcher Domain (DS)

The dispatcher domain is concerned with the attaching, running, and detaching of tasks, and the posting of TCBs.

The domain posts TCBs with the following modes:

CO	Concurrent	RP	ONC/RPC-owning
D2	DB2	SO	Sockets
EP	Event processing	SL	Sockets listener
FO	File-owning	S8	Secure sockets key 8
J8	JVM CICS key	SP	SSL pool owner
J9	JVM user key	SZ	secondary LU usage
JM	Shared class cache	TP	JVM server thread pool owner
L8	CICS key OPENAPI programs	T8	JVM server threads
L9	User key OPENAPI programs	X8	XPLINK CICS key
QR	Quasi-reentrant	X9	XPLINK user key
RO	Resource-owning		

Dispatcher Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the DS domain.

DSAT gate, ATTACH function

The ATTACH function of the DSAT gate is used to attach a new task.

Input Parameters

PRIORITY
affects a task's dispatching precedence. It can have a value in the range 0 (low priority) through 255 (high priority).

TYPE
is the type of task.

Values for the parameter are:
`NON_SYSTEM`
`SYSTEM`

USER_TOKEN
is the token by which the task to be attached is known to the caller.

MODE
Optional Parameter

specifies the mode in which the task is to run.

Values for the parameter are:
`CO`
`FO`

QR
RO
RP
SZ

SPECIAL_TYPE
Optional Parameter

identifies the special task SMSY.

Values for the parameter are:
SMSY

TASK_REPLY_GATE_INDEX
Optional Parameter

is used when a gate other than the attaching domain's default gate is to receive a resultant TASK_REPLY.

TIMEOUT
Optional Parameter

is the deadlock time-out interval, in milliseconds.

TRANSACTION_TOKEN
Optional Parameter

identifies the transaction associated with the attached task.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP
USER_TASK_SLOT_UNAVAILABLE

The following values are returned when RESPONSE is EXCEPTION:
INSUFFICIENT_STORAGE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TASK_TOKEN
is the token by which the attached task is known to the dispatcher.

DSAT gate, CANCEL_TASK function

The CANCEL_TASK function of DSAT gate causes a specified task to be canceled. The task is cancelled when in a suitable suspend or when a deferred abend can be delivered to the task.

Input Parameters

CANCEL_TYPE
Specifies when the task can be canceled having regard to system integrity and data integrity.

Values for the parameter are:
FORCE_CANCEL
KILL_CANCEL
NORMAL_CANCEL

DEFERRED_ABEND_CODE
is the abend code to be used when the task is abended during deferred abend processing.

TASK_TOKEN
identifies the task whose priority is to be changed.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `CANCEL_INHIBITED`
  `INVALID_STATE`
  `INVALID_STATE_PURGE`
  `INVALID_TASK_TOKEN`
  `NOT_PURGEABLE`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSAT gate, CHANGE_MODE function

The CHANGE_MODE function of DSAT gate is used to move a task from one CICS-managed TCB to another, or to select the mode in which the task is to run.

Input Parameters

MODE
: specifies the mode in which the task is to run:

CO	concurrent mode
FO	file-owning mode
QR	quasi-reentrant mode
RO	resource-owning mode
RP	ONC/RPC-owning mode
SZ	secondary LU usage mode

MODENAME
: 2-character mode name.

MODENAME_TOKEN
: token representing modename. More efficient than using MODENAME. The token is returned by ACTIVATE_MODE and by CHANGE_MODE (see OLD_MODENAME_TOKEN below)

TCB_TOKEN
: token representing the TCB instance to which to switch. The token is returned by CHANGE_MODE (see OLD_TCB_TOKEN below)

CONDITIONAL
: Optional Parameter

  states whether the CHANGE_MODE should be conditional on the current load on the CPU.

  Values for the parameter are:
  `NO`
  `YES`

DISASSOCIATE_TCB
: Optional Parameter

  indicates whether to disassociate the task from the TCB from which the switch is made.

  Values for the parameter are:
  `NO`
  `YES`

FRESH_TCB
: Optional Parameter

  indicates whether a fresh TCB is required.

  Values for the parameter are:

NO
YES

MATCH_STRATEGY
Optional Parameter

the strategy to be followed if a TCB instance that satisfies the PRIMARY_MATCH and SECONDARY_MATCH values is not found.

Values for the parameter are:
EXACT_THEN_NEW_THEN_BEST

PRIMARY_MATCH
Optional Parameter

an 8-byte token to be used to search for a matching free TCB instance to which to switch.

SECONDARY_MATCH
Optional Parameter

an 8-byte token to be used to search for a matching free TCB instance to which to switch.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ACTIVATE_MODE_FAILED
ADD_TCB_FAILED
LOCK_FAILED
SUSPEND_FAILED

The following values are returned when RESPONSE is EXCEPTION:
INSUFFICIENT_STORAGE
MODE_NOT_ACTIVE
NO_TCBS_ACTIVE
NOT_OPEN_MODE_TCB
TCB_FAILED
TOO_FEW_TCBS

The following values are returned when RESPONSE is INVALID:
INVALID_FRESH_TCB_USAGE
INVALID_MODENAME
INVALID_MODENAME_TOKEN
INVALID_TCB_TOKEN

The following values are returned when RESPONSE is PURGED:
TASK_CANCELLED
TIMED_OUT

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

MATCH_RESULT
Optional Parameter

indicates the level of success of the matching process.

Values for the parameter are:
EXACT_MATCH
NO_MATCH
NOT_APPLIC
PRIM_NOT_SEC_MATCH

NEW_TCB_TOKEN
Optional Parameter

token representing the TCB instance returned by the matching process.

OLD_MODE
Optional Parameter

is the mode used by the task when the CHANGE_MODE request was issued.

Values for the parameter are:

```
CO
FO
QR
RO
RP
SZ
```

OLD_MODENAME
Optional Parameter

is the mode used by the task when the CHANGE_MODE request was issued. It can have the same values as OLD_MODE. OLD_MODENAME is preferred to OLD_MODE.

OLD_MODENAME_TOKEN
Optional Parameter

is a token representing the mode used by the task when the CHANGE_MODE request was issued.

OLD_TCB_TOKEN
Optional Parameter

is a token representing the TCB used by the task when the CHANGE_MODE request was issued.

DSAT gate, CHANGE_PRIORITY function

The CHANGE_PRIORITY function of DSAT gate has two effects:

Input Parameters

PRIORITY
Optional Parameter

affects a task's dispatching precedence. It can have a value in the range 0 (low priority) through 255 (high priority).

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

REASON
Optional Parameter

The values for the parameter are:

```
ABEND
ACTIVATE_MODE_FAILED
ADD_TCB_FAILED
CANCEL_INHIBITED
INSUFFICIENT_STORAGE
INVALID_FORMAT
INVALID_FRESH_TCB_USAGE
INVALID_FUNCTION
```

INVALID_MODENAME
INVALID_MODENAME_TOKEN
INVALID_STATE
INVALID_STATE_PURGE
INVALID_TASK_TOKEN
INVALID_TCB_TOKEN
LOCK_FAILED
LOOP
MODE_NOT_ACTIVE
NO_TCBS_ACTIVE
NOT_OPEN_MODE_TCB
NOT_PURGEABLE
NOT_SUBSPACE_ELIGIBLE
SUSPEND_FAILED
TASK_CANCELLED
TCB_FAILED
TCB_NOT_OWNED
TIMED_OUT
TOO_FEW_TCBS
USER_TASK_SLOT_UNAVAILABLE

OLD_PRIORITY
Optional Parameter

is the task's former priority. It can have a value in the range 0 (low priority) through 255 (high priority).

DSAT gate, CLEAR_MATCH function

The CLEAR_MATCH function of the DSAT gate causes all match tokens associated with the calling TCB to be discarded.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSAT gate, DELETE_SUBSPACE_TCBS function

The DELETE_SUBSPACE_TCBS function of DSAT gate deletes any open TCBs associated with the given subspace.

Input Parameters

SUBSPACE_TOKEN
indicates the subspace whose associated open TCBs are to be deleted

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
LOCK_FAILED

The following values are returned when RESPONSE is EXCEPTION:
TOO_FEW_TCBS

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSAT gate, FREE_SUBSPACE_TCBS function

The FREE_SUBSPACE_TCBS function of DSAT gate releases any open subspace TCBs owned by the task, and makes them available for use by another task executing with the same subspace, or deletes the TCBs if the task is 'unclean'.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`LOCK_FAILED`

The following values are returned when RESPONSE is INVALID:
`NOT_SUBSPACE_ELIGIBLE`

OPEN_TCBS_USED_AND_KEPT
is a bit string indicating which TCB modes were used by the task, of and are now available to other tasks

OPEN_TCBS_USED_AND_LOST
is a bit string indicating which TCB modes were used by the task, of and have now been deleted because the task was 'unclean'

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSAT gate, RELEASE_OPEN_TCB function

The RELEASE_OPEN_TCB function of DSAT gate frees the TCB from the calling task's ownership.

Input Parameters

TCB_TOKEN
token representing the TCB instance to which to switch. The token is returned by CHANGE_MODE (see OLD_TCB_TOKEN below)

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`LOCK_FAILED`

The following values are returned when RESPONSE is INVALID:
`INVALID_TCB_TOKEN`
`TCB_NOT_OWNED`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSAT gate, SET_PRIORITY function

The SET_PRIORITY function of DSAT gate changes the priority of the issuing task, or the task specified by the TASK_TOKEN parameter.

Input Parameters

PRIORITY
affects a task's dispatching precedence. It can have a value in the range 0 (low priority) through 255 (high priority).

SPECIAL_TYPE
Optional Parameter

identifies the special task IMMEDIATE_SHUTDOWN_TASK.

Values for the parameter are:
IMMEDIATE_SHUTDOWN_TASK

TASK_TOKEN
Optional Parameter

identifies the task whose priority is to be changed.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
INVALID_TASK_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

OLD_PRIORITY
Optional Parameter

is the task's former priority. It can have a value in the range 0 (low priority) through 255 (high priority).

DSAT gate, SET_TRANSACTION_TOKEN function

The SET_TRANSACTION_TOKEN function of DSAT gate sets the XM domain transaction token of the transaction associated with the currently dispatched task.

Input Parameters

TRANSACTION_TOKEN
identifies the transaction associated with the attached task.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

REASON
Optional Parameter

The values for the parameter are:
ABEND
ACTIVATE_MODE_FAILED
ADD_TCB_FAILED
CANCEL_INHIBITED
INSUFFICIENT_STORAGE
INVALID_FORMAT
INVALID_FRESH_TCB_USAGE
INVALID_FUNCTION
INVALID_MODENAME
INVALID_MODENAME_TOKEN
INVALID_STATE
INVALID_STATE_PURGE
INVALID_TASK_TOKEN
INVALID_TCB_TOKEN
LOCK_FAILED
LOOP
MODE_NOT_ACTIVE
NO_TCBS_ACTIVE
NOT_OPEN_MODE_TCB
NOT_PURGEABLE
NOT_SUBSPACE_ELIGIBLE

SUSPEND_FAILED
TASK_CANCELLED
TCB_FAILED
TCB_NOT_OWNED
TIMED_OUT
TOO_FEW_TCBS
USER_TASK_SLOT_UNAVAILABLE

DSAT gate, TCB_POOL_MANAGEMENT function

The TCB_POOL_MANAGEMENT function of DSAT gate deletes unallocated TCBs which are excess to current requirements.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
LOCK_FAILED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSBR gate, END_BROWSE function

The END_BROWSE function of DSBR gate ends a browse session with the dispatcher.

Input Parameters

BROWSE_TOKEN
is the token identifying the browse session to be ended.

Output Parameters

REASON
The values for the parameter are:
INVALID_BROWSE_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSBR gate, GET_NEXT function

The GET_NEXT function of DSBR gate returns information about the next task.

Input Parameters

BROWSE_TOKEN
is the token identifying the browse session to be ended.

Output Parameters

REASON
The values for the parameter are:
END
INVALID_BROWSE_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DOMAIN_INDEX
Optional Parameter

is the 2-character index identifying the domain that made the ATTACH call for the task.

ESSENTIAL_TCB
Optional Parameter

indicates whether the TCB is an essential TCB or not.

Values for the parameter are:
```
ESSENTIAL_NO
ESSENTIAL_YES
```

KERNEL_TOKEN
Optional Parameter

is the token by which the task is known to the kernel.

MODE
Optional Parameter

is the mode in which the task is to run.

Values for the parameter are:
```
CO
FO
QR
RO
RP
SZ
```

OPEN_MODES
Optional Parameter

is a 32-bit string which indicates which modes of open TCBs were used by this task.

PRIORITY
Optional Parameter

is the task's dispatch priority. It can have a value in the range 0 (low priority) through 255 (high priority).

RESOURCE_NAME
Optional Parameter

is the name of the resource that the task is waiting for, if the task is suspended.

RESOURCE_TIME
Optional Parameter

is the interval of time that has passed since the task last issued a suspend or wait.

RESOURCE_TYPE
Optional Parameter

is the type of resource that the task is waiting for, if the task is suspended.

STATE
Optional Parameter

is the state of the task.

Values for the parameter are:
```
READY
RUNNING
SUSPENDED
```

SUSPEND_TOKEN
Optional Parameter

is the token by which the dispatcher recognizes a task to be suspended or resumed.

TASK_TOKEN
Optional Parameter

is the token by which the attached task is known to the dispatcher.

TCB_TOKEN
Optional Parameter

is the TCB token associated with the task.

TCB_TYPE
Optional Parameter

is the type of TCB that the task is executing on.

Values for the parameter are:
`CKOPEN_TCB`
`INTERNAL_TCB`
`QR_TCB`
`UKOPEN_TCB`

TYPE
Optional Parameter

is the type of task.

Values for the parameter are:
`NON_SYSTEM`
`SYSTEM`

USER_TOKEN
Optional Parameter

is the token by which the task is known to the caller that made the ATTACH request for the task.

DSBR gate, INQUIRE_TASK function

The INQUIRE_TASK function of DSBR gate returns information about a specified task.

Input Parameters

INPUT_TASK_TOKEN
Optional Parameter

is the token for the task to be inquired on.

Output Parameters

REASON
The values for the parameter are:
`INVALID_TASK_TOKEN`
`NOT_SUPPORTED`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CANCEL_PENDING
Optional Parameter

Not supported by domain gate function.

Values for the parameter are:
`CLEARED`
`FORCE`

KILL
NONE
NORMAL

DEFERRED_ABEND_CODE
Optional Parameter

Not supported by domain gate function.

DOMAIN_INDEX
Optional Parameter

is the 2-character index identifying the domain that made the ATTACH call for the task.

ESSENTIAL_TCB
Optional Parameter

indicates whether the TCB is an essential TCB or not.

Values for the parameter are:
ESSENTIAL_NO
ESSENTIAL_YES

KERNEL_TOKEN
Optional Parameter

is the token by which the task is known to the kernel.

MODE
Optional Parameter

is the mode in which the task is to run.

Values for the parameter are:
CO
FO
QR
RO
RP
SZ

OPEN_MODES
Optional Parameter

is a 32-bit string which indicates which modes of open TCBs were used by this task.

PRIORITY
Optional Parameter

is the task's dispatch priority. It can have a value in the range 0 (low priority) through 255 (high priority).

RESOURCE_NAME
Optional Parameter

is the name of the resource that the task is waiting for, if the task is suspended.

RESOURCE_TIME
Optional Parameter

is the interval of time that has passed since the task last issued a suspend or wait.

RESOURCE_TYPE
Optional Parameter

is the type of resource that the task is waiting for, if the task is suspended.

STATE
Optional Parameter

is the state of the task.

Values for the parameter are:
`READY`
`RUNNING`
`SUSPENDED`

SUSPEND_TOKEN
Optional Parameter

is the token by which the dispatcher recognizes a task to be suspended or resumed.

TASK_TOKEN
Optional Parameter

is the token by which the attached task is known to the dispatcher.

TCB_TOKEN
Optional Parameter

is the TCB token associated with the task.

TCB_TYPE
Optional Parameter

is the type of TCB that the task is executing on.

Values for the parameter are:
`CKOPEN_TCB`
`INTERNAL_TCB`
`QR_TCB`
`UKOPEN_TCB`

TYPE
Optional Parameter

is the type of task.

Values for the parameter are:
`NON_SYSTEM`
`SYSTEM`

USER_TOKEN
Optional Parameter

is the token by which the task is known to the caller that made the ATTACH request for the task.

DSBR gate, INQUIRE_TCB function

The INQUIRE_TCB function of the DSBR gate returns the AP TCB-related token associated with the specified DS TCB_TOKEN. If the AP token has not yet been set by SET_TCB, then the function returns an AP_TCB_TOKEN value of zero.

Input Parameters

TCB_TOKEN
Optional Parameter

token representing the TCB instance to which to switch. The token is returned by CHANGE_MODE (see OLD_TCB_TOKEN below)

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
`INVALID_TCB_TOKEN`

OWNER_TCB_TOKEN
token, provided by the TCB's owning domain, associated with the TCB instance defined by TCB_TOKEN.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSBR gate, SET_TASK function

The SET_TASK function of DSBR gate marks the task as "unclean" so that open TCBs will be freed at task termination.

Input Parameters

ABTERM_ALLOWED
Optional Parameter

Not supported by domain gate function.

Values for the parameter are:
`ABTERM_NO`
`ABTERM_YES`

CANCEL_STATE
Optional Parameter

Not supported by domain gate function.

Values for the parameter are:
`FORCE`
`KILL`
`NONE`
`NORMAL`

CLEANLINESS
Optional Parameter

specifies that the task is to be marked "unclean".

Values for the parameter are:
`UNCLEAN`

CLEAR_CANCEL_PENDING
Optional Parameter

Not supported by domain gate function.

Values for the parameter are:
`YES`

INPUT_TASK_TOKEN
Optional Parameter

is the token for the task to be inquired on.

WAIT
Optional Parameter

Not supported by domain gate function.

Values for the parameter are:
`WAIT_NO`
`WAIT_YES`

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`INVALID_TASK_TOKEN`

NOT_SUPPORTED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACTION
Optional Parameter

Not supported by domain gate function.

Values for the parameter are:
ACTION_ABEND
ACTION_ABTERM
ACTION_NONE

CANCEL_PENDING
Optional Parameter

Not supported by domain gate function.

Values for the parameter are:
CLEARED
FORCE
KILL
NONE
NORMAL

DEFERRED_ABEND_CODE
Optional Parameter

Not supported by domain gate function.

DSBR gate, SET_TCB function

The SET_TCB function of the DSBR gate sets the AP TCB-related token to be associated with the running TCB.

Input Parameters

OWNER_TCB_TOKEN
token, provided by the TCB's owning domain, to be associated with the running TCB.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

REASON
Optional Parameter

The values for the parameter are:
ABEND
END
INVALID_BROWSE_TOKEN
INVALID_FORMAT
INVALID_FUNCTION
INVALID_TASK_TOKEN
INVALID_TCB_TOKEN
LOOP
NOT_SUPPORTED

DSBR gate, START_BROWSE function

The START_BROWSE function of DSBR gate starts a browse session with the dispatcher.

Output Parameters

BROWSE_TOKEN
is the token representing this browse session.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSIT gate, ACTIVATE_MODE function

The ACTIVATE_MODE function creates a mode to which TCBs can be added (by ADD_TCB) so that tasks can CHANGE_MODE to the TCBs.

Input Parameters

ESSENTIAL_TCB
indicates whether CICS is to be brought down if a TCB in this mode suffers a non recoverable abend.

Values for the parameter are:
ESSENTIAL_NO
ESSENTIAL_YES

EXEC_CAPABLE
indicates whether TCBs in this mode are to be set up to support the use of EXEC CICS commands by code running on them.

Values for the parameter are:
EXEC_NO
EXEC_YES

IDENTITY
is the name of the mode to be activated. It is a two byte character string.

INHERIT_SUBSPACE
indicates whether TCBs in this mode will be able to run application code in a subspace.

Values for the parameter are:
INHERIT_NO
INHERIT_YES

LE_ENVIRONMENT
indicates whether Language Environment is to run in native MVS mode or in CICS mode on TCBs in this mode.

Values for the parameter are:
LE_CICS
LE_MVS

MODE
specifies the mode in which the task is to run.

MODENAME
2-character mode name.

MULTIPLE_TCBS
indicates whether this mode allows more than one TCB.

Values for the parameter are:
MULTIPLE_NO
MULTIPLE_YES

OPEN
indicates whether TCBs in this mode are to be managed by the Dispatcher domain as "Open TCBs".

Values for the parameter are:
`OPEN_NO`
`OPEN_YES`

PARENT_MODENAME
the mode of the TCB that issued the request.

PRTY_RELATIVE_TO_QR
allows TCBs in this mode to have a different priority to that of the QR TCB.

TCB_KEY
indicates the key to be specified on ATTACHes of TCBs in this mode.

Values for the parameter are:
`KEY8`
`KEY9`

DEPENDENT_ON
Optional Parameter

indicates that TCBs of the mode being activated depend on the existence of TCBs of another mode.

NOTIFY_DELETE
Optional Parameter

indicates which domain, if any, to notify when a DELETE_TCB is issued. It is the binary domain index for the domain.

OPEN_POOL_NUMBER
Optional Parameter

is the number of the open TCB pool which is to contain TCBs of the newly-activated mode.

PTHREAD
Optional Parameter

indicates whether to create a protected thread.

Values for the parameter are:
`PTHREAD_NO`
`PTHREAD_YES`

SZERO
Optional Parameter

indicates whether TCBs of the new mode should be attached with SZERO(YES) or SZERO(NO).

Values for the parameter are:
`SZERO_NO`
`SZERO_YES`

WAIT_FOR_MATCH
Optional Parameter

indicates if a CHANGE_MODE should consider waiting for a suitable TCB rather than using a free TCB.

Values for the parameter are:
`NEVER`
`NO_MODE`
`NO_PRIMARY`

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  INSUFFICIENT_STORAGE
  MODE_ALREADY_ACTIVE
  MODE_LIMIT_REACHED
  MODENAME_ALREADY_ACTIVE
  RESERVED_MODENAME
  TOO_MANY_MULTI

  The following values are returned when RESPONSE is INVALID:
  INVALID_MODE
  INVALID_POOL_NUMBER

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MODENAME_TOKEN
: Optional Parameter

  is a token that identifies this modename.

DSIT gate, ADD_TCB function

The ADD_TCB function adds a TCB to a particular mode.

Input Parameters

IDENTITY
: is the name of the mode to be activated. It is a two byte character string.

MODENAME
: 2-character mode name.

MODENAME_TOKEN
: token representing modename. More efficient than using MODENAME. The token is returned by ACTIVATE_MODE and by CHANGE_MODE (see OLD_MODENAME_TOKEN below)

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  INSUFFICIENT_STORAGE
  MODE_LIMIT_REACHED
  MODE_NOT_ACTIVE
  RESERVED_MODENAME

  The following values are returned when RESPONSE is INVALID:
  INVALID_MODENAME
  INVALID_MODENAME_TOKEN

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TCB_TOKEN
: is the TCB token associated with the task.

DSIT gate, DELETE_ALL_OPEN_TCBS function

DELETE_ALL_OPEN_TCBS schedules the termination of all open TCBs with a given modename. For TCBs that are currently in use, the termination will occur when the owning task terminates. The function does not prevent new TCBs of the given mode from being created.

Input Parameters

MODENAME
  2-character mode name.

Output Parameters

REASON
  The following values are returned when RESPONSE is EXCEPTION:
    `MODE_NOT_ACTIVE`

  The following values are returned when RESPONSE is INVALID:
    `INVALID_MODENAME`

RESPONSE
  Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSIT gate, DELETE_OPEN_TCB function

DELETE_OPEN_TCB schedules the termination of an open TCB. If the TCB is currently in use, the termination will occur when the owning task terminates.

Input Parameters

TCB_TOKEN
  is a token provided by DS that uniquely identifies the TCB.

Output Parameters

REASON
  The following values are returned when RESPONSE is INVALID:
    `INVALID_TCB_TOKEN`

RESPONSE
  Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSIT gate, DELETE_TCB function

The DELETE_TCB function is used by the caller to tell the Dispatcher that the TCB is to be shutdown and that the associated control blocks can be freed. If an attempt is made to shut down an essential TCB, an EXCEPTION response is returned with a reason of NOT_SUPPORTED.

Input Parameters

TCB_TOKEN
  token representing the TCB instance to which to switch. The token is returned by CHANGE_MODE (see OLD_TCB_TOKEN below)

Output Parameters

REASON
  The following values are returned when RESPONSE is EXCEPTION:
    `NOT_SUPPORTED`
    `TCB_IN_USE`

  The following values are returned when RESPONSE is INVALID:
    `INVALID_TCB_TOKEN`

RESPONSE
  Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSIT gate, FREE_TCB function

The FREE_TCB function is issued by the Kernel and tells the Dispatcher that a given TCB has terminated and been DETACHed.

Input Parameters

TCB_TOKEN
token representing the TCB instance to which to switch. The token is returned by CHANGE_MODE (see OLD_TCB_TOKEN below)

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
INVALID_TCB_TOKEN
TASK_NOT_TERMINATED
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSIT gate, INQUIRE_DISPATCHER function

The INQUIRE_DISPATCHER function of DSIT gate returns information about the current state of the dispatcher.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACTJVMTCBS
Optional Parameter

is the number of TCBs in the JVM TCB pool which are being used by current tasks.

ACTOPENTCBS
Optional Parameter

is the number of TCBs in the TCB pool known as the *open pool* which are being used by current tasks.

ACTSSLTCBS
Optional Parameter

is the number of TCBs in the SSL TCB pool which are being used by current tasks.

ACTXPTCBS
Optional Parameter

is the number of TCBs in the XPLINK TCB pool which are being used by current tasks.

MAXIMUM_WAIT_INTERVAL
Optional Parameter

is the maximum delay before terminal control is dispatched.

MAXJVMTCBS
Optional Parameter

is the maximum number of TCBs in the JVM TCB pool.

MAXOPENTCBS
Optional Parameter

is the maximum number of TCBs in the TCB pool known as the *open pool*.

MAXSSLTCBS
Optional Parameter

is the maximum number of TCBs in the SSL TCB pool.

MAXXPTCBS
Optional Parameter

is the maximum number of TCBs in the XPLINK TCB pool.

NUMBER_OF_SUBTASKS
Optional Parameter

is the number of subtasks for concurrent mode.

PRIORITY_MULTIPLIER
Optional Parameter

determines how the priority of new tasks is to be penalized in 'storage getting short' and 'storage critical' situations.

QR_BATCHING_VALUE
Optional Parameter

is the number of POSTs for BATCH=YES waits in quasi-reentrant mode.

RP_TCB_ATTACHED
Optional Parameter

indicates whether or not the RP TCB is attached.

Values for the parameter are:
`NO`
`YES`

SCAN_DELAY_INTERVAL
Optional Parameter

is the delay before terminal control is dispatched after a terminal is posted by the access method.

SZ_TCB_ATTACHED
Optional Parameter

indicates whether or not the SZ TCB is attached.

Values for the parameter are:
`NO`
`YES`

DSIT gate, PROCESS_DEAD_TCBS function

The PROCESS_DEAD_TCBS function is issued by the SM system task each time it runs to tell the Dispatcher to process any TCBs it finds on its dead TCB chain. Such TCBs will be in an MVS WAIT issued by their ESTAE exit after suffering a non recoverable abend.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`INSUFFICIENT_STORAGE`
`INVALID_FUNCTION`
`MAXJVMTCBS_OUT_OF_RANGE`
`MAXOPENTCBS_OUT_OF_RANGE`
`MAXSSLTCBS_OUT_OF_RANGE`
`MAXWAIT_LESSTHAN_SCANDELAY`
`MAXXPTCBS_OUT_OF_RANGE`
`MODE_ALREADY_ACTIVE`

MODE_LIMIT_REACHED
MODE_NOT_ACTIVE
MODENAME_ALREADY_ACTIVE
NOT_SUPPORTED
RESERVED_MODENAME
TASK_NOT_TERMINATED
TCB_IN_USE

The following values are returned when RESPONSE is EXCEPTION:
TOO_LATE_TO_SET_SUBTASKS
TOO_MANY_MULTI

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT

The following values are returned when RESPONSE is INVALID:
EXEC_LE_CLASH
INVALID_MODE
INVALID_MODENAME
INVALID_MODENAME_TOKEN
INVALID_POOL_NUMBER
INVALID_TCB_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSIT gate, SET_DISPATCHER function

The SET_DISPATCHER function of DSIT gate sets the state of the dispatcher.

Input Parameters

MAXIMUM_WAIT_INTERVAL
Optional Parameter

is the maximum delay before terminal control is dispatched.

MAXJVMTCBS
Optional Parameter

is the maximum number of TCBs in the JVM TCB pool.

MAXOPENTCBS
Optional Parameter

is the maximum number of TCBs in the TCB pool known as the *open pool*.

MAXSSLTCBS
Optional Parameter

is the maximum number of TCBs in the SSL TCB pool.

MAXXPTCBS
Optional Parameter

is the maximum number of TCBs in the XPLINK TCB pool.

NUMBER_OF_SUBTASKS
Optional Parameter

is the number of subtasks for concurrent mode.

PRIORITY_MULTIPLIER
Optional Parameter

determines how quickly a task's priority increases as it waits to be dispatched. The faster it increases the less likely a low priority task is to be held up for long periods by higher priority tasks in a busy system.

QR_BATCHING_VALUE
Optional Parameter

is the number of POSTs for BATCH=YES waits in quasi reentrant mode.

SCAN_DELAY_INTERVAL
Optional Parameter

is the delay before terminal control is dispatched after a terminal is posted by the access method.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- MAXJVMTCBS_OUT_OF_RANGE
- MAXOPENTCBS_OUT_OF_RANGE
- MAXSSLTCBS_OUT_OF_RANGE
- MAXWAIT_LESSTHAN_SCANDELAY
- MAXXPTCBS_OUT_OF_RANGE
- TOO_LATE_TO_SET_SUBTASKS

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

DSMT gate, END_BROWSE_MVSTCB function

End a browse operation on the MVS TCBs

Input Parameters

BROWSE_TOKEN
The token that represents the browse session.

Output Parameters

REASON
The values for the parameter are:
- INVALID_BROWSE_TOKEN
- INVALID_FORMAT
- INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

DSMT gate, GET_NEXT_MVSTCB function

During a browse session, return information about an MVS TCB.

Input Parameters

BROWSE_TOKEN
The token that represents the browse session.

ELEMENT_BUFFER
Optional Parameter

a buffer in which the dispatcher domain returns a list of the addresses of all areas of private storage owned by this TCB.

LENGTH_BUFFER
Optional Parameter

a buffer in which the dispatcher domain returns a list of the lengths of all areas of private storage owned by this TCB.

SUBPOOL_BUFFER
Optional Parameter

a buffer in which the dispatcher domain returns a list of the subpools of all areas of private storage owned by this TCB.

Output Parameters

REASON
The values for the parameter are:
BUFFER_NOT_BIG_ENOUGH
END_OF_BROWSE
INVALID_BROWSE_TOKEN
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TCB_ADDRESS
The address of the MVS TCB.

TCB_NAME
The name of the MVS TCB.

NUMBER_OF_ELEMENTS
Optional Parameter

The number of elements in the three lists of information about the private storage owned by this TCB.

DSMT gate, INQUIRE_MVSTCB function

Return information about an MVS TCB.

Input Parameters

TCB_ADDRESS
The address of the MVS TCB.

ELEMENT_BUFFER
Optional Parameter

a buffer in which the dispatcher domain returns a list of the addresses of all areas of private storage owned by this TCB.

LENGTH_BUFFER
Optional Parameter

a buffer in which the dispatcher domain returns a list of the lengths of all areas of private storage owned by this TCB.

SUBPOOL_BUFFER
Optional Parameter

a buffer in which the dispatcher domain returns a list of the subpools of all areas of private storage owned by this TCB.

Output Parameters

REASON
The values for the parameter are:
BUFFER_NOT_BIG_ENOUGH
INVALID_FORMAT
INVALID_FUNCTION
NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TCB_NAME
The name of the MVS TCB.

NUMBER_OF_ELEMENTS
Optional Parameter

The number of elements in the three lists of information about the private storage owned by this TCB.

DSMT gate, SNAPSHOT_MVSTCBS function

Take a snapshot of the state of all MVS TCBs in the CICS address space.

Output Parameters

REASON
The values for the parameter are:
`INVALID_FORMAT`
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TASK_STG_USED
Optional Parameter

indicates if the snapshot was captured in task storage.

Values for the parameter are:
`TASK_STG_NO`
`TASK_STG_YES`

DSMT gate, START_BROWSE_MVSTCB function

Start a browse operation on the MVS TCBs

Output Parameters

REASON
The values for the parameter are:
`INVALID_FORMAT`
`INVALID_FUNCTION`

BROWSE_TOKEN
A token that represents the browse session.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSSR gate, ADD_SUSPEND function

The ADD_SUSPEND function of DSSR gate returns a suspend token which is used to identify a task to be suspended or resumed.

Input Parameters

RESOURCE_NAME
Optional Parameter

is the name of the resource that the task is suspended on.

RESOURCE_TYPE
Optional Parameter

is the type of resource that the task is suspended on.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`INSUFFICIENT_STORAGE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SUSPEND_TOKEN
is the token by which the dispatcher recognizes a task to be suspended or resumed.

DSSR gate, DELETE_SUSPEND function

The DELETE_SUSPEND function of DSSR gate discards a suspend token.

Input Parameters

SUSPEND_TOKEN
is the suspend token to be deleted.

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
`INVALID_SUSPEND_TOKEN`
`SUSPEND_TOKEN_IN_USE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSSR gate, RESUME function

The RESUME function of DSSR gate causes a suspended task to be resumed.

Input Parameters

SUSPEND_TOKEN
is the suspend token to be deleted.

COMPLETION_CODE
Optional Parameter

is a completion code to be passed from the resumed task to the suspended task.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`TASK_CANCELLED`
`TIMED_OUT`

The following values are returned when RESPONSE is INVALID:
`ALREADY_RESUMED`
`INVALID_SUSPEND_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSSR gate, SUSPEND function

The SUSPEND function of DSSR gate causes a running task to be suspended.

Input Parameters

PURGEABLE
is the purgeable status of the task.

Values for the parameter are:
`NO`
`YES`

SUSPEND_TOKEN
is the suspend token to be deleted.

DEADLOCK_ACTION
Optional Parameter

describes whether the suspended task should be purged if deadlock is detected, and if so, how it should be purged.

DELAY
Optional Parameter

is an interval (in units as specified by TIME_UNIT) during which the task is not dispatched if CICS has other work to do.

DISPATCH_BEFORE_WAIT
Optional Parameter

Indicates if the suspended task is prepared to wait across a partition exit

Values for the parameter are:
`NO`
`YES`

INTERVAL
Optional Parameter

is an interval (in units as specified by TIME_UNIT) after which the task is given back control if it has not been resumed by a DSSR RESUME call.

RESOURCE_NAME
Optional Parameter

is the name of the resource that the task is suspended on.

RESOURCE_TYPE
Optional Parameter

is the type of resource that the task is suspended on.

RETRY
Optional Parameter

indicates whether or not the dispatcher is to retry the suspend operation, if the running task is not suspended by a preceding suspend operation.

Values for the parameter are:
`NO`
`YES`

TEMP_HIGH_PRIORITY
Optional Parameter

indicates if the task is to get a temporary priority boost at the completion of the suspend.

Values for the parameter are:
`NO`
`YES`

TIME_UNIT
Optional Parameter

identifies the time units specified on the INTERVAL and DELAY parameters where present.

Values for the parameter are:
`MILLI_SECOND`
`SECOND`

WLM_WAIT_TYPE
Optional Parameter

indicates the reason for task's wait state to the MVS workload manager.

Values for the parameter are:
`CMDRESP`
`CONV`
`DISTRIB`
`IDLE`
`IO`
`LOCK`
`MISC`
`OTHER_PRODUCT`
`SESS_LOCALMVS`
`SESS_NETWORK`
`SESS_SYSPLEX`
`TIMER`

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
`ALREADY_SUSPENDED`
`CLEAN_UP_PENDING`
`INVALID_SUSPEND_TOKEN`

The following values are returned when RESPONSE is PURGED:
`TASK_CANCELLED`
`TIMED_OUT`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

COMPLETION_CODE
Optional Parameter

is a completion code supplied by the resumed task.

DSSR gate, WAIT_MVS function

The WAIT_MVS function of DSSR gate causes a task to wait on an ECB, or list of ECBs, to be posted via the MVS POST service.

Input Parameters

ECB_ADDRESS
is the address of the ECB for the task.

ECB_LIST_ADDRESS
is the address of a list of ECBs for the task.

PURGEABLE
is the purgeable status of the task.

Values for the parameter are:

NO
YES

BATCH
Optional Parameter

states whether requests are to be batched.

Values for the parameter are:
NO
YES

DEADLOCK_ACTION
Optional Parameter

describes whether the suspended task should be purged if deadlock is detected, and if so, how it should be purged.

DELAY
Optional Parameter

is an interval (in units as specified by TIME_UNIT) during which the task is not dispatched if CICS has other work to do.

DISPATCH_BEFORE_WAIT
Optional Parameter

indicates if the suspended task is prepared to wait across a partition exit

Values for the parameter are:
NO
YES

INTERVAL
Optional Parameter

is an interval (in units as specified by TIME_UNIT) after which the task is given back control if it has not been resumed by a DSSR RESUME call.

RESOURCE_NAME
Optional Parameter

is the name of the resource that the task is suspended on.

RESOURCE_TYPE
Optional Parameter

is the type of resource that the task is suspended on.

RETRY
Optional Parameter

indicates whether or not the dispatcher is to retry the suspend operation, if the running task is not suspended by a preceding suspend operation.

Values for the parameter are:
NO
YES

TEMP_HIGH_PRIORITY
Optional Parameter

indicates if the task is to get a temporary priority boost at the completion of the suspend.

Values for the parameter are:
NO
YES

TIME_UNIT
Optional Parameter

identifies the time units specified on the INTERVAL and DELAY parameters where present.

Values for the parameter are:
```
MILLI_SECOND
SECOND
```
WLM_WAIT_TYPE
Optional Parameter

indicates the reason for task's wait state to the MVS workload manager.

Values for the parameter are:
```
CMDRESP
CONV
DISTRIB
IDLE
IO
LOCK
MISC
OTHER_PRODUCT
SESS_LOCALMVS
SESS_NETWORK
SESS_SYSPLEX
TIMER
```

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
```
ALREADY_WAITING
INVALID_ECB_ADDR
```
The following values are returned when RESPONSE is PURGED:
```
TASK_CANCELLED
TIMED_OUT
```
RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSSR gate, WAIT_OLDC function

The WAIT_OLDC function of DSSR gate causes a task to wait on an ECB that must be posted by setting the X'40' bit rather than via the MVS POST service. This is supported only in QR mode.

Input Parameters

ECB_ADDRESS
is the address of the ECB for the task.

PURGEABLE
is the purgeable status of the task.

Values for the parameter are:
```
NO
YES
```
DEADLOCK_ACTION
Optional Parameter

describes whether the suspended task should be purged if deadlock is detected, and if so, how it should be purged.

DELAY
Optional Parameter

is an interval (in units as specified by TIME_UNIT) during which the task is not dispatched if CICS has other work to do.

DISPATCH_BEFORE_WAIT
Optional Parameter

Indicates if the suspended task is prepared to wait across a partition exit

Values for the parameter are:
```
NO
YES
```

INTERVAL
Optional Parameter

is an interval (in units as specified by TIME_UNIT) after which the task is given back control if it has not been resumed by a DSSR RESUME call.

RESOURCE_NAME
Optional Parameter

is the name of the resource that the task is suspended on.

RESOURCE_TYPE
Optional Parameter

is the type of resource that the task is suspended on.

RETRY
Optional Parameter

indicates whether or not the dispatcher is to retry the suspend operation, if the running task is not suspended by a preceding suspend operation.

Values for the parameter are:
```
NO
YES
```

TEMP_HIGH_PRIORITY
Optional Parameter

indicates if the task is to get a temporary priority boost at the completion of the suspend.

Values for the parameter are:
```
NO
YES
```

TIME_UNIT
Optional Parameter

identifies the time units specified on the INTERVAL and DELAY parameters where present.

Values for the parameter are:
```
MILLI_SECOND
SECOND
```

WLM_WAIT_TYPE
Optional Parameter

indicates the reason for task's wait state to the MVS workload manager.

Values for the parameter are:
```
CMDRESP
CONV
DISTRIB
IDLE
```

IO
LOCK
MISC
OTHER_PRODUCT
SESS_LOCALMVS
SESS_NETWORK
SESS_SYSPLEX
TIMER

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
ALREADY_WAITING
INVALID_ECB_ADDR
INVALID_MODE

The following values are returned when RESPONSE is PURGED:
TASK_CANCELLED
TIMED_OUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSSR gate, WAIT_OLDW function

The WAIT_OLDW function of DSSR gate causes a task to wait on an ECB, or list of ECBs, that may be posted via the MVS POST service or by setting the POST bit (X'40' in the first byte). This is supported only in QR mode.

Input Parameters

ECB_ADDRESS
is the address of the ECB for the task.

ECB_LIST_ADDRESS
is the address of a list of ECBs for the task.

PURGEABLE
is the purgeable status of the task.

Values for the parameter are:
NO
YES

DEADLOCK_ACTION
Optional Parameter

describes whether the suspended task should be purged if deadlock is detected, and if so, how it should be purged.

DELAY
Optional Parameter

is an interval (in units as specified by TIME_UNIT) during which the task is not dispatched if CICS has other work to do.

DISPATCH_BEFORE_WAIT
Optional Parameter

Indicates if the suspended task is prepared to wait across a partition exit.

Values for the parameter are:
NO
YES

INTERVAL
Optional Parameter

is an interval (in units as specified by TIME_UNIT) after which the task is given back control if it has not been resumed by a DSSR RESUME call.

RESOURCE_NAME
Optional Parameter

is the name of the resource that the task is suspended on.

RESOURCE_TYPE
Optional Parameter

is the type of resource that the task is suspended on.

RETRY
Optional Parameter

indicates whether or not the dispatcher is to retry the suspend operation, if the running task is not suspended by a preceding suspend operation.

Values for the parameter are:
`NO`
`YES`

SPECIAL_TYPE
Optional Parameter

Identifies the special task CSTP.

Values for the parameter are:
`CSTP`

TEMP_HIGH_PRIORITY
Optional Parameter

indicates if the task is to get a temporary priority boost at the completion of the suspend.

Values for the parameter are:
`NO`
`YES`

TIME_UNIT
Optional Parameter

identifies the time units specified on the INTERVAL and DELAY parameters where present.

Values for the parameter are:
`MILLI_SECOND`
`SECOND`

WLM_WAIT_TYPE
Optional Parameter

indicates the reason for task's wait state to the MVS workload manager.

Values for the parameter are:
`CMDRESP`
`CONV`
`DISTRIB`
`IDLE`
`IO`
`LOCK`
`MISC`
`OTHER_PRODUCT`
`SESS_LOCALMVS`

SESS_NETWORK
SESS_SYSPLEX
TIMER

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
ALREADY_WAITING
INVALID_ECB_ADDR
INVALID_MODE

The following values are returned when RESPONSE is PURGED:
TASK_CANCELLED
TIMED_OUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Dispatcher domain's generic gates

Table 43 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 43. Dispatcher domain's generic gates

Gate	Trace	Functions	Format
APUE	DS 0121 DS 0122	SET_EXIT_STATUS	APUE
DMDM	DS 0006 DS 0007	PRE_INITIALISE INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM
KEDS	DS 0012 DS 0013	TCB_REPLY TASK_REPLY	KEDS
SMNT	DS 0145 DS 0113	STORAGE_NOTIFY	SMNT
STST	DS 0020 DS 0021	COLLECT_STATISTICS COLLECT_RESOURCE_STATS	STST

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Application Manager Domain's generic formats" on page 867

"Domain Manager domain's generic formats" on page 956

"Kernel domain generic formats" on page 1244

"Storage manager domain generic formats" on page 1709

"Statistics domain's generic formats" on page 1777

Dispatcher domain's generic formats

Table 44 describes the generic formats owned by the domain and shows the functions performed on the calls.

Table 44. Dispatcher domain's generic formats

Format	Calling modules	Functions
DSAT	DFHDSKE DFHDSDS4 DFHSJIN DFHSMVN	TASK_REPLY PURGE_INHIBIT_QUERY FORCE_PURGE_INHIBIT_QUERY NOTIFY_DELETE_TCB

Note: In the descriptions of the formats, the input parameters are input not to the dispatcher domain, but to the domain being called by the dispatcher domain. Similarly, the output parameters are output by the domain that was called by the dispatcher domain, in response to the call.

DSAT gate, TASK_REPLY function

The TASK_REPLY function of DSAT format is used to notify the domain that attached a task that the task has had its first dispatch.

Input Parameters

SUSPEND_TOKEN
is the suspend token that the task can be suspended against by default.

TASK_TOKEN
is the token by which the task that has been dispatched is known to the dispatcher.

USER_TOKEN
is the token by which the task that has been dispatched is known to the called domain.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSAT gate, PURGE_INHIBIT_QUERY function

The PURGE_INHIBIT_QUERY function of DSAT format is used by the dispatcher to see if a task selected for purge can be purged. Its main purpose is to find out from the AP domain whether the task is currently purgeable by the system.

Input Parameters

TASK_TOKEN
is the token by which the task that has been dispatched is known to the dispatcher.

USER_TOKEN
is the token by which the task that has been dispatched is known to the called domain.

Output Parameters

PURGE_INHIBITED_RESPONSE
states whether the task can be purged.

Values for the parameter are:

NO
YES

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSAT gate, FORCE_PURGE_INHIBIT_QUERY function

The FORCE_PURGE_INHIBIT_QUERY function of DSAT format is used by the dispatcher to see if a task selected for purge can be force purged. Its main purpose is to find out from the AP domain whether the task is currently purgeable by the system.

Input Parameters

TASK_TOKEN
is the token by which the task that has been dispatched is known to the dispatcher.

USER_TOKEN
is the token by which the task that has been dispatched is known to the called domain.

Output Parameters

PURGE_INHIBITED_RESPONSE
states whether the task can be purged.

Values for the parameter are:
NO
YES

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSAT gate, NOTIFY_DELETE_TCB function

The NOTIFY_DELETE function of DSAT format notifies the interested domain (as specified in the NOTIFY_DELETE parameter on the DSIT ACTIVATE_MODE request for the mode) that a DELETE_TCB request is in progress.

Input Parameters

TCB_TOKEN
The DS token representing the TCB instance for which notification is required when deleted.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Modules

Module	Function
DFHDSAT	Handles the following requests: ATTACH CHANGE_MODE CHANGE_PRIORITY SET_PRIORITY CANCEL_TASK

Module	Function
DFHDSBR	Handles the following requests: START_BROWSE GET_NEXT END_BROWSE INQUIRE_TASK
DFHDSDM	Handles the following requests: DMDM PRE_INITIALISE DMDM INITIALISE_DOMAIN DMDM QUIESCE_DOMAIN DMDM TERMINATE_DOMAIN
DFHDSIT	Handles the following requests: INQUIRE_DISPATCHER SET_DISPATCHER
DFHDSKE	Handles kernel DS requirements, and handles the following requests: KEDS TCB_REPLY KEDS TASK_REPLY
DFHDSSM	Receives the STORAGE_NOTIFY call from the storage manager domain.
DFHDSSR	Handles the following requests: ADD_SUSPEND DELETE_SUSPEND INQUIRE_SUSPEND_TOKEN SUSPEND RESUME WAIT_MVS WAIT_OLDW WAIT_OLDC
DFHDSST	Receives statistics calls from the ST domain
DFHDSUE	Receives the user exit gate call from the AP domain

Exits

There are two global user exit points in the dispatcher domain, XDSAWT and XDSBWT. See the *CICS Customization Guide* for further details.

Chapter 78. Dump Domain (DU)

The dump domain is responsible for producing storage dumps and for handling the associated data sets and status.

Dump Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the DU domain.

DUDT gate, ADD_SYSTEM_DUMPCODE function

The ADD_SYSTEM_DUMPCODE function of the DUDT gate is invoked to add a new dump code to the system dump table.

Input Parameters

DAEOPTION
states whether a dump produced for this dumpcode is eligible for suppression by the MVS Dump Analysis and Elimination (DAE) component.

Values for the parameter are:
- NO
- YES

DUMPSCOPE
indicates whether an SDUMP request is to be sent to all MVS images in the sysplex which are running CICS systems connected via XCF/MRO to the system on which the command is issued.

Values for the parameter are:

LOCAL
indicates that the SDUMP request is not sent to MVS images in the sysplex which are running XCF/MRO connected CICS systems

RELATED
indicates that, when an SDUMP is initiated for the dump code, the request is sent to all MVS images in the sysplex which are running one or more CICS systems connected via XCF/MRO to the CICS on which the SDUMP is initiated.

MAXIMUM_DUMPS
is the maximum number of times the dump code action can be taken.

SYSTEM_DUMP
states whether a system dump is required for this dump code.

Values for the parameter are:
- NO
- YES

SYSTEM_DUMPCODE
is the system dump code.

TERMINATE_CICS
states whether CICS is to be terminated for this dump code.

Values for the parameter are:
- NO
- YES

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  - CATALOG_FULL
  - DUPLICATE_DUMPCODE
  - INSUFFICIENT_STORAGE
  - INVALID_DUMPCODE
  - IO_ERROR

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUDT gate, ADD_TRAN_DUMPCODE function

The ADD_TRAN_DUMPCODE function of the DUDT gate is invoked to add a new dump code to the transaction dump table.

Input Parameters

DUMPSCOPE
: indicates whether an SDUMP request is to be sent to all MVS images in the sysplex which are running CICS systems connected via XCF/MRO to the system on which the command is issued.

  Values for the parameter are:

  LOCAL
  : indicates that the SDUMP request is not sent to MVS images in the sysplex which are running XCF/MRO connected CICS systems

  RELATED
  : indicates that, when an SDUMP is initiated for the dump code, the request is sent to all MVS images in the sysplex which are running one or more CICS systems connected via XCF/MRO to the CICS on which the SDUMP is initiated.

MAXIMUM_DUMPS
: is the maximum number of times the dump code action can be taken.

SYSTEM_DUMP
: states whether a system dump is required for this dump code.

  Values for the parameter are:
  - NO
  - YES

TERMINATE_CICS
: states whether CICS is to be terminated for this dump code.

  Values for the parameter are:
  - NO
  - YES

TRANSACTION_DUMP
: states whether a transaction dump is required for this dump code.

  Values for the parameter are:
  - NO
  - YES

TRANSACTION_DUMPCODE
: is the transaction dump code.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:

`CATALOG_FULL`
`DUPLICATE_DUMPCODE`
`INSUFFICIENT_STORAGE`
`INVALID_DUMPCODE`
`IO_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUDT gate, DELETE_SYSTEM_DUMPCODE function

The DELETE_SYSTEM_DUMPCODE function of the DUDT gate is invoked to delete an existing dump code from the system dump table.

Input Parameters

SYSTEM_DUMPCODE
is the system dump code.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`DUMPCODE_NOT_FOUND`
`IO_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUDT gate, DELETE_TRAN_DUMPCODE function

The DELETE_TRAN_DUMPCODE function of the DUDT gate is invoked to delete an existing dump code from the transaction dump table.

Input Parameters

TRANSACTION_DUMPCODE
is the transaction dump code.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`DUMPCODE_NOT_FOUND`
`IO_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUDT gate, ENDBR_SYSTEM_DUMPCODE function

The ENDBR_SYSTEM_DUMPCODE function of the DUDT gate is invoked to end a browse on the system dump table.

Input Parameters

BROWSE_TOKEN
is the token identifying the browse session.

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:

`INVALID_BROWSE_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUDT gate, ENDBR_TRAN_DUMPCODE function

The ENDBR_TRAN_DUMPCODE function of the DUDT gate is invoked to end a browse session on the transaction dump table.

Input Parameters

BROWSE_TOKEN
is the token identifying the browse session.

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
`INVALID_BROWSE_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUDT gate, GETNEXT_SYSTEM_DUMPCODE function

The GETNEXT_SYSTEM_DUMPCODE function of the DUDT gate is invoked in a browse session to get the next entry in the system dump table.

Input Parameters

BROWSE_TOKEN
is the token identifying the browse session.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`END_BROWSE`

The following values are returned when RESPONSE is INVALID:
`INVALID_BROWSE_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

COUNT
Optional Parameter

is the number of times the dump code action has been taken.

DAEOPTION
Optional Parameter

states whether a dump produced for this dumpcode is eligible for suppression by the MVS Dump Analysis and Elimination (DAE) component.

Values for the parameter are:
`NO`
`YES`

DUMPSCOPE
indicates whether an SDUMP request is to be sent to all MVS images in the sysplex which are running CICS systems connected via XCF/MRO to the system on which the command is issued.

Values for the parameter are:

LOCAL
: indicates that the SDUMP request is not sent to MVS images in the sysplex which are running XCF/MRO connected CICS systems

RELATED
: indicates that, when an SDUMP is initiated for the dump code, the request is sent to all MVS images in the sysplex which are running one or more CICS systems connected via XCF/MRO to the CICS on which the SDUMP is initiated.

MAXIMUM_DUMPS
Optional Parameter

is the maximum number of times the dump code action can be taken.

SYSTEM_DUMP
Optional Parameter

states whether a system dump is required for this dump code.

Values for the parameter are:

`NO`
`YES`

SYSTEM_DUMPCODE
Optional Parameter

is the system dump code.

TERMINATE_CICS
Optional Parameter

states whether CICS is to be terminated for this dump code.

Values for the parameter are:

`NO`
`YES`

DUDT gate, GETNEXT_TRAN_DUMPCODE function

The GETNEXT_TRAN_DUMPCODE function of the DUDT gate is invoked in a browse session to get the next entry in the transaction dump table.

Input Parameters

BROWSE_TOKEN
is the token identifying the browse session.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

`END_BROWSE`

The following values are returned when RESPONSE is INVALID:

`INVALID_BROWSE_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

COUNT
Optional Parameter

is the number of times the dump code action has been taken.

DUMPSCOPE
indicates whether an SDUMP request is to be sent to all MVS images in the

sysplex which are running CICS systems connected via XCF/MRO to the system on which the command is issued.

Values for the parameter are:

LOCAL
indicates that the SDUMP request is not sent to MVS images in the sysplex which are running XCF/MRO connected CICS systems

RELATED
indicates that, when an SDUMP is initiated for the dump code, the request is sent to all MVS images in the sysplex which are running one or more CICS systems connected via XCF/MRO to the CICS on which the SDUMP is initiated.

MAXIMUM_DUMPS
Optional Parameter

is the maximum number of times the dump code action can be taken.

SYSTEM_DUMP
Optional Parameter

states whether a system dump is required for this dump code.

Values for the parameter are:
NO
YES

TERMINATE_CICS
Optional Parameter

states whether CICS is to be terminated for this dump code.

Values for the parameter are:
NO
YES

TRANSACTION_DUMP
Optional Parameter

states whether a transaction dump is required for this dump code.

Values for the parameter are:
NO
YES

TRANSACTION_DUMPCODE
Optional Parameter

is the transaction dump code.

DUDT gate, INQUIRE_SYSTEM_DUMPCODE function

The INQUIRE_SYSTEM_DUMPCODE function of the DUDT gate is invoked to inquire on a dump code in the system dump table.

Input Parameters

SYSTEM_DUMPCODE
is the system dump code.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
DUMPCODE_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

COUNT
Optional Parameter

is the number of times the dump code action has been taken.

DAEOPTION
Optional Parameter

states whether a dump produced for this dumpcode is eligible for suppression by the MVS Dump Analysis and Elimination (DAE) component.

Values for the parameter are:
NO
YES

DUMPSCOPE
indicates whether an SDUMP request is to be sent to all MVS images in the sysplex which are running CICS systems connected via XCF/MRO to the system on which the command is issued.

Values for the parameter are:

LOCAL
indicates that the SDUMP request is not sent to MVS images in the sysplex which are running XCF/MRO connected CICS systems

RELATED
indicates that, when an SDUMP is initiated for the dump code, the request is sent to all MVS images in the sysplex which are running one or more CICS systems connected via XCF/MRO to the CICS on which the SDUMP is initiated.

MAXIMUM_DUMPS
Optional Parameter

is the maximum number of times the dump code action can be taken.

SYSTEM_DUMP
Optional Parameter

states whether a system dump is required for this dump code.

Values for the parameter are:
NO
YES

TERMINATE_CICS
Optional Parameter

states whether CICS is to be terminated for this dump code.

Values for the parameter are:
NO
YES

DUDT gate, INQUIRE_TRAN_DUMPCODE function

The INQUIRE_TRAN_DUMPCODE function of the DUDT gate is invoked to inquire on a dump code in the transaction dump table.

Input Parameters

TRANSACTION_DUMPCODE
is the transaction dump code.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
DUMPCODE_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

COUNT
Optional Parameter

is the number of times the dump code action has been taken.

DUMPSCOPE
indicates whether an SDUMP request is to be sent to all MVS images in the sysplex which are running CICS systems connected via XCF/MRO to the system on which the command is issued.

Values for the parameter are:

LOCAL
indicates that the SDUMP request is not sent to MVS images in the sysplex which are running XCF/MRO connected CICS systems

RELATED
indicates that, when an SDUMP is initiated for the dump code, the request is sent to all MVS images in the sysplex which are running one or more CICS systems connected via XCF/MRO to the CICS on which the SDUMP is initiated.

MAXIMUM_DUMPS
Optional Parameter

is the maximum number of times the dump code action can be taken.

SYSTEM_DUMP
Optional Parameter

states whether a system dump is required for this dump code.

Values for the parameter are:
`NO`
`YES`

TERMINATE_CICS
Optional Parameter

states whether CICS is to be terminated for this dump code.

Values for the parameter are:
`NO`
`YES`

TRANSACTION_DUMP
Optional Parameter

states whether a transaction dump is required for this dump code.

Values for the parameter are:
`NO`
`YES`

DUDT gate, SET_SYSTEM_DUMPCODE function

The SET_SYSTEM_DUMPCODE function of the DUDT gate is invoked to set options for a dump code in the system dump table.

Input Parameters

SYSTEM_DUMPCODE
is the system dump code.

DAEOPTION
Optional Parameter

states whether a dump produced for this dumpcode is eligible for suppression by the MVS Dump Analysis and Elimination (DAE) component.

Values for the parameter are:
NO
YES

DUMPSCOPE
indicates whether an SDUMP request is to be sent to all MVS images in the sysplex which are running CICS systems connected via XCF/MRO to the system on which the command is issued.

Values for the parameter are:

LOCAL
indicates that the SDUMP request is not sent to MVS images in the sysplex which are running XCF/MRO connected CICS systems

RELATED
indicates that, when an SDUMP is initiated for the dump code, the request is sent to all MVS images in the sysplex which are running one or more CICS systems connected via XCF/MRO to the CICS on which the SDUMP is initiated.

MAXIMUM_DUMPS
Optional Parameter

is the maximum number of times the dump code action can be taken.

RESET_COUNT
Optional Parameter

states whether COUNT is to be reset to zero.

Values for the parameter are:
NO
YES

SYSTEM_DUMP
Optional Parameter

states whether a system dump is required for this dump code.

Values for the parameter are:
NO
YES

TERMINATE_CICS
Optional Parameter

states whether CICS is to be terminated for this dump code.

Values for the parameter are:
NO
YES

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
CATALOG_FULL
DUMPCODE_NOT_FOUND
IO_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUDT gate, SET_TRAN_DUMPCODE function

The SET_TRAN_DUMPCODE function of the DUDT gate is invoked to set options for a dump code in the transaction dump table.

Input Parameters

TRANSACTION_DUMPCODE
is the transaction dump code.

DUMPSCOPE
indicates whether an SDUMP request is to be sent to all MVS images in the sysplex which are running CICS systems connected via XCF/MRO to the system on which the command is issued.

Values for the parameter are:

LOCAL
indicates that the SDUMP request is not sent to MVS images in the sysplex which are running XCF/MRO connected CICS systems

RELATED
indicates that, when an SDUMP is initiated for the dump code, the request is sent to all MVS images in the sysplex which are running one or more CICS systems connected via XCF/MRO to the CICS on which the SDUMP is initiated.

MAXIMUM_DUMPS
Optional Parameter

is the maximum number of times the dump code action can be taken.

RESET_COUNT
Optional Parameter

states whether COUNT is to be reset to zero.

Values for the parameter are:
NO
YES

SYSTEM_DUMP
Optional Parameter

states whether a system dump is required for this dump code.

Values for the parameter are:
NO
YES

TERMINATE_CICS
Optional Parameter

states whether CICS is to be terminated for this dump code.

Values for the parameter are:
NO
YES

TRANSACTION_DUMP
Optional Parameter

states whether a transaction dump is required for this dump code.

Values for the parameter are:
NO
YES

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`CATALOG_FULL`
`DUMPCODE_NOT_FOUND`
`IO_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUDT gate, STARTBR_SYSTEM_DUMPCODE function

The STARTBR_SYSTEM_DUMPCODE function of the DUDT gate is invoked to start a browse session on the system dump table.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`INSUFFICIENT_STORAGE`

BROWSE_TOKEN
is the token identifying the browse session.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUDT gate, STARTBR_TRAN_DUMPCODE function

The STARTBR_TRAN_DUMPCODE function of the DUDT gate is invoked to start a browse session on the transaction dump table.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`INSUFFICIENT_STORAGE`

BROWSE_TOKEN
is the token identifying the browse session.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUDU gate, SYSTEM_DUMP function

The SYSTEM_DUMP function of the DUDU gate is invoked to take a system dump.

Input Parameters

SYSTEM_DUMPCODE
is the system dump code.

CALLER
Optional Parameter

specifies the address and length of a character string to appear as the caller of this dump.

INDIRECT_CALL
Optional Parameter

states whether the call is indirect, that is, whether the actual requester of the dump is not the immediate caller of the dump domain.

Values for the parameter are:
- `NO`
- `YES`

`MESSAGE_TEXT`
Optional Parameter

specifies the address and length of the message text associated with this system dump.

`SYMPTOM_RECORD`
Optional Parameter

specifies the address and length of the symptom record associated with this dump.

`SYMPTOM_STRING`
Optional Parameter

specifies the address and length of the symptom string associated with this dump.

`TERMINATE_CICS`
Optional Parameter

states whether CICS is to be terminated for this dump code.

Values for the parameter are:
- `NO`
- `YES`

`TITLE`
Optional Parameter

specifies the address and length of a title to be associated with this dump.

Output Parameters

`REASON`
The following values are returned when RESPONSE is EXCEPTION:
- `FESTAE_FAILED`
- `INSUFFICIENT_STORAGE`
- `INVALID_DUMPCODE`
- `IWMWQWRK_FAILED`
- `NO_DATASET`
- `PARTIAL_SYSTEM_DUMP`
- `SDUMP_BUSY`
- `SDUMP_FAILED`
- `SDUMP_NOT_AUTHORIZED`
- `SUPPRESSED_BY_DUMPOPTION`
- `SUPPRESSED_BY_DUMPTABLE`
- `SUPPRESSED_BY_USEREXIT`

The following values are returned when RESPONSE is INVALID:
- `INVALID_PROBDESC`
- `INVALID_SVC_CALL`

`DUMPID`
is a character string of the form "rrrr/cccc" giving a unique identification to this dump request. "rrrr" is the run number of this CICS instance. Leading zeros are removed. The run number is incremented every time CICS is initialized. "cccc" is the count of this dump request within this CICS run.

`RESPONSE`
Indicates whether the domain call was successful. For more information, see “The **`RESPONSE`** parameter on domain interfaces” on page 9.

DUDU gate, TRANSACTION_DUMP function

The TRANSACTION_DUMP function of the DUDU gate is invoked to take a transaction dump.

Input Parameters

TRANSACTION_DUMPCODE
is the transaction dump code.

CSA
Optional Parameter

- common system area

Values for the parameter are:
`NO`
`YES`

DCT
Optional Parameter

- destination control table.

Values for the parameter are:
`NO`
`YES`

FCT
Optional Parameter

- file control table

Values for the parameter are:
`NO`
`YES`

INDIRECT_CALL
Optional Parameter

states whether the call is indirect, that is, whether the actual requester of the dump is not the immediate caller of the dump domain.

Values for the parameter are:
`NO`
`YES`

PCT
Optional Parameter

- program control table

Values for the parameter are:
`NO`
`YES`

PPT
Optional Parameter

- processing program table

Values for the parameter are:
`NO`
`YES`

PROGRAM
Optional Parameter

- program storage

Values for the parameter are:

`NO`
`YES`

SEGMENT
Optional Parameter

specifies the address and length of a single block of storage to be dumped.

SEGMENT_LIST
Optional Parameter

specifies the address and length of a list of length-address pairs of storage blocks to be dumped. SEGMENT and SEGMENT_LIST may not be specified together.

SIT
Optional Parameter

- system initialization table

Values for the parameter are:
`NO`
`YES`

TCA
Optional Parameter

- task control area

Values for the parameter are:
`NO`
`YES`

TCT
Optional Parameter

- terminal control table

Values for the parameter are:
`NO`
`YES`

TERMINAL
Optional Parameter

- terminal-related storage areas

Values for the parameter are:
`NO`
`YES`

TRANSACTION
Optional Parameter

- transaction-related storage areas

Values for the parameter are:
`NO`
`YES`

TRT
Optional Parameter

- internal trace table

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
`FESTAE_FAILED`
`INSUFFICIENT_STORAGE`
`INVALID_DUMPCODE`
`IWMWQWRK_FAILED`
`NOT_OPEN`
`OPEN_ERROR`
`PARTIAL_SYSTEM_DUMP`
`PARTIAL_TRANSACTION_DUMP`
`SDUMP_BUSY`
`SDUMP_FAILED`
`SDUMP_NOT_AUTHORIZED`
`SUPPRESSED_BY_DUMPOPTION`
`SUPPRESSED_BY_DUMPTABLE`
`SUPPRESSED_BY_USEREXIT`

The following values are returned when RESPONSE is INVALID:
`INVALID_PROBDESC`
`INVALID_SVC_CALL`

DUMPID
is a character string of the form "rrrr/cccc" giving a unique identification to this dump request. "rrrr" is the run number of this CICS instance. Leading zeros are removed. The run number is incremented every time CICS is initialized. "cccc" is the count of this dump request within this CICS run.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUFT gate, DEREGISTER function

Deregister a feature with the dump domain

Input Parameters

COMPANY_NAME
The name of the company providing the feature.

FEATURE_LEVEL
The level number of the feature.

FEATURE_NAME
The name of the feature.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`FEATURE_NOT_FOUND`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUFT gate, INQUIRE_FEATURE function

Inquire about a feature that is registered with the dump domain.

Input Parameters

COMPANY_NAME
The name of the company providing the feature.

FEATURE_LEVEL
The level number of the feature.

FEATURE_NAME
The name of the feature.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`DEREGISTERED_FEATURE`
`FEATURE_NOT_FOUND`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUMP_FORMATTING_ROUTINE
Optional Parameter

The dump formatting routine provided by the feature.

FEATURE_TOKEN
Optional Parameter

The token that identifies the registered feature.

FEATURE_TRACE_TOKEN
The token that the feature uses to identify itself to the CICS trace domain.

TRACE_ABBREVIATED_NAME
Optional Parameter

The abbreviated name that the feature uses in the trace.

TRACE_FORMATTING_ROUTINE
Optional Parameter

The trace formatting routine provided by the feature.

DUFT gate, REGISTER function

Register a feature with the dump domain.

Input Parameters

COMPANY_NAME
The name of the company providing the feature.

FEATURE_LEVEL
The level number of the feature.

FEATURE_NAME
The name of the feature.

DUMP_FORMATTING_ROUTINE
Optional Parameter

The dump formatting routine provided by the feature.

FEATURE_TOKEN
Optional Parameter

The token that identifies the registered feature.

TRACE_ABBREVIATED_NAME
Optional Parameter

The abbreviated name that the feature uses in the trace.

TRACE_FORMATTING_ROUTINE
Optional Parameter

The trace formatting routine provided by the feature.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`DUPLICATE_DUMP_ROUTINE`
`DUPLICATE_FEATURE`
`DUPLICATE_TRACE_ROUTINE`
`INSUFFICIENT_STORAGE`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`

FEATURE_TRACE_TOKEN
The token that the feature uses to identify itself to the CICS trace domain.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUFT gate, UPDATE_FEATURE function

Update information about a feature that is registered with the dump domain.

Input Parameters

COMPANY_NAME
The name of the company providing the feature.

FEATURE_LEVEL
The level number of the feature.

FEATURE_NAME
The name of the feature.

DUMP_FORMATTING_ROUTINE
Optional Parameter

The dump formatting routine provided by the feature.

FEATURE_TOKEN
Optional Parameter

The token that identifies the registered feature.

TRACE_ABBREVIATED_NAME
Optional Parameter

The abbreviated name that the feature uses in the trace.

TRACE_FORMATTING_ROUTINE
Optional Parameter

The trace formatting routine provided by the feature.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`DEREGISTERED_FEATURE`
`DUPLICATE_DUMP_ROUTINE`
`DUPLICATE_TRACE_ROUTINE`
`FEATURE_NOT_FOUND`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUSR gate, CROSS_SYSTEM_DUMP_AVAIL function

The CROSS_SYSTEM_DUMP_AVAIL function of the DUSR gate is used to inform the dump domain about the DUMP_AVAIL token which links CICS with the MVS workload manager.

Output Parameters

REASON
The values for the parameter are:
`NOT_OPEN`
`OPEN_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUSR gate, DUMPDS_CLOSE function

The DUMPDS_CLOSE function of the DUSR gate is invoked to close the CICS dump data set.

Output Parameters

REASON
The values for the parameter are:
`NOT_OPEN`
`OPEN_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUSR gate, DUMPDS_OPEN function

The DUMPDS_OPEN function of the DUSR gate is invoked to open the CICS dump data set.

Output Parameters

REASON
The values for the parameter are:
`OPEN_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUSR gate, DUMPDS_SWITCH function

The DUMPDS_SWITCH function of the DUSR gate is invoked to switch to the alternate CICS dump data set.

Output Parameters

REASON
The values for the parameter are:
`OPEN_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUSR gate, INQUIRE_CURRENT_DUMPDS function

The INQUIRE_CURRENT_DUMPDS function of the DUSR gate returns the name of the current dump data set.

Output Parameters

REASON
The values for the parameter are:
NOT_OPEN
OPEN_ERROR

CURRENT_DUMPDS
is the name of the current dump data set.

Values for the parameter are:
DFHDMPA
DFHDMPB

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUSR gate, INQUIRE_DUMPDS_AUTOSWITCH function

The INQUIRE_DUMPDS_AUTOSWITCH function of the DUSR gate returns an indication of whether autoswitching is active or not.

Output Parameters

REASON
The values for the parameter are:
NOT_OPEN
OPEN_ERROR

AUTOSWITCH
is the dump data set autoswitch status.

Values for the parameter are:
OFF
ON

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUSR gate, INQUIRE_DUMPDS_OPEN_STATUS function

The INQUIRE_DUMPDS_OPEN_STATUS function of the DUSR gate returns an indication of whether the current dump data set is open or closed.

Output Parameters

REASON
The values for the parameter are:
NOT_OPEN
OPEN_ERROR

OPEN_STATUS
is the open status of the current dump data set.

Values for the parameter are:
CLOSED
OPEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUSR gate, INQUIRE_INITIAL_DUMPDS function

The INQUIRE_INITIAL_DUMPDS function of the DUSR gate returns the setting of the initial dump data set.

Output Parameters

REASON
: The values for the parameter are:
  NOT_OPEN
  OPEN_ERROR

INITIAL_DUMPDS
: is the initial dump data set.

  Values for the parameter are:
  AUTO
  DFHDMPA
  DFHDMPB

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUSR gate, INQUIRE_RETRY_TIME function

The INQUIRE_RETRY_TIME function of the DUSR gate returns the value of the SDUMP retry time.

Output Parameters

REASON
: The values for the parameter are:
  NOT_OPEN
  OPEN_ERROR

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RETRY_TIME
: is the value in seconds of the time interval for which CICS should retry SDUMP requests that fail because another SDUMP is in progress within the MVS system. The SDUMP is retried at intervals of five seconds for the specified total time.

DUSR gate, INQUIRE_SYSTEM_DUMP function

The INQUIRE_SYSTEM_DUMP function of the DUSR gate returns the setting of the system dump suppression flag.

Output Parameters

REASON
: The values for the parameter are:
  NOT_OPEN
  OPEN_ERROR

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SYSTEM_DUMP
: states whether a system dump is required for this dump code.

  Values for the parameter are:
  NO

`YES`

DUSR gate, SET_DUMPDS_AUTOSWITCH function

The SET_DUMPDS_AUTOSWITCH function of the DUSR gate is used to set autoswitching on or off.

Input Parameters

AUTOSWITCH
is the dump data set autoswitch status.

Values for the parameter are:
`OFF`
`ON`

Output Parameters

REASON
The values for the parameter are:
`NOT_OPEN`
`OPEN_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUSR gate, SET_DUMPTABLE_DEFAULTS function

The SET_DUMPTABLE_DEFAULTS function of the DUSR gate is invoked during system initialization tp update the DUA with the DAE option specified in a SIT or as a SIT override.

Input Parameters

DAE_DEFAULT
Optional Parameter

indicates whether temporary dump table entries added by CICS will indicate DAE (dump eligible for DAE suppression) or NODAE (dump will not be suppressed by DAE).

Values for the parameter are:
`DAE`
`NODAE`

SYDUMAX_DEFAULT
Optional Parameter

is taken from system initialization parameter (SIT=SYDUMAX), which specifies the maximum number of system dumps which can be taken per dump table entry.

TRDUMAX_DEFAULT
Optional Parameter

is taken from system initialization parameter (SIT=TRDUMAX), which specifies the maximum number of transaction dumps which can be taken per dump table entry.

Output Parameters

REASON
The values for the parameter are:
`NOT_OPEN`
`OPEN_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUSR gate, SET_INITIAL_DUMPDS function

The SET_INITIAL_DUMPDS function of the DUSR gate is used to change the setting of the initial dump data set.

Input Parameters

INITIAL_DUMPDS
is the initial dump data set.

Values for the parameter are:
`AUTO`
`DFHDMPA`
`DFHDMPB`

Output Parameters

REASON
The values for the parameter are:
`NOT_OPEN`
`OPEN_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUSR gate, SET_RETRY_TIME function

The SET_RETRY_TIME function of the DUSR gate is invoked to set the SDUMP retry time.

Input Parameters

RETRY_TIME
is the value in seconds of the time interval for which CICS should retry SDUMP requests that fail because another SDUMP is in progress within the MVS system. The SDUMP is retried at intervals of five seconds for the specified total time.

Output Parameters

REASON
The values for the parameter are:
`NOT_OPEN`
`OPEN_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUSR gate, SET_SYSTEM_DUMP function

The SET_SYSTEM_DUMP function of the DUSR gate is used to change the setting of the system dump suppression flag.

Input Parameters

SYSTEM_DUMP
states whether a system dump is required for this dump code.

Values for the parameter are:

NO
YES

Output Parameters

REASON
The values for the parameter are:
NOT_OPEN
OPEN_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUSR gate, SET_TRANTABLESIZE function

Set the size of the transaction dump trace table.

Input Parameters

TRAN_TABLE_SIZE
the desired size of the transaction dump trace table.

Output Parameters

REASON
The values for the parameter are:
NOT_OPEN
OPEN_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUSR gate, SET_TRANTABLETYPE function

Specify which trace entries should be copied from the internal trace table to the transaction dump trace table.

Input Parameters

TRAN_TABLE_TYPE
indicates which trace entries should be copied.

Values for the parameter are:
ALL
TRAN

Output Parameters

REASON
The values for the parameter are:
NOT_OPEN
OPEN_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Dump domain's generic gates

Table 45 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 45. Dump domain's generic gates

Gate	Trace	Functions	Format
APUE	DU 0301 DS 0302	SET_EXIT_STATUS	APUE
DMDM	DU 0001 DU 0002	PRE_INITIALISE INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM
STST	DS 0500 DS 0501	COLLECT_STATISTICS COLLECT_RESOURCE_STATS	STST

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Application Manager Domain's generic formats" on page 867

"Domain Manager domain's generic formats" on page 956

"Statistics domain's generic formats" on page 1777

Initialization and termination

In preinitialization processing, the dump domain establishes the initial dumping status:

- System dumping is enabled or suppressed, as required.
- The next transaction dump data set to be used is flagged.
- The transaction dump data set autoswitch status is set on or off, as required.
- The dump retry interval is established.
- The system dump table is initialized to empty.

For a cold start, the information comes from the system initialization parameters; for any other type of start, the information comes from the local catalog, but is then modified by any relevant system initialization parameters.

In initialization processing, the dump domain loads the transaction dump table and the system dump table from the global catalog. In quiesce processing, the dump domain performs only internal routines.

In termination processing, the dump domain closes the transaction dump data set.

DMDM PRE_INITIALIZE function

The PRE_INITIALIZE function of the DMDM gate performs the following functions:

1. Issue MVS(TM) GETMAIN for DU anchor block (DUA) and initialize it.
2. Read DU state record from the local catalog and set values in the DUA.
3. Initialize to empty the system dump table.
4. Issue MVS GETMAIN for DU statistics buffer.

5. Acquire startup information from the parameter manager (PA) domain and set it in the DUA.
6. Inform the kernel that DU system dump is available by issuing KEDD ADD_GATE for the DFHDUDU gate.

DMDM INITIALIZE_DOMAIN function

The INITIALIZE_DOMAIN function of the DMDM gate performs the following functions:
1. Load the system dump table from the global catalog.
2. Load the transaction dump table from the global catalog.
3. Issue LMLM ADD_LOCK for the dump data set lock (DUDATSET).
4. Issue LMLM ADD_LOCK for the dump table lock (DUTABLE).
5. Issue LMLM UNLOCK for DUTABLE lock.
6. Issue KEDD ADD_GATE for the DU STST, DUDT, and APUE gates.
7. Initialize transaction dump, including loading DFHDUIO, and indicate that the dump table is available to the DUDU TRANSACTION_DUMP function.
8. Update DU state record on catalog.
9. Issue LMLM UNLOCK for DUDATSET lock, thereby making the transaction dump function available.

DMDM QUIESCE_DOMAIN function

The QUIESCE_DOMAIN function of the DMDM gate issues a DMDM WAIT_PHASE function request to ensure all statistics are collected.

DMDM TERMINATE_DOMAIN function

The TERMINATE_DOMAIN function of the DMDM gate issues a DUSU CLOSE request to close the transaction dump data set.

APUE SET_EXIT_STATUS function

The SET_EXIT_STATUS function of the APUE gate sets the exit status flag in the DUA for the specified exit.

STST COLLECT_STATISTICS function

The COLLECT_STATISTICS function of the STST gate is called from the statistics domain. The process flow is:
1. Issue LMLM LOCK for DUTABLE lock on the transaction dump table.
2. Acquire KE system dump lock.
3. Issue STST COLLECT_STATISTICS call to DFHDUTM.

   If the COLLECT_STATISTICS parameters requested DATA, the following statistics records are written to the statistics domain:
   a. If the RESOURCE_TYPE is not specified or is SYSDUMP, a DFHSDGPS global system dump statistics record is created, using global system dump counts (taken and suppressed) from the DUA. The KE system lock is released while a STATS_PUT request is made to the statistics domain. The lock is obtained again on successful completion of the STATS_PUT.
   b. If the RESOURCE_TYPE is not specified or is TRANDUMP, a DFHTDGPS global transaction dump statistics record is created, using global transaction

dump counts (taken and suppressed) from the DUA. The DUTABLE lock is released while a RECORD_STATISTICS request is made to the statistics domain. The lock is obtained again on successful completion of the RECORD_STATISTICS.

   c. If the RESOURCE_TYPE is not specified or is SYSDUMP, a DFHSDRPS statistics detail record is written for every dump code found on the system dump table. The records contain the statistics for that dump code held on the dump table entry. The DFHSDRPS records are buffered and full buffers are written out using a RECORD_STATISTICS call to the statistics domain.
   d. If the RESOURCE_TYPE is not specified or is TRANDUMP, a DFHTDRPS statistics detail record is written for every dump code found on the transaction dump table. The records contain the statistics for that dump code held on the dump table entry. The DFHTDRPS records are buffered and full buffers are written out using a RECORD_STATISTICS call to the statistics domain.

   The global system and transaction dump counts (taken and suppressed) in the DUA are also reset to zero. The last_reset_time is also updated in the DUA at this time.
4. Release DUTABLE lock and system dump lock.

STST COLLECT_RESOURCE_STATS function

The COLLECT_RESOURCE_STATS function of the STST gate is called from an **EXEC CICS** command. The process flow is:
1. Issue LMLM LOCK for DUTABLE lock on the transaction dump table.
2. Acquire KE system dump lock.
3. Issue STST COLLECT_RESOURCE_STATS call to DFHDUTM.
   a. Validate RESOURCE_TYPE for either SYSDUMP or TRANDUMP. Perform error processing and return INVALID to the caller if it is neither of these.
   b. If the RESOURCE_ID has not been passed, format a global statistics record, using counts of dumps taken and suppressed from the DUA, for either system or transaction dumps, depending on the RESOURCE_TYPE. Return this record to the caller in the RESOURCE_STATISTICS_DATA parameter.
   c. If the RESOURCE_ID is present, it should contain a dump code. Search the relevant dump table (depending on RESOURCE_TYPE). Return ID_NOT_FOUND exception to the caller if the dump code cannot be found. If the dump code is found, format either a DFHTDRPS or a DFHSDRPS statistics record using the dumps taken and suppressed statistics on the dump table entry. This record is formatted in the next available space in the RESOURCE_STATISTICS_DATA buffer.
4. Release DUTABLE lock and system dump lock.

Modules

Module	Function
DFHDUDM	Processes requests to the DMDM gate of the dump domain
DFHDUDT	Processes requests to the DUDT gate of the dump domain
DFHDUDU	Processes requests to the DUDU gate of the dump domain
DFHDUIO	Processes domain subroutine requests of format DUIO
DFHDUPH	Writes line to dump index for each dump header record encountered. On first entry, opens the index file DFHTINDX.

Module	Function
DFHDUPM	Invoked for each module index entry found to save information. Invoked when dump trailer record found to format and print the complete module index.
DFHDUPP	Is responsible for all access to the print file DFHPRINT, namely for OPEN, CLOSE, and PUT requests.
DFHDUPR	Controlling routine, responsible for reading information from the dump data set DFHDMPDS.
DFHDUPS	Receives the address of a dump header record from the dump data set, and decides whether this dump fulfils the criteria for printing. On first entry, reads and stores the selective print parameters from SYSIN.
DFHDUSR	Processes requests to the DUSR and APUE gates of the dump domain
DFHDUSU	Processes domain subroutine requests of format DUSU
DFHDUSVC	System dump
DFHDUTM	Dump table manager
DFHDUXD	Invoked by DFHDUDU with a DUDD format parameter list to control the transaction dump process
DFHDUXW	Processes domain subroutine requests of format DUXW

Transaction dump formatting routines

The following routines are invoked by DFHDUXD to dump the storage areas associated with a particular CICS component. They are passed a DUXF format parameter list. They are all part of the DFHSIP load module.

Module	Function
DFHDLXDF	DL/I related areas
DFHFCXDF	File control related areas
DFHPCXDF	Program related areas
DFHSAXDF	Common areas such as CSA, TCA, and so on
DFHSMXDF	Task subpools
DFHTCXDF	Terminal control related areas
DFHTRXDF	The internal trace table
DFHXDXDF	Information such as register contents, headers, and so on
DFHXRXDF	XRF related areas

Exits

There are four user exit points in the dump domain, XDUCLSE, XDUOUT, XDUREQ and XDUREQC. See the *CICS Customization Guide* for further details.

Chapter 79. Enterprise Java Domain (EJ)

The Enterprise Java Domain manages CorbaServers, DJars and Beans.

The Enterprise Java (EJ) domain is logically divided into three parts:
- Elements, which covers the manipulation of the EJ Resources of CorbaServers (EJCG), DJars (EJDG) and Beans (EJBJ)
- Object Stores, used to store stateful Session Beans, and to hold the EJB Directory (EJOS and EJOB)
- Directory, used to record the association of OTS transactions and object instances with Request Processors (EJDI).

Enterprise Java Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the EJ domain.

EJBB gate, END_BROWSE function

The END_BROWSE function of the EJBB gate ends the browse operation and deletes the browsetoken. This operation is available from EJJO and so the definitions must be consistent.

Input Parameters

BROWSETOKEN
The pointer set up by START_BROWSE which points to the first DJar in the chain to be browsed

Output Parameters

REASON
The values for the parameter are:
```
ABEND
EJB_INACTIVE
INVALID_BROWSE_TOKEN
LOCK_ERROR
LOOP
NO_ERROR
PARMS_STORAGE_ERROR
SETUP_ERROR
STORAGE_ERROR
```
RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

EJBB gate, GET_NEXT function

The GET_NEXT function of the EJBB gate returns the next Bean Control Block in the list of Beans that meets the selection criteria. The ordering of Beans returned is not specified (the order is not alpha order but LastIn-FirstOut for Browse purposes). This operation is available from EJJO and so the definitions must be consistent.

Input Parameters

BROWSETOKEN
The pointer set up by START_BROWSE which points to the first DJar in the chain to be browsed

POINTAT
Optional Parameter

Indicates whether to advance the browse pointer to point to the next item in the chain. NORMAL will return the next item in the chain, whereas PRIOR will always return the same item, unless that item has been deleted. The POINTAT parameter is used to enable a Browse to proceed when the aim of the Browse is to locate a Bean to be deleted.

- POINTAT(NORMAL) should be used in all cases by the SPI layers and general users (and is the default).
- POINTAT(PRIOR) shows the deletion intent. POINTAT(PRIOR) should never be coded in normal circumstances and may result in an infinite loop if used without a delete.

Values for the parameter are:
`NORMAL`
`PRIOR`

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`BROWSE_BROKEN`
`EJB_INACTIVE`
`END_OF_BROWSE`
`INVALID_BROWSE_TOKEN`
`INVALID_POINTAT`
`LOCK_ERROR`
`LOOP`
`NO_ERROR`
`PARMS_STORAGE_ERROR`
`SETUP_ERROR`

BEAN
Name of the Bean

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CORBASERVER
Optional Parameter

Name of the CorbaServer for this DJar

DDLEN
Optional Parameter

Length of the deployment/meta data area. Used particularly to contain the length of the data if the size is larger than the maximum length for ddareaforin block

DJAR
Optional Parameter

Name of DJar for this Bean

STATUS
Optional Parameter

The state of the Bean being Browsed (NORMAL or TEMPORARY). Indicates that a Bean has been confirmed

Values for the parameter are:
`NORMAL`
`TEMPORARY`

EJBB gate, START_BROWSE function

The START_BROWSE function of the EJBB gate initiates the browse upon the chain of Beans. Positioning of the start of the Browse is not supported. Selection by Bean is not provided, but selection by owning CorbaServer and owning DJar is. The end_browse condition is not returned if there are no suitable Beans (this is postponed until the get_next). The returned browsetoken must be used for subsequent GET_NEXT operations. This operation is available from EJJO and so the definitions must be consistent.

Input Parameters

BROWSEMODE
Optional Parameter

Controls which Beans are to be selected for Bean Browse.
- BROWSEMODE(ALL) selects all Beans (setting not usually used)
- BROWSEMODE(VALIDONLY) selects the Beans whose status has been confirmed (those which are not temporarily present during the install of all the Beans from a DJar). This is the usual (and default) setting. This setting should be used by the SPI-layers.
- BROWSEMODE(INDOUBTONLY) selects the Beans whose status is temporary (those which are temporarily present during the install of all the Beans from a DJar).

Values for the parameter are:
`ALL`
`INDOUBTONLY`
`VALIDONLY`

CORBASERVER
Optional Parameter

Name of the CorbaServer to be browsed

DJAR
Optional Parameter

Name of the DJar for this Bean

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`EJB_INACTIVE`
`INVALID_BROWSEMODE`
`INVALID_CORBASERVER`
`INVALID_DJAR`
`LOCK_ERROR`
`LOOP`
`NO_ERROR`
`PARMS_STORAGE_ERROR`
`SETUP_ERROR`
`STORAGE_ERROR`

BROWSETOKEN
: The pointer set up by START_BROWSE which points to the first DJar in the chain to be browsed

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJBG gate, ADD_BEAN function

The ADD_BEAN function of the EJBG gate:

Input Parameters

BEAN
: Name of the Bean to be added

CORBASERVER
: Name of the CorbaServer to be browsed

DDAREAFORIN
: Block for Bean deployment/meta data input

DJAR
: Name of the DJar for this Bean

ADDMODE
: Optional Parameter

The type of create done for the Bean

Values for the parameter are:

```
HARDENED
NORMAL
```

MESSAGE
: Optional Parameter

Controls whether a message is issued when a CorbaServer is created

Values for the parameter are:

```
MSG
NOMSG
```

Output Parameters

REASON
: The values for the parameter are:

```
ABEND
BEAN_ALREADY_PRESENT
CORBASERVER_ABSENT
CORBASERVER_INVALID_STATE
DDAREAFORIN_ABSENT
DJAR_ABSENT
DJAR_INVALID_STATE
EJB_INACTIVE
INVALID_BEAN
INVALID_CORBASERVER
INVALID_DD_ZERO_LENGTH
INVALID_DD_ZERO_POINTER
INVALID_DDAREAFORIN
INVALID_DJAR
LOCK_ERROR
LOOP
NAMESPACE_CONFLICT
NO_ERROR
```

PARMS_STORAGE_ERROR
SETUP_ERROR
STORAGE_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJBG gate, ADD_BEAN_STATS function

The ADD_BEAN_STATS function of the EJBG gate increments the EJ domain's statistics counters for a specific enterprise bean.

Input Parameters

BEAN
Name of the Bean to be added

CORBASERVER
Name of the CorbaServer

ACTIVATES
Optional Parameter

The number of times this bean has been activated

CREATES
Optional Parameter

The number of times this bean has been created

METHOD_CALLS
Optional Parameter

The number of method calls (other than the above) made against this bean

PASSIVATES
Optional Parameter

The number of times this bean has been passivated

REMOVES
Optional Parameter

The number of times this bean has been removed

Output Parameters

REASON
The values for the parameter are:
ABEND
BEAN_ABSENT
CORBASERVER_ABSENT
CORBASERVER_INVALID_STATE
DJAR_ABSENT
DJAR_INVALID_STATE
EJB_INACTIVE
LOCK_ERROR
LOOP
NO_ERROR
PARMS_STORAGE_ERROR
SETUP_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJBG gate, CONFIRM_ALL_BEANS function

The CONFIRM_ALL_BEANS function of the EJBG gate hardens all Beans associated with the given DJar within the relevant CorbaServer namespace. This just switches the state of a suitable Bean from temporary to normal. This will run when all Beans in the DJar have been correctly installed. The key is CS+DJar for this multiple status changing.

Input Parameters

CORBASERVER
: Name of the CorbaServer to be Browsed

DJAR
: Name of the DJar for this Bean

Output Parameters

REASON
: The values for the parameter are:
  - ABEND
  - BEAN_ABSENT
  - EJB_INACTIVE
  - LOCK_ERROR
  - LOOP
  - NO_ERROR
  - PARMS_STORAGE_ERROR
  - SETUP_ERROR

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJBG gate, DELETE_ALL_BEANS function

The DELETE_ALL_BEANS function of the EJBG gate is executed when all of the Beans within the DJar did not install or when the owning DJar itself is deleted. All relevant Bean Control Blocks (whatever their state) are deleted. This works via the usual Browse mechanism (BROWSEMODE(ALL)) with POINTAT(PRIOR) enabled to delete each individual Bean. The key of CS+DJar+Bean is required.

Input Parameters

CORBASERVER
: Name of the CorbaServer to be Browsed

DJAR
: Name of the DJar for this Bean

Output Parameters

REASON
: The values for the parameter are:
  - ABEND
  - BEAN_ABSENT
  - BROWSE_ERROR
  - EJB_INACTIVE
  - LOCK_ERROR
  - LOOP
  - NO_ERROR
  - PARMS_STORAGE_ERROR
  - SETUP_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJBG gate, DELETE_BEAN function

The DELETE_BEAN function of the EJBG gate deletes the Bean Control Block. The XRSINDI exit is also called to notify the removal. The full key of CS+DJar+Bean is required.

Input Parameters

BEAN
Name of the Bean to be added

CORBASERVER
Name of the CorbaServer to be Browsed

DJAR
Name of the DJar for this Bean

Output Parameters

REASON
The values for the parameter are:

```
ABEND
BEAN_ABSENT
EJB_INACTIVE
LOCK_ERROR
LOOP
NO_ERROR
PARMS_STORAGE_ERROR
SETUP_ERROR
STORAGE_ERROR
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJBG gate, GET_BEAN_DD function

The GET_BEAN_DD function of the EJBG gate returns the saved Deployment/Meta Data for the Bean (key is CS+Bean) in a buffer. This operation is available via EJJO and so parameters should be kept consistent.

Input Parameters

BEAN
Name of the Bean to be added

CORBASERVER
Name of the CorbaServer to be browsed

DDAREAFORUPD
A buffer for the Bean deployment/meta data update area

Output Parameters

REASON
The values for the parameter are:

```
ABEND
BEAN_ABSENT
CORBASERVER_ABSENT
CORBASERVER_INVALID_STATE
DD_AREA_TOO_SMALL
DDAREAFORUPD_ABSENT
```

DJAR_ABSENT
DJAR_INVALID_STATE
EJB_INACTIVE
INVALID_DD_ZERO_LENGTH
INVALID_DD_ZERO_POINTER
INVALID_DDAREAFORUPD
LOCK_ERROR
LOOP
NO_ERROR
PARMS_STORAGE_ERROR
SETUP_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DDLEN
Optional Parameter

Length of the deployment/meta data area. Used particularly to contain the length of the data if the size is larger than the maximum length for ddareaforin block

DJAR
Optional Parameter

Name of DJar for this Bean

EJBG gate, INQUIRE_BEAN function

The INQUIRE_BEAN function of the EJBG gate extracts information from the named Bean Control Block (key is CS+Bean). Note that the length of the Deployment/Meta Data is returned, but this XML is obtained via get_bean_dd. This function can be used to determine the DJar which sourced the Bean.

Input Parameters

BEAN
Name of the Bean to be added

CORBASERVER
Name of the CorbaServer to be Browsed

Output Parameters

REASON
The values for the parameter are:
ABEND
BEAN_ABSENT
EJB_INACTIVE
LOCK_ERROR
LOOP
NO_ERROR
PARMS_STORAGE_ERROR
SETUP_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACTIVATES
Optional Parameter

The activate count for the bean.

CREATES
Optional Parameter

The create count for the bean.

DDLEN
Optional Parameter

Length of the deployment/meta data area. Used particularly to contain the length of the data if the size is larger than the maximum length for ddareaforin block

DJAR
Optional Parameter

Name of DJar for this Bean

METHOD_CALLS
Optional Parameter

The method call count for the bean.

PASSIVATES
Optional Parameter

The passivate count for the bean.

REMOVES
Optional Parameter

The removes count for the bean.

RESET
Optional Parameter

Indicates whether to reset the bean counters.

Values for the parameter are:
`NO`
`YES`

STATUS
Optional Parameter

The state of the Bean being Browsed (NORMAL or TEMPORARY). Indicates that a Bean has been confirmed

Values for the parameter are:
`NORMAL`
`TEMPORARY`

EJBG gate, RESET_BEAN_STATS function

The RESET_BEAN_STATS function of the EJBG gate sets the EJ domain's statistics counters, for a specific enterprise bean, to zero.

Input Parameters

BEAN
Name of the Bean to be added

CORBASERVER
Name of the CorbaServer to be Browsed

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`BEAN_ABSENT`
`CORBASERVER_ABSENT`
`CORBASERVER_INVALID_STATE`
`DJAR_ABSENT`
`DJAR_INVALID_STATE`

EJB_INACTIVE
LOCK_ERROR
LOOP
NO_ERROR
PARMS_STORAGE_ERROR
SETUP_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJCB gate, END_BROWSE function

The END_BROWSE function of the EJCB gate ends the browse operation and deletes the browsetoken.

Input Parameters

BROWSETOKEN
The pointer set up by START_BROWSE which points to the first DJar in the chain to be browsed

Output Parameters

REASON
The values for the parameter are:
ABEND
EJB_INACTIVE
INVALID_BROWSE_TOKEN
LOCK_ERROR
LOOP
NO_ERROR
SETUP_ERROR
STORAGE_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJCB gate, GET_NEXT function

The GET_NEXT function of the EJCB gate returns the next CorbaServer Control Block in the list of CorbaServers. The ordering of CorbaServers returned is not specified (the order is not alpha order but Last-FirstOut for Browse purposes). The POINTAT parameter is used to enable a Browse to proceed when the aim of the Browse is to locate a CorbaServer to be deleted.

Input Parameters

BROWSETOKEN
The pointer set up by START_BROWSE which points to the first DJar in the chain to be browsed

DJARDIR_BUFF
Optional Parameter

a buffer in which the name of the deployed JAR file directory is returned.

HOST_BUFF
Optional Parameter

a buffer in which the TCP/IP host name or dotted decimal TCP/IP address is returned.

JNDIPREFIX_BUFF
Optional Parameter

a buffer in which the JNDI prefix is returned.

POINTAT
Optional Parameter

Indicates whether to advance the browse pointer to point to the next item in the chain (NORMAL|PRIOR). NORMAL will return the next item in the chain, whereas PRIOR will always return the same item, unless that item has been deleted

Values for the parameter are:
`NORMAL`
`PRIOR`

SHELF_BUFF
Optional Parameter

a buffer in which the name of the HFS shelf directory is returned.

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`BROWSE_BROKEN`
`EJB_INACTIVE`
`END_OF_BROWSE`
`INVALID_BROWSE_TOKEN`
`INVALID_POINTAT`
`LOCK_ERROR`
`LOOP`
`NO_ERROR`
`SETUP_ERROR`

CORBASERVER
Name of the CorbaServer for this DJar

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ASSERTED_TCPIPSERVICE
Optional Parameter

the 8-character name of a TCPIPSERVICE resource that defines the characteristics of the port which is used for inbound IIOP with asserted identity authentication.

AUTO_PUBLISH
Optional Parameter

indicates whether enterprise beans are to be automatically published to the JNDI namespace when the deployed JAR file that contains them is successfully installed in the CorbaServer.

Values for the parameter are:
`NO`
`YES`

BASIC_TCPIPSERVICE
Optional Parameter

the 8-character name of a TCPIPSERVICE resource that defines the characteristics of the port which is used for inbound IIOP with basic authentication.

CERTIFICATE_LABEL
Optional Parameter

the label of the certificate within the key ring that is used as a client certificate in the SSL handshake for outbound IIOP connections.

CIPHER_COUNT
Optional Parameter

the number of cipher suites that are available to negotiate with clients during the SSL handshake.

CIPHER_SUITES
Optional Parameter

the list of cipher suites that is used to negotiate with clients during the SSL handshake.

CLIENTCERT_TCPIPSERVICE
Optional Parameter

the 8-character name of a TCPIPSERVICE resource that defines the characteristics of the port which is used for inbound IIOP with SSL client certificate authentication.

ENABLE_STATE
Optional Parameter

the current state of the CorbaServer.

Values for the parameter are:
- DISABLED
- DISABLING
- DISCARDING
- ENABLED
- ENABLING

OUTPRIVACY
Optional Parameter

the level of SSL encryption that is used for outbound connections from this CORBASERVER.

Values for the parameter are:
- NOTSUPPORTED
- REQUIRED
- SUPPORTED

SCANINTERVAL
Optional Parameter

The interval between repeated scans of the CorbaServer chain.

SSLUNAUTH_TCPIPSERVICE
Optional Parameter

the 8-character name of a TCPIPSERVICE resource that defines the chracteristics of the port which is used for inbound IIOP with SSL but no client authentication.

STATE
Optional Parameter

Indicates the current Resolution State and whether it is available for use or not.

Values for the parameter are:
- DELETING
- INITING
- INSERV
- PENDINIT
- PENDRESOLV
- RESOLVING

UNKNOWN
UNRESOLVED
UNUSABLE

TIMEOUT
Optional Parameter

The elapsed time period (in seconds) of inactivity after which a session Bean can be discarded

UNAUTH_TCPIPSERVICE
Optional Parameter

the 8-character name of a TCPIPSERVICE resource that defines the characteristics of the port which is used for inbound IIOP with no authentication.

EJCB gate, START_BROWSE function

The START_BROWSE function of the EJCB gate initiates the browse upon the chain of CorbaServers. Positioning of the start of the Browse is not supported. Selection by CorbaServer is not provided. The end_browse condition is not returned if there are no suitable CorbaServers (this is postponed until the get_next). The returned browsetoken must be used for subsequent GET_NEXT operations.

Output Parameters

REASON
The values for the parameter are:
ABEND
EJB_INACTIVE
LOCK_ERROR
LOOP
NO_ERROR
SETUP_ERROR
STORAGE_ERROR

BROWSETOKEN
The pointer set up by START_BROWSE which points to the first DJar in the chain to be Browsed

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJCG gate, ACTION_CORBASERVER function

The ACTION_CORBASERVER function of the EJCG gate is a gate which tells another party that something is to be done on the CorbaServer. The implemented actions are to manipulate the External Namespace for the named CorbaServer.

Input Parameters

ACTIONMODE
the action to perform on the CorbaServer.

Values for the parameter are:
DJAR_SCAN
PUBLISH
RETRACT

CORBASERVER
Name of the CorbaServer to be Browsed

Output Parameters

REASON
: The values for the parameter are:

  ABEND
  CORBASERVER_ABSENT
  CORBASERVER_INVALID_STATE
  DJAR_INVALID_STATE
  DJAR_SCAN_ERROR
  EJB_INACTIVE
  INVALID_ACTION
  LOCK_ERROR
  LOOP
  NO_ERROR
  PARMS_STORAGE_ERROR
  PUBLISH_ERROR
  RETRACT_ERROR
  SCAN_IN_PROGRESS
  SCAN_NOT_ALLOWED
  SETUP_ERROR
  STORAGE_ERROR

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJCG gate, ADD_CORBASERVER function

The ADD_CORBASERVER function creates a CorbaServer control block in memory, chains it appropriately, and saves an entry in the Global Catalog for Warm restart purposes. The XRSINDI exit is called to notify the creation of this element.

Input Parameters

ASSERTED_TCPIPSERVICE
: The TCPIPSERVICE named in the ASSERTED attribute of the CORBASERVER.

BASIC_TCPIPSERVICE
: The TCPIPSERVICE named in the BASIC attribute of the CORBASERVER.

CERTIFICATE_LABEL
: The label of an X.509 certificate that is used as a client certificate during the SSL handshake for outbound IIOP connections.

CLIENTCERT_TCPIPSERVICE
: The 8-character name of a TCPIPSERVICE that defines the characteristics of the port which is used for inbound IIOP with SSL client certificate authentication.

CORBASERVER
: The name of the CorbaServer to be added.

DJARDIR
: The fully-qualified name of the deployed JAR file directory (also known as the pickup directory) on z/OS UNIX.

ENABLE_STATE
: The initial state of the Corbaserver.

  Values for the parameter are:

  DISABLED
  DISABLING
  DISCARDING
  ENABLED
  ENABLING

HOST
The TCP/IP hostname or the dotted decimal TCP/IP address included in IORs exported from this CorbaServer

JNDIPREFIX
The prefix to use at runtime when publishing to JNDI

OUTPRIVACY
The level of SSL encryption required for inbound connections to this service.

Values for the parameter are:
`NOTSUPPORTED`
`REQUIRED`
`SUPPORTED`

SCANINTERVAL
The interval between repeated scans of the CorbaServer chain.

SHELF
The fully qualified name of a directory (a 'shelf' for 'jars') on z/OS UNIX

SSLUNAUTH_TCPIPSERVICE
The 8-character name of a TCPIPSERVICE that defines the characteristics of the port which is used for inbound IIOP with SSL but no client authentication.

STATE
Indicates the current resolution state of the CorbaServer and whether it is available for use or not.

Values for the parameter are:
`DELETING`
`INITING`
`INSERV`
`PENDINIT`
`PENDRESOLV`
`RESOLVING`
`UNKNOWN`
`UNRESOLVED`
`UNUSABLE`

TIMEOUT
The elapsed time (in seconds) of inactivity after which a session Bean can be discarded

UNAUTH_TCPIPSERVICE
The 8-character name of a TCPIPSERVICE that defines the characteristics of the port which is used for inbound IIOP with no authentication.

ADDMODE
Optional Parameter

The type of create done for the Bean. The ADDMODE parameter controls the scope of this operation for restart purposes (this defaults to NORMAL which does both creation of the Control Block and its cataloging). Usage of this verb via the SPI/RDO layers should always code ADDMODE(NORMAL).

Values for the parameter are:
`CATALOGONLY`
`CBONLY`
`NORMAL`
`SINGLE`

AUTO_PUBLISH
Optional Parameter

Specifies whether the contents of a deployed JAR file should be automatically published to the namespace when the DJAR definition is successfully installed into this CorbaServer.

Values for the parameter are:
- `NO`
- `YES`

CIPHER_COUNT
Optional Parameter

The number of cipher suites that are available to negotiate with clients during the SSL handshake.

CIPHER_SUITES
Optional Parameter

The list of cipher suites that is used to negotiate with clients during the SSL handshake.

MESSAGE
Optional Parameter

Controls whether a message is issued when a CorbaServer is created

Values for the parameter are:
- `MSG`
- `NOMSG`

Output Parameters

REASON
The values for the parameter are:
- `ABEND`
- `ATTACH_ERROR`
- `CATALOG_ERROR`
- `CERTIFICATE_ERROR`
- `CORBASERVER_ALREADY_THERE`
- `EJB_INACTIVE`
- `INVALID_CERTIFICATE_LABEL`
- `INVALID_CORBASERVER`
- `INVALID_HOST`
- `INVALID_JNDIPREFIX`
- `INVALID_SCANINTERVAL`
- `INVALID_SHELF`
- `INVALID_STATE`
- `INVALID_TIMEOUT`
- `LOCK_ERROR`
- `LOOP`
- `NO_ERROR`
- `PARMS_STORAGE_ERROR`
- `SETUP_ERROR`
- `STORAGE_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

CERTIFICATE_STATUS
Optional Parameter

The status of the X.509 certificate identified with the CERTIFICATE-LABEL parameter.

Values for the parameter are:
- `EXPIRED`
- `NOT_CURRENT`
- `NOT_OWNED`
- `NOT_TRUSTED`

OK

EJCG gate, AMEND_CORBASERVER function

The AMEND_CORBASERVER function of the EJCG gate changes information held within the CorbaServer Control Block. It does not harden this information over a CICS restart, nor does the change get communicated to the executing JVMs.

Input Parameters

CORBASERVER
Name of the CorbaServer to be Browsed

ASSERTED_TCPIPSERVICE
Optional Parameter

The TCPIPSERVICE named in the ASSERTED attribute of the CORBASERVER.

AUTO_PUBLISH
Optional Parameter

Specifies whether the contents of a deployed JAR file should be automatically published to the namespace when the DJAR definition is successfully installed into this CorbaServer.

Values for the parameter are:
NO
YES

BASIC_TCPIPSERVICE
The TCPIPSERVICE named in the BASIC attribute of the CORBASERVER.

CLIENTCERT_TCPIPSERVICE
Optional Parameter

The 8-character name of a TCPIPSERVICE that defines the characteristics of the port which is used for inbound IIOP with SSL client certificate authentication.

CURRENT_STATE
Optional Parameter

Used as a check, must match the existing state of the CorbaServer.

Values for the parameter are:
DELETING
INITING
INSERV
PENDINIT
PENDRESOLV
RESOLVING
UNKNOWN
UNRESOLVED
UNUSABLE

ENABLE_STATE
Optional Parameter

The state of the Corbaaserver.

Values for the parameter are:
DISABLED
DISABLING
DISCARDING
ENABLED
ENABLING

FORCE_TRANS
Optional Parameter

A binary parameter indicating whether the requested ENABLE_STATE is to be forced.

Values for the parameter are:
NO
YES

OUTPRIVACY
Optional Parameter

The level of SSL encryption required for inbound connections to this service.

Values for the parameter are:
NOTSUPPORTED
REQUIRED
SUPPORTED

SCAN_RUNNING
Optional Parameter

A binary parameter indicating whether a scan of the CorbaServer chain is running.

Values for the parameter are:
NO
YES

SCANINTERVAL
Optional Parameter

The interval between repeated scans of the CorbaServer chain.

SSLUNAUTH_TCPIPSERVICE
Optional Parameter

The 8-character name of a TCPIPSERVICE that defines the characteristics of the port which is used for inbound IIOP with SSL but no client authentication.

STATE
Optional Parameter

Indicates the current resolution state of the CorbaServer and whether it is available for use or not.

Values for the parameter are:
DELETING
INITING
INSERV
PENDINIT
PENDRESOLV
RESOLVING
UNKNOWN
UNRESOLVED
UNUSABLE

TIMEOUT
Optional Parameter

The elapsed time (in seconds) of inactivity after which a session Bean can be discarded

UNAUTH_TCPIPSERVICE
Optional Parameter

The 8-character name of a TCPIPSERVICE that defines the characteristics of the port which is used for inbound IIOP with no authentication.

Output Parameters

REASON
: The values for the parameter are:
  ABEND
  CORBASERVER_ABSENT
  CORBASERVER_INVALID_STATE
  CORBASERVER_STATE_CHANGED
  EJB_INACTIVE
  EJDI_ERROR
  EJOS_ERROR
  INVALID_SCANINTERVAL
  INVALID_STATE
  INVALID_STATE_CHANGE
  INVALID_TIMEOUT
  LOCK_ERROR
  LOOP
  NO_ERROR
  PARMS_STORAGE_ERROR
  SCAN_IN_PROGRESS
  SETUP_ERROR
  TIMER_NOTIFY_ERROR

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJCG gate, DELETE_CORBASERVER function

The DELETE_CORBASERVER function of the EJCG gate removes a CorbaServer.

Input Parameters

CORBASERVER
: Name of the CorbaServer to be Browsed

Output Parameters

REASON
: The values for the parameter are:
  ABEND
  CATALOG_ERROR
  CORBASERVER_ABSENT
  CORBASERVER_DELETING
  DELDJAR_ERROR
  EJB_INACTIVE
  LOCK_ERROR
  LOOP
  NO_ERROR
  PARMS_STORAGE_ERROR
  SETUP_ERROR
  STORAGE_ERROR

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJCG gate, ESTABLISH function

The ESTABLISH function of the EJCG gate associates a CorbaServer with the current task. It sets the task's Recovery Manager work token to reference the CorbaServer.

Input Parameters

CORBASERVER
The name of the CorbaServer to be associated with the task.

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`CATALOG_ERROR`
`CORBASERVER_ABSENT`
`CORBASERVER_DELETING`
`CORBASERVER_INVALID_STATE`
`DELDJAR_ERROR`
`EJB_INACTIVE`
`LOCK_ERROR`
`LOOP`
`NO_ERROR`
`PARMS_STORAGE_ERROR`
`SETUP_ERROR`
`STORAGE_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

EJCG gate, INQUIRE_CORBASERVER function

The INQUIRE_CORBASERVER function of the EJCG gate extracts information from the named CorbaServer Control Block. It is also executed indirectly from the EJJO gate.

Input Parameters

CORBASERVER
The name of the CorbaServer

DJARDIR_BUFF
Optional Parameter

A buffer for the fully-qualified name of the deployed JAR file directory (also known as the pickup directory) on z/OS UNIX.

HOST_BUFF
Optional Parameter

A buffer for the TCP/IP hostname or the dotted decimal TCP/IP address included in IORs exported from this CorbaServer

JNDIPREFIX_BUFF
Optional Parameter

A buffer for the prefix that is used at runtime when publishing to JNDI

SHELF_BUFF
Optional Parameter

A buffer for the fully qualified name of the shelf directory on z/OS UNIX

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`CORBASERVER_ABSENT`
`EJB_INACTIVE`

LOCK_ERROR
LOOP
NO_ERROR
PARMS_STORAGE_ERROR
SETUP_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ASSERTED_TCPIPSERVICE
Optional Parameter

The TCPIPSERVICE named in the ASSERTED attribute of the CORBASERVER.

AUTO_PUBLISH
Optional Parameter

Specifies whether the contents of a deployed JAR file should be automatically published to the namespace when the DJAR definition is successfully installed into this CorbaServer.

Values for the parameter are:
NO
YES

BASIC_TCPIPSERVICE
The TCPIPSERVICE named in the BASIC attribute of the CORBASERVER.

CERTIFICATE_LABEL
The label of an X.509 certificate that is used as a client certificate during the SSL handshake for outbound IIOP connections.

CIPHER_COUNT
Optional Parameter

The number of cipher suites that are available to negotiate with clients during the SSL handshake.

CIPHER_SUITES
Optional Parameter

The list of cipher suites that is used to negotiate with clients during the SSL handshake.

CLIENTCERT_TCPIPSERVICE
The 8-character name of a TCPIPSERVICE that defines the characteristics of the port which is used for inbound IIOP with SSL client certificate authentication.

ENABLE_STATE
Optional Parameter

The state of the Corbaserver.

Values for the parameter are:
DISABLED
DISABLING
DISCARDING
ENABLED
ENABLING

OUTPRIVACY
Optional Parameter

The level of SSL encryption required for inbound connections to this service.

Values for the parameter are:
NOTSUPPORTED
REQUIRED
SUPPORTED

SCANINTERVAL
Optional Parameter

The interval between repeated scans of the CorbaServer chain.

SSLUNAUTH_TCPIPSERVICE
Optional Parameter

The 8-character name of a TCPIPSERVICE that defines the characteristics of the port which is used for inbound IIOP with SSL but no client authentication.

STATE
Optional Parameter

Indicates the current Resolution State and whether it is available for use or not.

Values for the parameter are:

```
DELETING
INITING
INSERV
PENDINIT
PENDRESOLV
RESOLVING
UNKNOWN
UNRESOLVED
UNUSABLE
```

TIMEOUT
Optional Parameter

The elapsed time period (in seconds) of inactivity after which a session Bean can be discarded

UNAUTH_TCPIPSERVICE
Optional Parameter

The 8-character name of a TCPIPSERVICE that defines the characteristics of the port which is used for inbound IIOP with no authentication.

EJCG gate, RELINQUISH function

The RELINQUISH function of the EJCG gate ends an association between a CorbaServer and the calling task. It sets the task's Recovery Manager work token to blank.

Input Parameters

CORBASERVER
Name of the CorbaServer to be Browsed

ALLOC_COUNT
Optional Parameter

The allocation number of the CorbaServer (used to prevent the accidental relinquishing of CorbaServers that have been freed and reallocated).

Output Parameters

REASON
The values for the parameter are:

```
ABEND
CATALOG_ERROR
CORBASERVER_ABSENT
CORBASERVER_DELETING
DELDJAR_ERROR
EJB_INACTIVE
LOCK_ERROR
```

LOOP
NO_ERROR
PARMS_STORAGE_ERROR
SETUP_ERROR
STORAGE_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJCG gate, RESOLVE_CORBASERVER function

The RESOLVE_CORBASERVER function of the EJCG gate makes the CorbaServer available for use by Resolution (called by the CEJR transaction). The Java layers are informed that the CorbaServer has been created.

Input Parameters

CORBASERVER
Name of the CorbaServer to be Browsed

Output Parameters

REASON
The values for the parameter are:
ABEND
BAD_STATE_SET
CATALOG_ERROR
CORBASERVER_ABSENT
CORBASERVER_INVALID_STATE
DJAR_SCAN_ERROR
EJB_INACTIVE
EJDI_ERROR
EJOS_ERROR
IILS_ERROR
INVALID_AUTHENTICATION
INVALID_CORBASERVER
INVALID_TCPIPSERVICE
LOCK_ERROR
LOOP
NO_ERROR
PARMS_STORAGE_ERROR
SETUP_ERROR

DID_STAGE
The output from Resolve function which indicates which stage of resolution was done (STAGE1 or STAGE2)

Values for the parameter are:
STAGE1
STAGE2

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJCG gate, SET_ALL_STATE function

The SET_ALL_STATE function sets the state of all the CorbaServers.

Input Parameters

STATE
: Indicates the current resolution state of the CorbaServer and whether it is available for use or not.

  Values for the parameter are:
  `DELETING`
  `INITING`
  `INSERV`
  `PENDINIT`
  `PENDRESOLV`
  `RESOLVING`
  `UNKNOWN`
  `UNRESOLVED`
  `UNUSABLE`

Output Parameters

REASON
: The values for the parameter are:
  `ABEND`
  `EJB_INACTIVE`
  `INVALID_STATE`
  `LOCK_ERROR`
  `LOOP`
  `NO_ERROR`
  `PARMS_STORAGE_ERROR`
  `SETUP_ERROR`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJCG gate, WAIT_FOR_CORBASERVER function

The WAIT_FOR_CORBASERVER function of the EJCG gate will wait until the CorbaServer enters the required state.

Input Parameters

CORBASERVER
: The name of the CorbaServer that the task will wait on.

STATE
: Indicates the current resolution state of the CorbaServer and whether it is available for use or not.

  Values for the parameter are:
  `DELETING`
  `INITING`
  `INSERV`
  `PENDINIT`
  `PENDRESOLV`
  `RESOLVING`
  `UNKNOWN`
  `UNRESOLVED`
  `UNUSABLE`

Output Parameters

REASON
: The values for the parameter are:

ABEND
CORBASERVER_ABSENT
CORBASERVER_UNRESOLVED
CORBASERVER_UNUSABLE
EJB_INACTIVE
INVALID_STATE
LOCK_ERROR
LOOP
NO_ERROR
PARMS_STORAGE_ERROR
SETUP_ERROR
WAIT_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJDB gate, END_BROWSE function

The END_BROWSE function of the EJDB gate ends the browse operation and deletes the browsetoken.

Input Parameters

BROWSETOKEN
The pointer set up by START_BROWSE which points to the first DJar in the chain to be browsed

Output Parameters

REASON
The values for the parameter are:
ABEND
EJB_INACTIVE
INVALID_BROWSE_TOKEN
LOCK_ERROR
LOOP
NO_ERROR
SETUP_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJDB gate, GET_NEXT function

The GET_NEXT function of the EJDB gate returns the next DJar Control Block in the list of DJars that meets the selection criteria. The ordering of DJars returned is not specified (the order is not alpha order but LastIn-FirstOut for Browse purposes). The POINTAT parameter is used to enable a Browse to proceed when the aim of the browse is to locate a DJar to be deleted.

Input Parameters

BROWSETOKEN
The pointer set up by START_BROWSE which points to the first DJar in the chain to be browsed

POINTAT
Optional Parameter

Indicates whether to advance the browse pointer to point to the next item in the chain (NORMAL|PRIOR). NORMAL will return the next item in the chain, whereas PRIOR will always return the same item, unless that item has been deleted

Values for the parameter are:

`NORMAL`
`PRIOR`

Output Parameters

REASON
The values for the parameter are:

`ABEND`
`BROWSE_BROKEN`
`EJB_INACTIVE`
`END_OF_BROWSE`
`INVALID_BROWSE_TOKEN`
`INVALID_POINTAT`
`LOCK_ERROR`
`LOOP`
`NO_ERROR`
`SETUP_ERROR`

DJAR
Name of DJar for this Bean

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CORBASERVER
Optional Parameter

Name of the CorbaServer for this DJar

DATESTAMP
Optional Parameter

The date when the deployed JAR file on z/OS UNIX was last updated

EASYINSTALL
Optional Parameter

Binary value indicating if the DJar is installed the "easy" way (i.e. using the scanning mechanism).

Values for the parameter are:

`NO`
`YES`

HFSFILE
Optional Parameter

The fully qualified name of the deployed jar file on z/OS UNIX.

STATE
Optional Parameter

Indicates the current Resolution State and whether it is available for use or not.

Values for the parameter are:

`DELETING`
`INITING`
`INSERV`
`PENDINIT`
`PENDRESOLV`
`RESOLVING`

`UNKNOWN`
`UNRESOLVED`
`UNUSABLE`

TIMESTAMP
Optional Parameter

The time when the deployed JAR file on z/OS UNIX was last updated

VERSION
Optional Parameter

The version of the DJar.

EJDB gate, START_BROWSE function

The START_BROWSE function of the EJDB gate initiates the browse upon the chain of DJars. Positioning of the start of the Browse is not supported. Selection by DJars is not provided, but selection by owning CorbaServer is. The end_browse condition is not returned if there are no suitable DJars (this is postponed until the get_next). The returned browsetoken must be used for subsequent GET_NEXT operations.

Input Parameters

CORBASERVER
Optional Parameter

Name of the CorbaServer to be Browsed

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`EJB_INACTIVE`
`INVALID_CORBASERVER`
`LOCK_ERROR`
`LOOP`
`NO_ERROR`
`SETUP_ERROR`
`STORAGE_ERROR`

BROWSETOKEN
The pointer set up by START_BROWSE which points to the first DJar in the chain to be Browsed

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

EJDG gate, ACTION_DJAR function

The ACTION_DJAR function of the EJDG gate tells another party that something is to be done on the DJar. The implemented actions are to manipulate the External Namespace for the named DJar.

Input Parameters

ACTIONMODE
the action to perform on the CorbaServer.

Values for the parameter are:
`PUBLISH`
`RETRACT`

DJAR
Name of the DJar for this Bean

Output Parameters

REASON
The values for the parameter are:
ABEND
DJAR_ABSENT
DJAR_INVALID_STATE
EJB_INACTIVE
INVALID_ACTION
LOCK_ERROR
LOOP
NO_ERROR
PARMS_STORAGE_ERROR
PUBLISH_ERROR
RETRACT_ERROR
SETUP_ERROR
STORAGE_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJDG gate, ADD_DJAR function

The ADD_DJAR function of the EJDG gate creates a DJar Control Block.

Input Parameters

CORBASERVER
Name of the CorbaServer to which the DJAR is added.

DJAR
Name of the DJar for this Bean

HFSFILE
The fully qualified name of the jar file to be installed. The name must be a valid z/OS UNIX filename and must not have any trailing blanks.

STATE
Indicates the current resolution state of the CorbaServer and whether it is available for use or not.

Values for the parameter are:
DELETING
INITING
INSERV
PENDINIT
PENDRESOLV
RESOLVING
UNKNOWN
UNRESOLVED
UNUSABLE

ADDMODE
Optional Parameter

The type of create done for the Bean

Values for the parameter are:
CATALOGONLY
CBONLY
NORMAL

EASYINSTALL
Optional Parameter

A binary value indicating whether the DJar was installed the “easy” way, i.e. using the scanning mechanism.

Values for the parameter are:
NO
YES

MESSAGE
Optional Parameter

Controls whether a message is issued when a CorbaServer is created

Values for the parameter are:
MSG
NOMSG

Output Parameters

REASON
The values for the parameter are:
ABEND
ATTACH_ERROR
CATALOG_ERROR
CORBASERVER_ABSENT
CORBASERVER_INVALID_STATE
DJAR_ALREADY_THERE
EJB_INACTIVE
HFSFILE_ALREADY_THERE
INVALID_CORBASERVER
INVALID_DJAR
INVALID_HFSNAME
INVALID_STATE
LOCK_ERROR
LOOP
NO_ERROR
PARMS_STORAGE_ERROR
SETUP_ERROR
STORAGE_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

EJDG gate, AMEND_DJAR function

The AMEND_DJAR function of the EJDG gate alters the DJar Control Block, but does not catalog the change or tell Java about the amendment.

Input Parameters

DJAR
Name of the DJar for this Bean

CURRENT_STATE
Optional Parameter

Used as a check, must match the existing state of the CorbaServer.

Values for the parameter are:
DELETING
INITING

INSERV
PENDINIT
PENDRESOLV
RESOLVING
UNKNOWN
UNRESOLVED
UNUSABLE

DATESTAMP
Optional Parameter

The date when the deployed JAR file on z/OS UNIX was last updated

STATE
Optional Parameter

Indicates the current resolution state of the CorbaServer and whether it is available for use or not.

Values for the parameter are:
DELETING
INITING
INSERV
PENDINIT
PENDRESOLV
RESOLVING
UNKNOWN
UNRESOLVED
UNUSABLE

TIMESTAMP
Optional Parameter

The time when the deployed JAR file on z/OS UNIX was last updated

VERSION
Optional Parameter

The version number of the DJar.

Output Parameters

REASON
The values for the parameter are:
ABEND
BAD_STATE_CHANGE
DJAR_ABSENT
DJAR_STATE_CHANGED
EJB_INACTIVE
INVALID_STATE
LOCK_ERROR
LOOP
NO_ERROR
PARMS_STORAGE_ERROR
SETUP_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJDG gate, CALL_EVENT_URM function

Invoke the user-replaceable EJB event program.

Input Parameters

CORBASERVER
: The 4-byte name of the CorbaServer for which this event is relevant.

EVENTCODE
: The 1-byte code of the event that has occurred.

EVENTTYPE
: The type of event that has occurred.

  Values for the parameter are:

  EVENT_TYPE_ERROR
  EVENT_TYPE_INFO
  EVENT_TYPE_WARNING

BEANNAME
: Optional Parameter

  The name of the bean involved in this event. For some events (for example, the discard of a DJAR) there is no bean name.

DJAR
: Optional Parameter

  The name of the DJAR resource to which this event applies. For some events (for example, the start of a scan of a CorbaServer's deployed JAR file directory) there is no specific DJAR associated with the event.

Output Parameters

REASON
: The values for the parameter are:

  ABEND
  EJB_INACTIVE
  LOCK_ERROR
  LOOP
  NO_ERROR
  PARMS_STORAGE_ERROR

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJDG gate, COUNT_FOR_CS function

The COUNT_FOR_CS function of the EJDG gate totals the number of DJars in each state for the owning CorbaServer

Input Parameters

CORBASERVER
: Name of the CorbaServer to be Browsed

Output Parameters

REASON
: The values for the parameter are:

  ABEND
  CORBASERVER_ABSENT
  EJB_INACTIVE
  LOCK_ERROR
  LOOP
  NO_ERROR
  PARMS_STORAGE_ERROR
  SETUP_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

NDELETING
Optional Parameter

The number of DJars which are in deleting state in the CorbaServer

NDJARS
Optional Parameter

The number of DJars in this Corbaserver

NINITING
Optional Parameter

The number of DJars which are in initing state in the CorbaServer

NINSERV
Optional Parameter

The number of DJars which are in inservice state in the CorbaServer

NPENDINIT
Optional Parameter

The number of DJars which are in pendinit state in the CorbaServer

NPENDRESOLV
Optional Parameter

The number of DJars which are in pendresolve state in the CorbaServer

NRESOLVING
Optional Parameter

The number of DJars which are in resolving state in the CorbaServer

NUNRESOLVED
Optional Parameter

The number of DJars which are in unresolved state in the CorbaServer

NUNUSABLE
Optional Parameter

The number of DJars which are in unusable state in the CorbaServer

EJDG gate, DELETE_ALL_DJARS function

The DELETE_ALL_DJARS function of the EJDG gate is called when the owning CorbaServer is deleted which forces the cascaded deletion of all the DJars associated with the CorbaServer. This gate eventually uses EJDG.DELETE_DJAR with DELMODE(CASCADE) as part of its operation.

Input Parameters

CORBASERVER
Name of the CorbaServer to be Browsed

Output Parameters

REASON
The values for the parameter are:

ABEND
BROWSE_ERROR
CORBASERVER_ABSENT
EJB_INACTIVE
LOCK_ERROR
LOOP
NO_ERROR

`PARMS_STORAGE_ERROR`
`SETUP_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJDG gate, DELETE_DJAR function

The DELETE_DJAR function of the EJDG gate deletes the DJar Control Block and removes the saved entry in the Global Catalog. The XRSINDI exit is also called to notify the removal.

The Java layers are informed that the DJar has been deleted. However, this notification is not done if the deletion has been initiated by the deletion of the owning CorbaServer (this is notified by the delmode parameter - DELMODE(CASCADE) showing this CorbaServer initiated deletion and DELMODE(NORMAL) showing that the deletion has been initiated from the SPI/CEMT layers). This operation has a side effect in that all Beans associated with the DJar are also deleted.

Input Parameters

DELMODE
Indicates what type of deletion is being done:
- DELMODE(CASCADE) indicates an owning CorbaServer initiated the deletion of this DJar
- DELMODE(NORMAL) indicated deletion is for SPI/CEMT delete DJar request

Values for the parameter are:
`CASCADE`
`NORMAL`

DJAR
Name of the DJar for this Bean

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`CATALOG_ERROR`
`DJAR_ABSENT`
`DJAR_DELETING`
`EJB_INACTIVE`
`LOCK_ERROR`
`LOOP`
`NO_ERROR`
`PARMS_STORAGE_ERROR`
`SETUP_ERROR`
`STORAGE_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJDG gate, INQUIRE_DJAR function

The INQUIRE_DJAR function of the EJDG gate extracts information from the named DJar Control Block

Input Parameters

DJAR
: Name of the DJar for this Bean

Output Parameters

REASON
: The values for the parameter are:
  `ABEND`
  `DJAR_ABSENT`
  `EJB_INACTIVE`
  `LOCK_ERROR`
  `LOOP`
  `NO_ERROR`
  `PARMS_STORAGE_ERROR`
  `SETUP_ERROR`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CORBASERVER
: Optional Parameter

  Name of the CorbaServer for this DJar

DATESTAMP
: Optional Parameter

  The date when the deployed JAR file on z/OS UNIX was last updated

EASYINSTALL
: Optional Parameter

  A binary value indicating whether the DJar was installed the "easy" way, i.e. with the scanning mechanism.

  Values for the parameter are:
  `NO`
  `YES`

HFSFILE
: Optional Parameter

  The fully qualified name of the deployed jar file on z/OS UNIX.

STATE
: Optional Parameter

  Indicates the current Resolution State and whether it is available for use or not.

  Values for the parameter are:
  `DELETING`
  `INITING`
  `INSERV`
  `PENDINIT`
  `PENDRESOLV`
  `RESOLVING`
  `UNKNOWN`
  `UNRESOLVED`
  `UNUSABLE`

TIMESTAMP
: Optional Parameter

  The time when the deployed JAR file on z/OS UNIX was last updated

VERSION
: Optional Parameter

The version of the DJar.

EJDG gate, RESOLVE_DJAR function

Copy a deployed JAR file to the z/OS UNIX shelf directory and parse the information it contains.

Input Parameters

DJAR
The DJar to be resolved.

Output Parameters

REASON
The values for the parameter are:

```
ABEND
BAD_STATE_SET
CATALOG_ERROR
CORBASERVER_ABSENT
CORBASERVER_INVALID_STATE
DJAR_ABSENT
DJAR_INVALID_STATE
EJB_INACTIVE
INVALID_DJAR
JAVA_ERROR
LOCK_ERROR
LOOP
NO_ERROR
PARMS_STORAGE_ERROR
SETUP_ERROR
STORAGE_ERROR
```

DID_STAGE
The stage at which the DJar was resolved.

Values for the parameter are:

```
IGNORED
STAGE1
STAGE2
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJDG gate, SCAN_DJARS function

Scan a CorbaServer's deployed JAR file directory for new or updated deployed JAR files.

Input Parameters

CORBASERVER
The name of the Corbaserver.

DJARSINFO
A buffer containing information about the DJars.

NDJARS
The number of DJars whose information is provided in the DJARSINFO parameter.

Output Parameters

REASON
: The values for the parameter are:
    - ABEND
    - ATTACH_ERROR
    - CATALOG_ERROR
    - CORBASERVER_ABSENT
    - CORBASERVER_INVALID_STATE
    - DJAR_ALREADY_THERE
    - EJB_INACTIVE
    - HFSFILE_ALREADY_THERE
    - INVALID_CORBASERVER
    - INVALID_DJAR
    - INVALID_STATE
    - LOCK_ERROR
    - LOOP
    - NO_ERROR
    - PARMS_STORAGE_ERROR
    - SETUP_ERROR
    - STORAGE_ERROR

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJDG gate, SET_ALL_STATE function

The SET_ALL_STATE function of the EJDG gate sets the state of all the DJars.

Input Parameters

STATE
: Indicates the current resolution state of the CorbaServer and whether it is available for use or not.

  Values for the parameter are:
    - DELETING
    - INITING
    - INSERV
    - PENDINIT
    - PENDRESOLV
    - RESOLVING
    - UNKNOWN
    - UNRESOLVED
    - UNUSABLE

Output Parameters

REASON
: The values for the parameter are:
    - ABEND
    - EJB_INACTIVE
    - INVALID_STATE
    - LOCK_ERROR
    - LOOP
    - NO_ERROR
    - PARMS_STORAGE_ERROR
    - SETUP_ERROR

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJDG gate, WAIT_FOR_DJAR function

The WAIT_FOR_DJAR function of the EJDG gate waits until the DJars enter the required state.

Input Parameters

DJAR
: Name of the DJar for this Bean

STATE
: Indicates the current resolution state of the CorbaServer and whether it is available for use or not.

  Values for the parameter are:

  DELETING
  INITING
  INSERV
  PENDINIT
  PENDRESOLV
  RESOLVING
  UNKNOWN
  UNRESOLVED
  UNUSABLE

Output Parameters

REASON
: The values for the parameter are:

  ABEND
  DJAR_ABSENT
  DJAR_UNRESOLVED
  DJAR_UNUSABLE
  EJB_INACTIVE
  INVALID_STATE
  LOCK_ERROR
  LOOP
  NO_ERROR
  PARMS_STORAGE_ERROR
  SETUP_ERROR
  WAIT_ERROR

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJDG gate, WAIT_FOR_USABLE_DJARS function

The WAIT_FOR_USABLE_DJARS function of the EJDG gate waits until all the DJars associated with a CorbaServer are INSERV.

Input Parameters

CORBASERVER
: The name of the CorbaServer for whose DJars the task is to wait.

Output Parameters

REASON
: The values for the parameter are:
  - ABEND
  - CORBASERVER_ABSENT
  - CORBASERVER_ERROR
  - CORBASERVER_INVALID_STATE
  - COUNT_ERROR
  - DJAR_ABSENT
  - DJAR_UNRESOLVED
  - DJAR_UNUSABLE
  - EJB_INACTIVE
  - LOCK_ERROR
  - LOOP
  - NO_ERROR
  - PARMS_STORAGE_ERROR
  - SETUP_ERROR
  - WAIT_ERROR

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJDI gate, ADD_ENTRY function

The ADD_ENTRY function of the EJDI gate adds a new entry to the Directory partition for the specified LogicalServer. No entry with the same name should exist in the specified LogicalServer partition. In the case of a transaction entry, no existing entry should refer to the same request stream, but this is not checked.

Input Parameters

ENTRY_KEY
: The key (OTS or Object Key) for the entry

ENTRY_TYPE
: Indicates whether this is a transaction or object_key entry

  Values for the parameter are:
  - OBJECT
  - TRANSACTION

LOGICALSERVER
: Name of the LogicalServer for which the entry is to be added

REQUEST_STREAM_ID
: Public ID of the request stream to be put in the entry

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  - ABEND

  The following values are returned when RESPONSE is EXCEPTION:
  - DUPLICATE_ENTRY
  - FILE_CONNECT_ERROR
  - FILE_CORRUPT_ERROR
  - FILE_FULL_ERROR
  - FILE_IO_ERROR
  - STORE_NOT_OPEN

  The following values are returned when RESPONSE is INVALID:
  - INVALID_KEYLENGTH

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJDI gate, INITIALISE function

The INITIALIZE function of the EJDI gate is called when a store_not_open has been detected.

Input Parameters

LOGICALSERVER
Name of the LogicalServer for which the entry is to be added

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`

The following values are returned when RESPONSE is EXCEPTION:
`CICS_TERMINATING`
`CTL_REC_FULL_ERROR`
`FILE_CONNECT_ERROR`
`FILE_CORRUPT_ERROR`
`FILE_FULL_ERROR`
`FILE_IO_ERROR`
`FILE_NOT_FOUND`
`FILE_RECOVERY_ERROR`
`FILE_RECOVERY_UNKNOWN`

The following values are returned when RESPONSE is INVALID:
`INVALID_KEYLENGTH`
`INVALID_RECORD_SIZE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJDI gate, LOOKUP_ENTRY function

The LOOKUP_ENTRY function of the EJDI gate looks up the given OTS transaction or object key / LogicalServer pair and returns the associated Request Stream if found.

Input Parameters

ENTRY_KEY
The key (OTS or Object Key) for the entry

ENTRY_TYPE
Indicates whether this is a transaction or object_key entry

Values for the parameter are:
`OBJECT`
`TRANSACTION`

LOGICALSERVER
Name of the LogicalServer for which the entry is to be added

REQUEST_STREAM_BUFFER
Caller supplied buffer to contain the request stream id

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  - `ABEND`

  The following values are returned when RESPONSE is EXCEPTION:
  - `BUFFER_TOO_SMALL`
  - `ENTRY_NOT_FOUND`
  - `FILE_CONNECT_ERROR`
  - `FILE_CORRUPT_ERROR`
  - `FILE_IO_ERROR`
  - `OBJECT_CORRUPT`
  - `STORE_NOT_FOUND`
  - `STORE_NOT_OPEN`

  The following values are returned when RESPONSE is INVALID:
  - `INVALID_KEYLENGTH`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJDI gate, REMOVE_ENTRY function

The REMOVE_ENTRY function of the EJDI gate removes a transaction or object key for a given LogicalServer.

Input Parameters

ENTRY_KEY
: The key (OTS or Object Key) for the entry

ENTRY_TYPE
: Indicates whether this is a transaction or object_key entry

  Values for the parameter are:
  - `OBJECT`
  - `TRANSACTION`

LOGICALSERVER
: Name of the LogicalServer for which the entry is to be added

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  - `ABEND`

  The following values are returned when RESPONSE is EXCEPTION:
  - `ENTRY_NOT_FOUND`
  - `FILE_CONNECT_ERROR`
  - `FILE_CORRUPT_ERROR`
  - `FILE_IO_ERROR`
  - `STORE_NOT_OPEN`

  The following values are returned when RESPONSE is INVALID:
  - `INVALID_KEYLENGTH`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJDU gate, DUMP_DATA function

The DUMP_DATA function of the EJDU gate is used to collect data from a dumping class. It will be placed in the chain of data collected by EJDU and formatted out when a CICS dump occurs.

Input Parameters

DATA
A pointer and length pair containing the data to be stored for inclusion in a dump.

Output Parameters

REASON
The values for the parameter are:

```
ABEND
INSUFFICIENT_STORAGE
INTERNAL_ERROR
INVALID_FORMAT
INVALID_FUNCTION
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJDU gate, DUMP_STACK function

The DUMP_STACK function of the EJDU gate is used to collect the stack of a running JVM. The stack is passed as a string to EJDU and will be formatted out separately from the other data collected by EJDU's DUMP_DATA function. This function should be called before DUMP_DATA as it will free any existing data gathered for the running task.

Input Parameters

DATA
A pointer and length pair containing the data to be stored for inclusion in a dump.

Output Parameters

REASON
The values for the parameter are:

```
ABEND
INSUFFICIENT_STORAGE
INTERNAL_ERROR
INVALID_FORMAT
INVALID_FUNCTION
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJDU gate, INQUIRE_TRACE_FLAGS function

The INQUIRE_TRACE_FLAGS function of the EJDU gate is used to return the current settings of all the trace flags. It takes into account the master trace flag setting when returning the result. The trace flags are returned as a continuous block of storage with 2 bytes for each flag, in domain order.

Input Parameters

TRACE_DATA
: A block of data containing the trace flags in domain order, where each trace flag takes up 2 bytes

Output Parameters

REASON
: The values for the parameter are:
  - ABEND
  - BAD_DOMAIN_TOKEN
  - INTERNAL_ERROR
  - INVALID_FORMAT
  - INVALID_FUNCTION
  - TRACE_BUFFER_ERROR

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

AUX_ON
: Optional Parameter

  Indicates whether auxiliary trace is turned on.

  Values for the parameter are:
  - NO
  - YES

EJGE gate, INITIALISE function

The INITIALIZE function of the EJGE gate creates the various things in the EJE Anchor Block (Locks, Store Subpools, Statii etc.) and then sets up the initial chains of CorbaServer, DJar and Bean Control Blocks (and the Browse equivalents). These chains all start with a dummy X'00' element and end with another dummy X'FF' element. This permits easy chaining and detection of end-of-lists. However, more importantly, this technique enables multi-TCB operations to proceed as there are never any EJ Element wide-locks - all locks are at the CorbaServer, DJar or Bean level. After the EJE anchor block has been setup it is never subsequently amended.

Input Parameters

STARTTYPE
: The startup type for this CICS system.

  Values for the parameter are:
  - COLD
  - WARM

Output Parameters

REASON
: The values for the parameter are:
  - ABEND
  - CATALOG_ERROR
  - LOOP
  - NO_ERROR
  - PARMS_STORAGE_ERROR
  - SETUP_ERROR
  - STORAGE_ERROR

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJGE gate, QUIESCE function

The QUIESCE function of the EJGE gate runs when a CEMT P SHUT is executed.

Output Parameters

REASON
: The values for the parameter are:
  `ABEND`
  `LOOP`
  `NO_ERROR`
  `PARMS_STORAGE_ERROR`
  `SETUP_ERROR`
  `STORAGE_ERROR`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJGE gate, TERMINATE function

The TERMINATE function of the EJGE gate runs when a CEMT P IMMED is executed.

Output Parameters

REASON
: The values for the parameter are:
  `ABEND`
  `LOOP`
  `NO_ERROR`
  `PARMS_STORAGE_ERROR`
  `SETUP_ERROR`
  `STORAGE_ERROR`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJIO gate, RESOLVE function

The RESOLVE function of the EJIO gate controls the operation of Resolution processing. It is called by the CEJR transaction.

Output Parameters

REASON
: The values for the parameter are:
  `ABEND`
  `BEAN_ADD_ERROR`
  `CATALOG_ERROR`
  `EJB_INACTIVE`
  `ENV_ERROR`
  `LOOP`
  `MULTIUSE`
  `NO_ERROR`
  `OBJECTSTORE_ERROR`
  `PARMS_STORAGE_ERROR`
  `PRIORFAIL`
  `RESC_BAD_STB`
  `RESC_GETNEXT_ERROR`
  `RESD_BAD_STB`

RESD_GETNEXT_ERROR
RESOLV_FAIL_CS
RESOLV_FAIL_DJAR
SETUP_ERROR
STORAGE_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJIO gate, RESOLVE_CSERVERS function

The RESOLVE_CSERVERS function of the EJIO gate scans all existing CorbaServer control blocks that have not been fully processed and issues a EJCG.RESOLVE_CORBASERVER on the first such CorbaServer (both Stage one 'copying the DJar to the Shelf' and Stage two 'Opening Object Stores' Resolution Processing).

Output Parameters

REASON
The values for the parameter are:
ABEND
BEAN_ADD_ERROR
CATALOG_ERROR
EJB_INACTIVE
ENV_ERROR
LOCK_ERROR
LOOP
NO_ERROR
OBJECTSTORE_ERROR
PARMS_STORAGE_ERROR
RESC_BAD_STB
RESC_GETNEXT_ERROR
SETUP_ERROR
STORAGE_ERROR

NUMBER_RESOLVED
The number of CorbaServer control blocks that were resolved.

NUMBER_UNUSABLE
The number of CorbaServer control blocks that were found to be unusable.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJIO gate, RESOLVE_DJARS function

The RESOLVE_DJARS function of the EJIO gate scans all existing DJar control blocks that have not been fully processed and issues a EJDG.RESOLVE_DJAR on the first such DJar (both Stage one 'copying the DJar to the Shelf' and Stage two 'Bean loading' Resolution Processing).

Output Parameters

REASON
The values for the parameter are:
ABEND
BEAN_ADD_ERROR
CATALOG_ERROR
EJB_INACTIVE
ENV_ERROR

LOCK_ERROR
LOOP
NO_ERROR
OBJECTSTORE_ERROR
PARMS_STORAGE_ERROR
RESD_BAD_STB
RESD_GETNEXT_ERROR
SETUP_ERROR
STORAGE_ERROR

NUMBER_RESOLVED
The number of DJar control blocks that were resolved.

NUMBER_UNUSABLE
The number of DJar control blocks that were found to be unusable.

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

EJIO gate, SET_RSTATE function

Set the run state of the CorbaServer resolution transaction.

Input Parameters

RSTATE
Indicates whether the transaction can run.

Values for the parameter are:
NOTRUN
RUN

Output Parameters

REASON
The values for the parameter are:
ABEND
BEAN_ADD_ERROR
CATALOG_ERROR
EJB_INACTIVE
ENV_ERROR
LOCK_ERROR
LOOP
MULTIUSE
NO_ERROR
NO_OBJECTSTORE
OBJECTSTORE_ERROR
PARMS_STORAGE_ERROR
PRIORFAIL
RESC_BAD_STB
RESC_GETNEXT_ERROR
RESD_BAD_STB
RESD_GETNEXT_ERROR
RESOLV_FAIL_CS
RESOLV_FAIL_DJAR
SETUP_ERROR
STORAGE_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

EJJO gate, ADD_BEAN function

The EJJO gate insulates functions for the Elements part of the EJ Domain, which is concerned with the manipulation of CorbaServers, DJars and Beans and which is required for access within the Java layers, from the rest of CICS. The ADD_BEAN function is a wrapper for the ADD_BEAN function of the EJBG gate.

Input Parameters

BEAN
Name of the Bean to be added

CORBASERVER
Name of the CorbaServer to be browsed

DDAREAFORIN
Block for Bean deployment/meta data input

DJAR
Name of the DJar for this Bean

Output Parameters

REASON
The values for the parameter are:

```
ABEND
BEAN_ALREADY_PRESENT
CORBASERVER_ABSENT
CORBASERVER_INVALID_STATE
DDAREAFORIN_ABSENT
DJAR_ABSENT
DJAR_INVALID_STATE
EJB_INACTIVE
INVALID_BEAN
INVALID_CORBASERVER
INVALID_DD_ZERO_LENGTH
INVALID_DD_ZERO_POINTER
INVALID_DDAREAFORIN
INVALID_DJAR
LOCK_ERROR
LOOP
MAPPING_ERROR
NAMESPACE_CONFLICT
NO_ERROR
PARMS_STORAGE_ERROR
SETUP_ERROR
STORAGE_ERROR
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJJO gate, END_BEAN_BROWSE function

The EJJO gate insulates functions for the Elements part of the EJ Domain, which is concerned with the manipulation of CorbaServers, DJars and Beans and which is required for access within the Java layers, from the rest of CICS. The END_BEAN_BROWSE function is a wrapper for the END_BROWSE function of the EJBB gate.

Input Parameters

BROWSETOKEN
: The pointer set up by START_BROWSE which points to the first DJar in the chain to be browsed

Output Parameters

REASON
: The values for the parameter are:

  ABEND
  EJB_INACTIVE
  INVALID_BROWSE_TOKEN
  LOCK_ERROR
  LOOP
  MAPPING_ERROR
  NO_ERROR
  PARMS_STORAGE_ERROR
  SETUP_ERROR
  STORAGE_ERROR

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJJO gate, ESTABLISH function

The EJJO gate insulates functions for the Elements part of the EJ Domain, which is concerned with the manipulation of CorbaServers, DJars and Beans and which is required for access within the Java layers, from the rest of CICS. The ESTABLISH function is a wrapper for the ESTABLISH function of the EJCG gate.

Input Parameters

CORBASERVER
: The name of the CorbaServer to be associated with the task.

Output Parameters

REASON
: The values for the parameter are:

  ABEND
  CORBASERVER_ABSENT
  CORBASERVER_INVALID_STATE
  EJB_INACTIVE
  LOCK_ERROR
  LOOP
  MAPPING_ERROR
  NO_ERROR
  PARMS_STORAGE_ERROR
  SETUP_ERROR

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJJO gate, GET_BEAN_DD function

The EJJO gate insulates functions for the Elements part of the EJ Domain, which is concerned with the manipulation of CorbaServers, DJars and Beans and which is required for access within the Java layers, from the rest of CICS. The GET_BEAN_DD function is a wrapper for the GET_BEAN_DD function of the EJBG gate.

Input Parameters

BEAN
: Name of the Bean to be added

CORBASERVER
: Name of the CorbaServer to be browsed

DDAREAFORUPD
: A buffer for the Bean deployment/meta data update area

Output Parameters

REASON
: The values for the parameter are:

```
ABEND
BEAN_ABSENT
CORBASERVER_ABSENT
CORBASERVER_INVALID_STATE
DD_AREA_TOO_SMALL
DDAREAFORUPD_ABSENT
DJAR_ABSENT
DJAR_INVALID_STATE
EJB_INACTIVE
INVALID_DD_ZERO_LENGTH
INVALID_DD_ZERO_POINTER
INVALID_DDAREAFORUPD
LOCK_ERROR
LOOP
MAPPING_ERROR
NO_ERROR
PARMS_STORAGE_ERROR
SETUP_ERROR
```

DDLEN
: Optional Parameter

  Length of the deployment/meta data area. Used particularly to contain the length of the data if the size is larger than the maximum length for ddareaforin block

DJAR
: Optional Parameter

  Name of DJar for this Bean

RESPONSE
: Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

EJJO gate, GET_NEXT_BEAN function

The EJJO gate insulates functions for the Elements part of the EJ Domain, which is concerned with the manipulation of CorbaServers, DJars and Beans and which is required for access within the Java layers, from the rest of CICS. The GET_NEXT_BEAN function is a wrapper for the GET_NEXT function of the EJBB gate.

Input Parameters

BROWSETOKEN
: The pointer set up by START_BROWSE which points to the first DJar in the chain to be browsed

Output Parameters

REASON
The values for the parameter are:
ABEND
BROWSE_BROKEN
EJB_INACTIVE
END_OF_BROWSE
INVALID_BROWSE_TOKEN
INVALID_POINTAT
LOCK_ERROR
LOOP
MAPPING_ERROR
NO_ERROR
PARMS_STORAGE_ERROR
SETUP_ERROR

BEAN
Name of the Bean

CORBASERVER
Optional Parameter

Name of the CorbaServer for this DJar

DDLEN
Optional Parameter

Length of the deployment/meta data area. Used particularly to contain the length of the data if the size is larger than the maximum length for ddareaforin block

DJAR
Optional Parameter

Name of DJar for this Bean

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJJO gate, INQUIRE_CORBASERVER function

The EJJO gate insulates functions for the Elements part of the EJ Domain, which is concerned with the manipulation of CorbaServers, DJars and Beans and which is required for access within the Java layers, from the rest of CICS. The INQUIRE_CORBASERVER function is a wrapper for the INQUIRE_CORBASERVER function of the EJCG gate.

Input Parameters

CORBASERVER
The name of the CorbaServer

Output Parameters

REASON
The values for the parameter are:
ABEND
CORBASERVER_ABSENT
EJB_INACTIVE
LOCK_ERROR
LOOP
MAPPING_ERROR
NO_ERROR
PARMS_STORAGE_ERROR

SETUP_ERROR

AUTO_PUBLISH
Optional Parameter

Specifies whether the contents of a deployed JAR file should be automatically published to the namespace when the DJAR definition is successfully installed into this CorbaServer.

Values for the parameter are:
NO
YES

CERTIFICATE_LABEL
The label of an X.509 certificate that is used as a client certificate during the SSL handshake for outbound IIOP connections.

CIPHER_COUNT
Optional Parameter

The number of cipher suites that are available to negotiate with clients during the SSL handshake.

CIPHER_SUITES
Optional Parameter

The list of cipher suites that is used to negotiate with clients during the SSL handshake.

CORBASERVER_STATE
Indicates the current Resolution State and whether it is available for use or not.

Values for the parameter are:
DELETING
INITING
INSERV
PENDINIT
PENDRESOLV
RESOLVING
UNKNOWN
UNRESOLVED
UNUSABLE

DJARDIR
The fully-qualified name of the deployed JAR file directory (also known as the pickup directory) on z/OS UNIX.

ENABLE_STATE
Optional Parameter

The state of the Corbaserver.

Values for the parameter are:
DISABLED
DISABLING
DISCARDING
ENABLED
ENABLING

HOST
The TCP/IP hostname or the dotted decimal TCP/IP address included in IORs exported from this CorbaServer

JNDIPREFIX
The prefix that is used at run time when publishing to JNDI

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

SCANINTERVAL
Optional Parameter

The interval between repeated scans of the CorbaServer chain.

SHELF
The fully qualified name of the shelf directory on z/OS UNIX

TIMEOUT
Optional Parameter

The elapsed time period (in seconds) of inactivity after which a session Bean can be discarded

ASSERTED_TCPIPSERVICE
Optional Parameter

The TCPIPSERVICE named in the ASSERTED attribute of the CORBASERVER.

BASIC_TCPIPSERVICE
The TCPIPSERVICE named in the BASIC attribute of the CORBASERVER.

CLIENTCERT_TCPIPSERVICE
The 8-character name of a TCPIPSERVICE that defines the characteristics of the port which is used for inbound IIOP with SSL client certificate authentication.

OUTPRIVACY
Optional Parameter

The level of SSL encryption required for inbound connections to this service.

Values for the parameter are:
NOTSUPPORTED
REQUIRED
SUPPORTED

SSLUNAUTH_TCPIPSERVICE
Optional Parameter

The 8-character name of a TCPIPSERVICE that defines the characteristics of the port which is used for inbound IIOP with SSL but no client authentication.

SSLUNAUTH_TCPIPSERVICE
Optional Parameter

The 8-character name of a TCPIPSERVICE that defines the characteristics of the port which is used for inbound IIOP with SSL but no client authentication.

UNAUTH_TCPIPSERVICE
Optional Parameter

The 8-character name of a TCPIPSERVICE that defines the characteristics of the port which is used for inbound IIOP with no authentication.

EJJO gate, SET_BEAN_STATS function

The EJJO gate insulates functions for the Elements part of the EJ Domain, which is concerned with the manipulation of CorbaServers, DJars and Beans and which is required for access within the Java layers, from the rest of CICS. The SET_BEAN_STATS function is a wrapper for the ADD_BEAN_STATS function of the EJBG gate.

Input Parameters

ACTIVATES
Optional Parameter

The number of times this bean has been activated

BEAN
Name of the Bean to be added

CORBASERVER
Name of the CorbaServer

CREATES
Optional Parameter

The number of times this bean has been created

METHOD_CALLS
Optional Parameter

The number of method calls (other than the above) made against this bean

PASSIVATES
Optional Parameter

The number of times this bean has been passivated

REMOVES
Optional Parameter

The number of times this bean has been removed

Output Parameters

REASON
The values for the parameter are:

```
ABEND
BEAN_ABSENT
CORBASERVER_ABSENT
CORBASERVER_INVALID_STATE
DJAR_ABSENT
DJAR_INVALID_STATE
EJB_INACTIVE
LOCK_ERROR
LOOP
NO_ERROR
PARMS_STORAGE_ERROR
SETUP_ERROR
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJJO gate, START_BEAN_BROWSE function

The EJJO gate insulates functions for the Elements part of the EJ Domain, which is concerned with the manipulation of CorbaServers, DJars and Beans and which is required for access within the Java layers, from the rest of CICS. The START_BEAN_BROWSE function is a wrapper for the START_BROWSE function of the EJBB gate.

Input Parameters

CORBASERVER
Optional Parameter

Name of the CorbaServer to be browsed

DJAR
Optional Parameter

Name of the DJar for this Bean

Output Parameters

REASON
The values for the parameter are:

ABEND
EJB_INACTIVE
INVALID_BROWSEMODE
INVALID_CORBASERVER
INVALID_DJAR
LOCK_ERROR
LOOP
MAPPING_ERROR
NO_ERROR
PARMS_STORAGE_ERROR
SETUP_ERROR
STORAGE_ERROR

BROWSETOKEN
The pointer set up by START_BROWSE which points to the first DJar in the chain to be browsed

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJJO gate, WAIT_FOR_CORBASERVER function

The EJJO gate insulates functions for the Elements part of the EJ Domain, which is concerned with the manipulation of CorbaServers, DJars and Beans and which is required for access within the Java layers, from the rest of CICS. The WAIT_FOR_CORBASERVER function is a wrapper for the WAIT_FOR_CORBASERVER function of the EJCG gate.

Input Parameters

CORBASERVER
The name of the CorbaServer that the task will wait on.

Output Parameters

REASON
The values for the parameter are:
ABEND
CORBASERVER_ABSENT
CORBASERVER_UNRESOLVED
CORBASERVER_UNUSABLE
EJB_INACTIVE
INVALID_STATE
LOCK_ERROR
LOOP
MAPPING_ERROR
NO_ERROR
PARMS_STORAGE_ERROR
SETUP_ERROR
WAIT_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJJO gate, WAIT_FOR_USABLE_DJARS function

The EJJO gate insulates functions for the Elements part of the EJ Domain, which is concerned with the manipulation of CorbaServers, DJars and Beans and which is required for access within the Java layers, from the rest of CICS. The

WAIT_FOR_USABLE_DJARS function is a wrapper for the WAIT_FOR_USABLE_DJARS function of the EJDG gate.

Input Parameters

CORBASERVER
The name of the CorbaServer for whose DJars the task is to wait.

Output Parameters

REASON
The values for the parameter are:

```
ABEND
CORBASERVER_ABSENT
CORBASERVER_ERROR
CORBASERVER_INVALID_STATE
COUNT_ERROR
DJAR_ABSENT
DJAR_UNRESOLVED
DJAR_UNUSABLE
EJB_INACTIVE
LOCK_ERROR
LOOP
MAPPING_ERROR
NO_ERROR
PARMS_STORAGE_ERROR
SETUP_ERROR
WAIT_ERROR
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJMI gate, ADD_BEAN function

The ADD_BEAN function of the EJMI gate adds the named Bean within the named CorbaServer to the EJMI state. A duplicate_bean exception is returned if there is already a Bean of that name within the given CorbaServer, and the DJar must be discarded before the Bean can be added again.

Input Parameters

BEAN
Name of the Bean to be added

CORBASERVER
Name of the CorbaServer to be Browsed

DJAR
Name of the DJar for this Bean

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
DUPLICATE_BEAN
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJMI gate, ADD_METHOD function

The ADD_METHOD function of the EJMI gate adds the information for the named method within the given Bean and CorbaServer.

An unknown_bean exception is returned if there the given Bean and CorbaServer combination is not present in the EJMI state.

A duplicate_method exception is returned if there is already a method of that name within the given Bean and CorbaServer combination.

Input Parameters

BEAN
Name of the Bean to be added

CORBASERVER
Name of the CorbaServer to be Browsed

METHOD
The name of the method

XCOORD
Indicates whether an external OTS transaction coordinator, if there is one, is respected for determining transaction commit or rollback.

Values for the parameter are:
IGNORED
RESPECTED

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
DUPLICATE_METHOD
UNKNOWN_BEAN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJMI gate, DISCARD_METHOD_INFO function

The DISCARD_METHOD_INFO function of the EJMI gate removes from the given CorbaServer all the information about Beans with the given DJar name. If no DJar name is specified all Beans are removed.

Input Parameters

CORBASERVER
Name of the CorbaServer to be Browsed

DJAR
Optional Parameter

Name of the DJar for this Bean

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
UNKNOWN_CORBASERVER

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJMI gate, GET_METHOD_INFO function

The GET_METHOD_INFO function of the EJMI gate returns the information about the named method within the named Bean and CorbaServer. An unknown_method exception is returned if the method is not found within the Bean and CorbaServer combination.

Input Parameters

BEAN
: Name of the Bean to be added

CORBASERVER
: Name of the CorbaServer to be Browsed

METHOD
: The name of the method

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `UNKNOWN_BEAN`
  `UNKNOWN_CORBASERVER`
  `UNKNOWN_METHOD`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XCOORD
: Indicates whether an external OTS transaction coordinator, if there is one, is respected for determining transaction commit or rollback

  Values for the parameter are:
  `IGNORED`
  `RESPECTED`

EJMI gate, INITIALISE function

The INITIALIZE function of the EJMI gate initializes the EJMI state in the EJ anchor block.

Output Parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJOB gate, END_BROWSE_OBJECT function

The END_BROWSE_OBJECT function of the EJOB gate is called after START_BROWSE_OBJECT to end the Browse of a file or object_store.

Input Parameters

BROWSE_TOKEN
: The token returned by START_BROWSE

Output Parameters

REASON
: The values for the parameter are:
  `ABEND`
  `INVALID_TOKEN`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJOB gate, GET_NEXT_OBJECT function

The GET_NEXT_OBJECT function of the EJOB gate is called after START_BROWSE_OBJECT to return the next object in the file or object_store.

Input Parameters

BROWSE_TOKEN
The token returned by START_BROWSE

KEY_BUFFER
Optional Parameter

A buffer in which the next object key is returned

OBJECT_BUFFER
Optional Parameter

A buffer in which the next object is returned

Output Parameters

REASON
The values for the parameter are:
```
ABEND
BUFFER_TOO_SMALL
END_BROWSE
FILE_CONNECT_ERROR
FILE_CORRUPT_ERROR
FILE_IO_ERROR
FILE_KEY_LENGTH_ERROR
FILE_NOT_FOUND
INVALID_TOKEN
OBJECT_CORRUPT
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACTIVE_TIMEOUT
Optional Parameter

A full-word giving the number of seconds after which Objects in the Active state may be automatically deleted from the store.

FILE_NAME
Optional Parameter

The 8-character name of the file containing the Object Store.

LAST_UPDATED
Optional Parameter

The time in STCK seconds when the object was last stored or activated.

OBJECT_SIZE
Optional Parameter

The size of the object being inquired.

PASSIVE_TIMEOUT
Optional Parameter

A full-word giving the number of seconds after which Objects in the Passive state may be automatically deleted from the store.

STATUS
Optional Parameter

The state of the Bean being Browsed (NORMAL or TEMPORARY). Indicates that a Bean has been confirmed

Values for the parameter are:
```
ACTIVE
PASSIVE
```

STORE_NAME
Optional Parameter

The 8-character name of the Object Store.

EJOB gate, INQUIRE_OBJECT function

The INQUIRE_OBJECT function of the EJOB gate is called to return the Object data and attributes associated with the given key.

Input Parameters

KEY_BLOCK
A block giving the key of the Object being inquired

STORE_NAME
The 8-character name of the Object Store

OBJECT_BUFFER
Optional Parameter

A buffer in which the next object is returned

Output Parameters

REASON
The values for the parameter are:

```
ABEND
BUFFER_TOO_SMALL
FILE_CONNECT_ERROR
FILE_CORRUPT_ERROR
FILE_IO_ERROR
FILE_KEY_LENGTH_ERROR
FILE_NOT_FOUND
INVALID_KEYLENGTH
OBJECT_CORRUPT
OBJECT_NOT_FOUND
STORE_NOT_OPEN
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACTIVE_TIMEOUT
Optional Parameter

A full-word giving the number of seconds after which Objects in the Active state may be automatically deleted from the store.

FILE_NAME
Optional Parameter

The 8-character name of the file containing the Object Store.

LAST_UPDATED
Optional Parameter

The time in STCK seconds when the object was last stored or activated.

OBJECT_SIZE
Optional Parameter

The size of the object being inquired.

PASSIVE_TIMEOUT
Optional Parameter

A full-word giving the number of seconds after which Objects in the Passive state may be automatically deleted from the store.

STATUS
Optional Parameter

The state of the Bean being Browsed (NORMAL or TEMPORARY). Indicates that a Bean has been confirmed

Values for the parameter are:
```
ACTIVE
PASSIVE
```

EJOB gate, INQUIRE_STORES function

The INQUIRE_STORES function of the EJOB gate is called to return a list of the Object Store names associated with the given file. The list is returned as an array of 8-character store names.

Input Parameters

OBJECT_BUFFER
A buffer in which the next object is returned

SUBPOOL
A storage subpool from which to getmain the object block.

FILE_NAME
Optional Parameter

The optional 8-character name of the file to be inquired. If omitted then the default file 'DFHEJOS' will be used.

Output Parameters

REASON
The values for the parameter are:
```
ABEND
BUFFER_TOO_SMALL
FILE_CONNECT_ERROR
FILE_CORRUPT_ERROR
FILE_IO_ERROR
FILE_KEY_LENGTH_ERROR
FILE_NOT_FOUND
FILE_REC_SIZE_ERROR
INVALID_TOKEN
```

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

STORE_COUNT
The number of store names being returned

OBJECT_BLOCK
Optional Parameter

A block containing the array of 8-character store names. If specified then SUBPOOL must also be specified.

EJOB gate, RETRIEVE_STATISTICS function

The RETRIEVE_STATISTICS function of the EJOB gate is called by statistics to return the statistics associated with a supplied store key.

Input Parameters

STORE_NAME
The 8-character name of the Object Store

DATA
Optional Parameter

A pointer and length pair containing the data to be stored for inclusion in a dump.

Values for the parameter are:
NO
YES

OBJECT_BUFFER
Optional Parameter

A buffer in which the next object is returned

RESET
Optional Parameter

A flag indicating that the statistics fields must be reset

Values for the parameter are:
NO
YES

Output Parameters

REASON
The values for the parameter are:
ABEND
BUFFER_NOT_SUPPLIED
BUFFER_TOO_SMALL
STORE_NOT_OPEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJOB gate, START_BROWSE_OBJECT function

The START_BROWSE_OBJECT function of the EJOB gate is called to browse an object store.

Input Parameters

FILE_NAME
Optional Parameter

The optional 8-character name of the file to be inquired. If omitted then the default file 'DFHEJOS' will be used.

STORE_NAME
Optional Parameter

The 8-character name of the Object Store. If STORE_NAME is omitted then all Objects in the file are browsed.

Output Parameters

REASON
The values for the parameter are:
ABEND
FILE_CONNECT_ERROR
FILE_CORRUPT_ERROR
FILE_IO_ERROR
FILE_KEY_LENGTH_ERROR
FILE_NOT_FOUND
FILE_REC_SIZE_ERROR

STORE_NOT_FOUND

BROWSE_TOKEN
: A token required by GET_NEXT and END_BROWSE

RESPONSE
: Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

EJOS gate, ACTIVATE_OBJECT function

The ACTIVATE_OBJECT function of the EJOS gate is called to Activate an Object instance.

Input Parameters

DELETE
: YES means the Object is to be deleted from the while and NO means the Object is to be marked ACTIVE in the file.

Values for the parameter are:

NO
YES

KEY_BLOCK
: A block giving the key of the Object being inquired

OBJECT_BUFFER
: A buffer in which the next object is returned

STORE_NAME
: The 8-character name of the Object Store

Output Parameters

REASON
: The values for the parameter are:

ABEND
BUFFER_TOO_SMALL
FILE_CONNECT_ERROR
FILE_CORRUPT_ERROR
FILE_IO_ERROR
FILE_KEY_LENGTH_ERROR
FILE_NOT_FOUND
INVALID_KEYLENGTH
OBJECT_CORRUPT
OBJECT_IS_ACTIVE
OBJECT_NOT_FOUND
STORE_NOT_OPEN

OBJECT_SIZE
: The size of the object being inquired.

RESPONSE
: Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

EJOS gate, CLOSE_OBJECT_STORE function

The CLOSE_OBJECT_STORE function of the EJOS gate is called to Close an Object Store in the local system. If an Object Store is open with a non-zero timeout value, then a task is scheduled to sweep the store periodically, deleting timed-out Objects. It will, therefore, improve CICS performance if stores are closed when not required.

Input Parameters

STORE_NAME
: The 8-character name of the Object Store

Output Parameters

REASON
: The values for the parameter are:
  `STORE_NOT_OPEN`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJOS gate, OPEN_OBJECT_STORE function

The OPEN_OBJECT_STORE function of the EJOS gate is called to Open a new or existing Object Store in the local system.

An Object Store must be opened in each region wishing to use it. Many object stores can use the same CICS file, or they can each specify a different file.

If an Object Store of the same name is already open in that region, the existing definition is replaced, and the new file name and timeout values are then used. As timeout values are stored with the object, changes to the store definition will not affect objects already stored.

Input Parameters

ACTIVE_TIMEOUT
: A full-word giving the number of seconds after which Objects in the Active State may be automatically deleted from the store.

PASSIVE_TIMEOUT
: A full-word giving the number of seconds after which Objects in the Passive State may be automatically deleted from the store

RECOVERY
: YES indicates that the file should be recoverable. If it is not, FILE_RECOVERY_ERROR is returned. NO indicates that the file should not be recoverable. If it is then FILE_RECOVERY_ERROR is returned. If CICS is unable to determine whether the file is recoverable then FILE_RECOVERY_UNKNOWN is returned

  Values for the parameter are:
  `NO`
  `YES`

STORE_NAME
: The 8-character name of the Object Store

FILE_NAME
: Optional Parameter

  The optional 8-character name of the file to be inquired. If omitted then the default file 'DFHEJOS' will be used.

Output Parameters

REASON
: The values for the parameter are:
  `ABEND`
  `CICS_TERMINATING`
  `CTL_REC_FULL_ERROR`
  `FILE_CONNECT_ERROR`

FILE_CORRUPT_ERROR
FILE_FULL_ERROR
FILE_IO_ERROR
FILE_KEY_LENGTH_ERROR
FILE_NOT_FOUND
FILE_REC_SIZE_ERROR
FILE_RECOVERY_ERROR
FILE_RECOVERY_UNKNOWN
INVALID_OBJECT_TIMEOUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJOS gate, REMOVE_OBJECT function

The REMOVE_OBJECT function of the EJOS gate is called to remove an object instance from the specified object store.

Input Parameters

KEY_BLOCK
A block giving the key of the Object being inquired

STORE_NAME
The 8-character name of the Object Store

Output Parameters

REASON
The values for the parameter are:
ABEND
FILE_CONNECT_ERROR
FILE_CORRUPT_ERROR
FILE_IO_ERROR
FILE_KEY_LENGTH_ERROR
FILE_NOT_FOUND
INVALID_KEYLENGTH
OBJECT_NOT_FOUND
STORE_NOT_OPEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJOS gate, REMOVE_STORE function

The REMOVE_STORE function of the EJOS gate is called to Remove one or all Object Stores from the specified file. When a Store is removed, it should be removed or closed in every region in which it is open. If not, then data may be lost.

Input Parameters

ALL
Specifies that all Object Stores should be removed. Specify the ALL or the STORE_NAME parameter, but not both.

STORE_NAME
The 8-character name of the Object Store

FILE_NAME
Optional Parameter

The optional 8-character name of the file to be inquired. If omitted then the default file 'DFHEJOS' will be used.

Output Parameters

REASON
The values for the parameter are:
ABEND
FILE_CONNECT_ERROR
FILE_CORRUPT_ERROR
FILE_IO_ERROR
FILE_KEY_LENGTH_ERROR
FILE_NOT_FOUND
STORE_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJOS gate, STORE_OBJECT function

The STORE_OBJECT function of the EJOS gate is called to Store an Object instance.

The Object is identified by a KEY of from 1 to (*recordsize* - 64) bytes, and the Object can be of any size. If no Object with that key exists in the store then one is created in the Passive state. If an Object with the same key already exists in the Store, then the action depends on the value of the REPLACE parameter. An exception OBJECT_IS_ACTIVE or OBJECT_IS_PASSIVE indicates why an object was not replaced.

Input Parameters

KEY_BLOCK
A block giving the key of the Object being inquired

OBJECT_BLOCK
A block containing the Object data to be stored

REPLACE
Yes means that an Object with the same key will be replaced. NO means that an Object with the same key will not be replaced. ACTIVE means that an ACTIVE Object with the same key is replaced. PASSIVE means that a PASSIVE Object with the same key is replaced.

Values for the parameter are:
ACTIVE
NO
PASSIVE
YES

STORE_NAME
The 8-character name of the Object Store

Output Parameters

REASON
The values for the parameter are:
ABEND
FILE_CONNECT_ERROR
FILE_CORRUPT_ERROR
FILE_FULL_ERROR
FILE_IO_ERROR
FILE_KEY_LENGTH_ERROR
FILE_NOT_FOUND

INVALID_KEYLENGTH
OBJECT_IS_ACTIVE
OBJECT_IS_PASSIVE
STORE_NOT_OPEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJSO gate, AMEND_CORBASERVER function

The AMEND_CORBASERVER function of the EJSO gate is used by the EJ domain to update TCPIP parameters that are also kept in the corba server after resolution time. This function is only used by DFHEJCG RESOLVE_CORBASERVER.

Input Parameters

CORBASERVER
Name of the CorbaServer to be Browsed

ASSERTED_HASH
Optional Parameter

A fullword created by the sockets domain to represent the TCPIPSERVICE named in the ASSERTED attribute of the CORBASERVER.. It is used to check that the TCPIPSERVICE in the listener region has the same attributes as the one in the AOR.

ASSERTED_PORT
Optional Parameter

A fullword containing the port number of the TCPIPSERVICE named in the ASSERTED attribute of the CORBASERVER.

ASSERTED_PRIVACY
Optional Parameter

An enumerated type taken from the TCPIPSERVICE named in the ASSERTED attribute of the CORBASERVER.

Values for the parameter are:
NOTSUPPORTED
REQUIRED
SUPPORTED

ASSERTED_SSL
Optional Parameter

An enumerated type taken from the TCPIPSERVICE named in the ASSERTED attribute of the CORBASERVER.

Values for the parameter are:
CLIENTAUTH

BASIC_HASH
Optional Parameter

A fullword created by the sockets domain to represent the TCPIPSERVICE named in the BASIC attribute of the CORBASERVER. It is used to check that the TCPIPSERVICE in the listener region has the same attributes as the one in the AOR.

BASIC_PORT
Optional Parameter

A fullword containing the port number of the TCPIPSERVICE named in the BASIC attribute of the CORBASERVER.

BASIC_PRIVACY
Optional Parameter

An enumerated type taken from the TCPIPSERVICE named in the BASIC attribute of the CORBASERVER.

Values for the parameter are:
`NOTSUPPORTED`
`REQUIRED`
`SUPPORTED`

BASIC_SSL
Optional Parameter

An enumerated type taken from the TCPIPSERVICE named in the BASIC attribute of the CORBASERVER.

Values for the parameter are:
`CLIENTAUTH`
`YES`

CLIENTCERT_HASH
Optional Parameter

A fullword created by the sockets domain to represent the TCPIPSERVICE named in the CLIENTCERT attribute of the CORBASERVER. It is used to check that the TCPIPSERVICE in the listener region has the same attributes as the one in the AOR.

CLIENTCERT_PORT
Optional Parameter

A fullword containing the port number of the TCPIPSERVICE named in the CLIENTCERT attribute of the CORBASERVER.

CLIENTCERT_PRIVACY
Optional Parameter

An enumerated type taken from the TCPIPSERVICE named in the CLIENTCERT attribute of the CORBASERVER.

Values for the parameter are:
`NOTSUPPORTED`
`REQUIRED`
`SUPPORTED`

CLIENTCERT_SSL
Optional Parameter

An enumerated type taken from the TCPIPSERVICE named in the CLIENTCERT attribute of the CORBASERVER.

Values for the parameter are:
`CLIENTAUTH`

SSLUNAUTH_HASH
Optional Parameter

A fullword created by the sockets domain to represent the TCPIPSERVICE named in the SSLUNAUTH attribute of the CORBASERVER. It is used to check that the TCPIPSERVICE in the listener region has the same attributes as the one in the AOR.

SSLUNAUTH_PORT
Optional Parameter

A fullword containing the port number of the TCPIPSERVICE named in the SSLUNAUTH attribute of the CORBASERVER.

SSLUNAUTH_PRIVACY
Optional Parameter

An enumerated type taken from the TCPIPSERVICE named in the SSLUNAUTH attribute of the CORBASERVER.

Values for the parameter are:
`NOTSUPPORTED`
`REQUIRED`
`SUPPORTED`

SSLUNAUTH_SSL
Optional Parameter

An enumerated type of clientauth taken from the TCPIPSERVICE named in the SSLUNAUTH attribute of the CORBASERVER.

Values for the parameter are:
`CLIENTAUTH`
`YES`

UNAUTH_HASH
Optional Parameter

A fullword created by the sockets domain to represent the TCPIPSERVICE named in the UNAUTH attribute of the CORBASERVER. It is used to check that the TCPIPSERVICE in the listener region has the same attributes as the one in the AOR.

UNAUTH_PORT
Optional Parameter

A fullword containing the port number of the TCPIPSERVICE named in the UNAUTH attribute of the CORBASERVER.

UNAUTH_PRIVACY
Optional Parameter

An enumerated type taken from the TCPIPSERVICE named in the UNAUTH attribute of the CORBASERVER.

Values for the parameter are:
`NOTSUPPORTED`
`REQUIRED`
`SUPPORTED`

UNAUTH_SSL
Optional Parameter

An enumerated type taken from the TCPIPSERVICE named in the UNAUTH attribute of the CORBASERVER.

Values for the parameter are:
`CLIENTAUTH`
`NO`
`YES`

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`CORBASERVER_ABSENT`
`EJB_INACTIVE`
`LOCK_ERROR`
`SETUP_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EJSO gate, INQUIRE_CORBASERVER function

The INQUIRE_CORBASERVER function of the EJSO gate is used by the EJ domain to find any TCPIP parameters that are also kept in the corba server after resolution time. This function is used by JAVA code and normal CICS code.

Input Parameters

CORBASERVER
Name of the CorbaServer to be Browsed

Output Parameters

REASON
The values for the parameter are:
```
ABEND
CORBASERVER_ABSENT
EJB_INACTIVE
LOCK_ERROR
SETUP_ERROR
```
RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ASSERTED_HASH
Optional Parameter

A fullword created by the sockets domain to represent the TCPIPSERVICE named in the ASSERTED attribute of the CORBASERVER.. It is used to check that the TCPIPSERVICE in the listener region has the same attributes as the one in the AOR.

ASSERTED_PORT
Optional Parameter

A fullword containing the port number of the TCPIPSERVICE named in the ASSERTED attribute of the CORBASERVER.

ASSERTED_PRIVACY
Optional Parameter

An enumerated type taken from the TCPIPSERVICE named in the ASSERTED attribute of the CORBASERVER.

Values for the parameter are:
```
NOTSUPPORTED
REQUIRED
SUPPORTED
```
ASSERTED_SSL
Optional Parameter

An enumerated type taken from the TCPIPSERVICE named in the ASSERTED attribute of the CORBASERVER.

Values for the parameter are:
```
CLIENTAUTH
```
BASIC_HASH
Optional Parameter

A fullword created by the sockets domain to represent the TCPIPSERVICE named in the BASIC attribute of the CORBASERVER. It is used to check that the TCPIPSERVICE in the listener region has the same attributes as the one in the AOR.

BASIC_PORT
Optional Parameter

A fullword containing the port number of the TCPIPSERVICE named in the BASIC attribute of the CORBASERVER.

BASIC_PRIVACY
Optional Parameter

An enumerated type taken from the TCPIPSERVICE named in the BASIC attribute of the CORBASERVER.

Values for the parameter are:
`NOTSUPPORTED`
`REQUIRED`
`SUPPORTED`

BASIC_SSL
Optional Parameter

An enumerated type taken from the TCPIPSERVICE named in the BASIC attribute of the CORBASERVER.

Values for the parameter are:
`CLIENTAUTH`
`YES`

CLIENTCERT_HASH
Optional Parameter

A fullword created by the sockets domain to represent the TCPIPSERVICE named in the CLIENTCERT attribute of the CORBASERVER. It is used to check that the TCPIPSERVICE in the listener region has the same attributes as the one in the AOR.

CLIENTCERT_PORT
Optional Parameter

A fullword containing the port number of the TCPIPSERVICE named in the CLIENTCERT attribute of the CORBASERVER.

CLIENTCERT_PRIVACY
Optional Parameter

An enumerated type taken from the TCPIPSERVICE named in the CLIENTCERT attribute of the CORBASERVER.

Values for the parameter are:
`NOTSUPPORTED`
`REQUIRED`
`SUPPORTED`

CLIENTCERT_SSL
Optional Parameter

An enumerated type taken from the TCPIPSERVICE named in the CLIENTCERT attribute of the CORBASERVER.

Values for the parameter are:
`CLIENTAUTH`

SSLUNAUTH_HASH
Optional Parameter

A fullword created by the sockets domain to represent the TCPIPSERVICE named in the SSLUNAUTH attribute of the CORBASERVER. It is used to check that the TCPIPSERVICE in the listener region has the same attributes as the one in the AOR.

SSLUNAUTH_PORT
Optional Parameter

A fullword containing the port number of the TCPIPSERVICE named in the SSLUNAUTH attribute of the CORBASERVER.

SSLUNAUTH_PRIVACY
Optional Parameter

An enumerated type taken from the TCPIPSERVICE named in the SSLUNAUTH attribute of the CORBASERVER.

Values for the parameter are:
`NOTSUPPORTED`
`REQUIRED`
`SUPPORTED`

SSLUNAUTH_SSL
Optional Parameter

An enumerated type of clientauth taken from the TCPIPSERVICE named in the SSLUNAUTH attribute of the CORBASERVER.

Values for the parameter are:
`CLIENTAUTH`
`YES`

UNAUTH_HASH
Optional Parameter

A fullword created by the sockets domain to represent the TCPIPSERVICE named in the UNAUTH attribute of the CORBASERVER. It is used to check that the TCPIPSERVICE in the listener region has the same attributes as the one in the AOR.

UNAUTH_PORT
Optional Parameter

A fullword containing the port number of the TCPIPSERVICE named in the UNAUTH attribute of the CORBASERVER.

UNAUTH_PRIVACY
Optional Parameter

An enumerated type taken from the TCPIPSERVICE named in the UNAUTH attribute of the CORBASERVER.

Values for the parameter are:
`NOTSUPPORTED`
`REQUIRED`
`SUPPORTED`

UNAUTH_SSL
Optional Parameter

An enumerated type taken from the TCPIPSERVICE named in the UNAUTH attribute of the CORBASERVER.

Values for the parameter are:
`CLIENTAUTH`
`NO`
`YES`

Enterprise Java domain's generic gates

Table 46 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 46. Enterprise Java domain's generic gates

Gate	Trace	Functions	Format
EJDM	EJ 01*nn*	INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM
EJST	EJ 04*nn*	COLLECT_STATISTICS COLLECT_RESOURCE_STATS	STST

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

"Statistics domain's generic formats" on page 1777

Modules

Module	Function
DFHEJBB	Bean Browse EJBB Gate
DFHEJBG	Bean General EJBG Gate
DFHEJCB	CorbaServer Browse EJCB Gate
DFHEJCG	CorbaServer General EJCG Gate
DFHEJCP	Command Processor functions EJCP Gate
DFHEJDB	DJar Browse EJDB Gate
DFHEJDG	DJar General EJDG Gate
DFHEJDI	EJB Directory EJDI Gate
DFHEJDM	EJ Initialize/Terminate EJDM Gate
DFHEJDU	EJ Dump Interface EJDU Gate
DFHEJGE	EJ General Initialization/Termination functions EJGE Gate
DFHEJIO	CEJR Resolution EJIO Gate
DFHEJJO	Jave Interface EJJO Gate
DFHEJMI	Method Information function EJMI Gate
DFHEJOB	Object Store Browse EJOB Gate
DFHEJOS	Object Store General EJOS Gate
DFHEJST	Statistics General EJST Gate

Chapter 80. Event Manager Domain (EM)

The event manager domain manages event and timer objects created within CICS BTS activities.

For further information regarding these objects see *CICS Business Transaction Services*.

Event Manager Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the EM domain.

EMBR gate, END_BROWSE_EVENT function

The END_BROWSE_EVENT function ends the event browse identified by the browse token.

Input Parameters

BROWSE_TOKEN
is a token which identifies the browse.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
INVALID_BROWSE_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EMBR gate, END_BROWSE_TIMER function

The END_BROWSE_TIMER function ends the timer browse identified by the browse token.

Input Parameters

BROWSE_TOKEN
is a token which identifies the browse.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
INVALID_BROWSE_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EMBR gate, GET_NEXT_EVENT function

The GET_NEXT_EVENT function returns the next name in the browse specified by the browse token, and returns the attributes associated with the event.

Input Parameters

BROWSE_TOKEN
is a token which identifies the browse.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`BROWSE_END`
`INVALID_BROWSE_TOKEN`

EVENT
is the name of the retrieved reattach event.

EVENT_TYPE
is the type of the retrieved reattach event.

Values for the parameter are:
`ACTIVITY`
`COMPOSITE`
`INPUT`
`SYSTEM`
`TIMER`

FIRED
returns the fire status of the event.

Values for the parameter are:
`NO`
`YES`

PARENT
is the name of the parent (if the event is a subevent).

PREDICATE
is the predicate type (for composite events only).

Values for the parameter are:
`AND`
`OR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TIMER_NAME
is the name of the associated timer (if the event is of type timer).

EMBR gate, GET_NEXT_TIMER function

The GET_NEXT_TIMER function returns the next name in the browse specified by the browse token, and returns the attributes associated with the timer.

Input Parameters

BROWSE_TOKEN
is a token which identifies the browse.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`BROWSE_END`
`INVALID_BROWSE_TOKEN`

ABSTIME
returns the timer's expiry time in ABSTIME format.

EVENT
is the name of the retrieved reattach event.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TIMER_NAME
is the name of the associated timer (if the event is of type timer).

TIMER_STATUS
returns the status of the timer.

Values for the parameter are:
```
EXPIRED
FORCED
UNEXPIRED
```

EMBR gate, INQUIRE_EVENT function

The INQUIRE_EVENT function returns information about the named event.

Input Parameters

EVENT
is the name of the composite event.

ACTIVITY_ID
Optional Parameter

is an optional activity id for the activity whose event pool is to be browsed.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
```
EVENT_NOT_FOUND
FILE_NOT_AUTH
FILE_UNAVAILABLE
INVALID_ACTIVITY_ID
NO_CURRENT_ACTIVITY
READ_FAILURE
```

EVENT_TYPE
is the type of the retrieved reattach event.

Values for the parameter are:
```
ACTIVITY
COMPOSITE
INPUT
SYSTEM
TIMER
```

FIRED
returns the fire status of the event.

Values for the parameter are:
```
NO
YES
```

PARENT
is the name of the parent (if the event is a subevent).

PREDICATE
is the predicate type (for composite events only).

Values for the parameter are:
```
AND
OR
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TIMER_NAME
is the name of the associated timer (if the event is of type timer).

EMBR gate, INQUIRE_TIMER function

The INQUIRE_TIMER function returns information about the named timer.

Input Parameters

TIMER_NAME
is the name of the timer.

ACTIVITY_ID
Optional Parameter

is an optional activity id for the activity whose event pool is to be browsed.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
FILE_NOT_AUTH
FILE_UNAVAILABLE
INVALID_ACTIVITY_ID
NO_CURRENT_ACTIVITY
READ_FAILURE
TIMER_NOT_FOUND
```

ABSTIME
returns the timer's expiry time in ABSTIME format.

EVENT
is the name of the retrieved reattach event.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TIMER_STATUS
returns the status of the timer.

Values for the parameter are:

```
EXPIRED
FORCED
UNEXPIRED
```

EMBR gate, START_BROWSE_EVENT function

The START_BROWSE_EVENT function starts an event browse and returns a token to be used for the browse.

Input Parameters

ACTIVITY_ID
Optional Parameter

is an optional activity id for the activity whose event pool is to be browsed.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
FILE_NOT_AUTH
FILE_UNAVAILABLE
```

INVALID_ACTIVITY_ID
NO_CURRENT_ACTIVITY
READ_FAILURE

BROWSE_TOKEN
returns a token which is used to identify the browse.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EMBR gate, START_BROWSE_TIMER function

The START_BROWSE_TIMER function starts a timer browse and returns a token to be used for the browse.

Input Parameters

ACTIVITY_ID
Optional Parameter

is an optional activity id for the activity whose event pool is to be browsed.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

FILE_NOT_AUTH
FILE_UNAVAILABLE
INVALID_ACTIVITY_ID
NO_CURRENT_ACTIVITY
READ_FAILURE

BROWSE_TOKEN
returns a token which is used to identify the browse.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EMEM gate, ADD_SUBEVENT function

The ADD_SUBEVENT function adds a subevent to an existing composite event.

Input Parameters

EVENT
is the name of the composite event.

SUBEVENT
is the name of the subevent.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

EVENT_NOT_FOUND
INVALID_EVENT_TYPE
INVALID_SUBEVENT
NO_CURRENT_ACTIVITY
SUBEVENT_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EMEM gate, CHECK_TIMER function

The CHECK_TIMER function returns the status of a timer.

Input Parameters

TIMER_NAME
is the name of the timer.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
NO_CURRENT_ACTIVITY
TIMER_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TIMER_STATUS
returns the status of the timer.

Values for the parameter are:
EXPIRED
FORCED
UNEXPIRED

EMEM gate, DEFINE_ATOMIC_EVENT function

The DEFINE_ATOMIC_EVENT function defines an atomic event of type ACTIVITY or INPUT.

Input Parameters

EVENT
is the name of the composite event.

EVENT_TYPE
is the type of the event.

Values for the parameter are:
ACTIVITY
INPUT

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
DUPLICATE_EVENT
INVALID_EVENT_NAME
NO_CURRENT_ACTIVITY

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EMEM gate, DEFINE_COMPOSITE_EVENT function

The DEFINE_COMPOSITE_EVENT function defines a composite event with an associated predicate which may be AND or OR. Up to eight subevents may be provided.

Input Parameters

EVENT
is the name of the composite event.

PREDICATE
is the predicate type.

Values for the parameter are:
`AND`
`OR`

SUBEVENT_LIST
Optional Parameter

is an optional list of up to 8 subevents.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`DUPLICATE_EVENT`
`INVALID_EVENT_NAME`
`INVALID_SUBEVENT`
`NO_CURRENT_ACTIVITY`
`SUBEVENT_NOT_FOUND`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SUBEVENT_IN_ERROR
returns the number of the first subevent which is in error (if any).

EMEM gate, DEFINE_TIMER function

The DEFINE_TIMER function defines a timer.

Input Parameters

TIMER_NAME
is the name of the timer.

AFTER
Optional Parameter

indicates whether or not the timer is an interval.

Values for the parameter are:
`NO`
`YES`

AT Optional Parameter

indicates whether or not the timer is a time.

Values for the parameter are:
`NO`
`YES`

DAYOFMONTH
Optional Parameter

is the day of the month.

DAYOFYEAR
Optional Parameter

is the day of the year.

DAYS
Optional Parameter

is the number of days for an interval.

EVENT
Optional Parameter

is the name of the composite event.

HOURS
Optional Parameter

is the number of hours for an interval or time.

MINUTES
Optional Parameter

is the number of minutes for an interval or time.

MONTH
Optional Parameter

is the month.

ON Optional Parameter

indicates whether or not a date has been specified.

Values for the parameter are:
`NO`
`YES`

SECONDS
Optional Parameter

is the number of seconds for an interval or time.

YEAR
Optional Parameter

is the year.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`DUPLICATE_EVENT`
`DUPLICATE_TIMER`
`INVALID_EVENT_NAME`
`INVALID_INTERVAL`
`INVALID_TIME`
`INVALID_TIMER_NAME`
`NO_CURRENT_ACTIVITY`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EMEM gate, DELETE_EVENT function

The DELETE_EVENT function deletes an event.

Input Parameters

EVENT
is the name of the composite event.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`EVENT_NOT_FOUND`
`INVALID_EVENT_TYPE`
`NO_CURRENT_ACTIVITY`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EMEM gate, DELETE_TIMER function

The DELETE_TIMER function deletes a timer.

Input Parameters

`TIMER_NAME`
is the name of the timer.

Output Parameters

`REASON`
The following values are returned when RESPONSE is EXCEPTION:
`NO_CURRENT_ACTIVITY`
`TIMER_NOT_FOUND`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

EMEM gate, FIRE_EVENT function

The FIRE_EVENT function causes an event to fire.

Input Parameters

`EVENT`
is the name of the composite event.

`EVENT_VERSION`
Optional Parameter

is an optional version number for the event.

Output Parameters

`REASON`
The following values are returned when RESPONSE is EXCEPTION:
`ALREADY_FIRED`
`EVENT_NOT_FOUND`
`INVALID_EVENT_TYPE`
`NO_CURRENT_ACTIVITY`
`VERSION_NOT_FOUND`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

EMEM gate, FORCE_TIMER function

The FORCE_TIMER function causes a timer to expire early.

Input Parameters

`TIMER_NAME`
is the name of the timer.

`ACQUIRED_ACTIVITY`
Optional Parameter

indicates whether or not the timer to be forced is owned by the acquired activity.

Values for the parameter are:
`NO`
`YES`

`ACQUIRED_PROCESS`
Optional Parameter

indicates whether or not the timer to be forced is owned by the acquired process.

Values for the parameter are:
`NO`
`YES`

Output Parameters

`REASON`
The following values are returned when RESPONSE is EXCEPTION:
`INVALID_ACTIVITY`
`NO_ACQUIRED_ACTIVITY`
`NO_ACQUIRED_PROCESS`
`NO_CURRENT_ACTIVITY`
`TIMER_NOT_FOUND`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

EMEM gate, INQUIRE_STATUS function

The INQUIRE_STATUS function returns the status of the event pool for the current activity.

Output Parameters

`REASON`
The following values are returned when RESPONSE is EXCEPTION:
`NO_CURRENT_ACTIVITY`

`EVENTS_PROCESSED`
indicates whether any events were processed during this activation.

Values for the parameter are:
`NO`
`YES`

`PENDING_ACTIVITY_EVENTS`
indicates whether any activity events are pending.

Values for the parameter are:
`NO`
`YES`

`PENDING_EVENTS`
indicates whether any events are pending.

Values for the parameter are:
`NO`
`YES`

`REATTACH`
indicates whether the task should be reattached.

Values for the parameter are:
`NO`
`YES`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

EMEM gate, REMOVE_SUBEVENT function

The REMOVE_SUBEVENT function removes a subevent from the named composite event.

Input Parameters

EVENT
is the name of the composite event.

SUBEVENT
is the name of the subevent.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
```
EVENT_NOT_FOUND
INVALID_EVENT_TYPE
INVALID_SUBEVENT
NO_CURRENT_ACTIVITY
SUBEVENT_NOT_FOUND
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EMEM gate, RETRIEVE_REATTACH_EVENT function

The RETRIEVE_REATTACH_EVENT function retrieves the next event from the current activity's reattach queue.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
```
END_EVENTS
NO_CURRENT_ACTIVITY
```

EVENT
is the name of the retrieved reattach event.

EVENT_TYPE
is the type of the retrieved reattach event.

Values for the parameter are:
```
ACTIVITY
COMPOSITE
INPUT
SYSTEM
TIMER
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EMEM gate, RETRIEVE_SUBEVENT function

The RETRIEVE_SUBEVENT function retrieves the next event from the named composite event's subevent queue.

Input Parameters

EVENT
is the name of the composite event.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  - `END_SUBEVENTS`
  - `EVENT_NOT_FOUND`
  - `INVALID_EVENT_TYPE`
  - `NO_CURRENT_ACTIVITY`
  - `NO_SUBEVENTS`

EVENT_TYPE
: is the type of the retrieved reattach event.

  Values for the parameter are:
  - `ACTIVITY`
  - `INPUT`
  - `TIMER`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SUBEVENT
: is the name of the subevent.

EMEM gate, TEST_EVENT function

The TEST_EVENT function returns the fire status of the named event.

Input Parameters

EVENT
: is the name of the composite event.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  - `EVENT_NOT_FOUND`
  - `NO_CURRENT_ACTIVITY`

FIRED
: returns the fire status of the event.

  Values for the parameter are:
  - `NO`
  - `YES`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Event manager domain's generic gates

Table 47 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 47. Event manager domain's generic gates

Gate	Trace	Functions	Format
DMDM	EM 0101 EM 0102	INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM

Table 47. Event manager domain's generic gates (continued)

Gate	Trace	Functions	Format
EMBA	EM 0401 EM 0402	INQUIRE_DATA_LENGTH GET_DATA DESTROY_TOKEN	BAGD

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

"Business application manager domain's generic formats" on page 899

Modules

Module	Function
DFHEMBA	Handles the following requests: INQUIRE_DATA_LENGTH GET_DATA DESTROY_TOKEN
DFHEMBR	Handles the following requests: INQUIRE_EVENT START_BROWSE_EVENT GET_NEXT_EVENT END_BROWSE_EVENT INQUIRE_TIMER START_BROWSE_TIMER GET_NEXT_TIMER END_BROWSE_TIMER
DFHEMDM	Handles the following requests: INITIALIZE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN
DFHEMDUF	Formats the EM domain control blocks
DFHEMEM	Handles the following requests: ADD_SUBEVENT CHECK_TIMER DEFINE_ATOMIC_EVENT DEFINE_COMPOSITE_EVENT DEFINE_TIMER DELETE_EVENT DELETE_TIMER FIRE_EVENT FORCE_TIMER INQUIRE_STATUS REMOVE_SUBEVENT RESET_EVENT RETRIEVE_REATTACH_EVENT RETRIEVE_SUBEVENT TEST_EVENT
DFHEMTRI	Interprets EM domain trace entries

Chapter 81. Event processing domain (EP)

The Event processing domain manages events captured as a result of an installed event binding.

Event processing domain's specific gates

The specific gates provide access for other domains to functions that are provided by the EP domain.

EPAS gate, FORMAT_EVENT function

FORMAT_EVENT formats a CICS event object, in the form passed to an EP adapter by the EP dispatcher, into the EP event_format required. The formatted event is returned to the caller in one (or more in the case of CCE events) containers in the out_pool provided by the caller.

Input Parameters

event_format
The parameter which controls how the event is formatted.

The values of this parameter are:
WBE
CBE
CBER
CCE
CFE

in_pool_token
a container pool containing the CICS Event Object

out_pool_token
a container pool to contain the formatted event

container_name
The name of the data container, if applicable, in the formatted event container pool. This is not set for CCE events where the container pool IS the formatted event.

Output Parameters

REASON
The following value is returned when RESPONSE is DISASTER:
ABEND

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EPEV gate, PUT_EVENT function

PUT_EVENT puts an event on the event processing queue.

Input Parameters

ADAPTER_TYPE
Specifies the type of adapter for the event.

The values of this parameter are:
TSQ
CUSTOM
WMQ
XACTION
HTTP

CHANNEL_TOKEN
A token for the channel associated with the PUT_EVENT request.

CORRELATION_FACTOR
The unit of work ID (UOWID) used to correlate transactional events.

PRIORITY
Specifies the priority of the event.

The values of this parameter are:
HIGH
NORMAL

TRANSACTIONAL
Specifies whether the event is transactional, or not.

The values of this parameter are:
NO
YES

<TRANID>
The transaction ID for a custom adapter.

<USERID>
The user ID under which a custom adapter runs.

Output Parameters

REASON
The following value is returned when RESPONSE is EXCEPTION:
CHANNEL_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EPEV gate, SYNC_EVENT function

SYNC_EVENT performs commit processing for transactional events.

Input Parameters

ACTION
Specifies the type of SYNC_EVENT.

The values of this parameter are:
BACKOUT
COMMIT

CORRELATION_FACTOR
The unit of work ID (UOWID) used to correlate transactional events.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

EPIS gate, SET_EVENT_PROCESSING function

SET_EVENT_PROCESSING sets the status of event processing.

Input Parameters

STATUS
: Sets the status of event processing to be either enabled or disabled.

  The values of this parameter are:
  `ACTIVE`
  `INACTIVE`

<ACTION>
: Instructs the EP domain to either phase out or purge the events on the event queue.

  The values of this parameter are:
  `PHASEOUT`
  `PURGE`

Output Parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

Event processing domain's generic gates

Table 48 summarizes the Event processing domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gate, the functions provided by the gate, and the generic format for calls to the gate.

Table 48. Event processing domain's generic gates

Gate	Trace	Function	Format
EPDM			DMDM
	EP 0100	INITIALISE_DOMAIN	
	EP 0101	QUIESCE_DOMAIN	
		TERMINATE_DOMAIN	

Modules

Module	Function
DFHEPAS	EP domain adapter services
DFHEPDM	Domain initialization and termination program
DFHEPDS	EP dispatcher program
DFHEPDUF	EP domain dump formatting program
DFHEPIS	EP domain inquire and set program
DFHEPSS	EP domain statistics and monitoring program
DFHEPSY	EP queue manager program
DFHEPTRI	EP domain trace formatting program

Chapter 82. IP ECI (IE) domain

The IP ECI domain provides services that are used by the CICS EPI protocol over IP connections.

IP ECI domain's specific gates

The specific gates provide access for other domains to functions that are provided by the IE domain.

IEIE gate, PROCESS_ECI_FLOW function

Initiates processing of a flow from an ECI client, either by attaching a new mirror task, or by posting an existing mirror task.

Output Parameters

REASON
The values for the parameter are:
```
ABEND
FREEMAIN_FAILURE
INSTALL_FAILED
INVALID_FLOW
INVALID_FORMAT
INVALID_FUNCTION
NOT_INSTALLED
RECEIVE_FAILURE
SEND_FAILURE
```
RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IEIE gate, RECEIVE function

Receives input from an ECI client.

Output Parameters

REASON
The values for the parameter are:
```
ABEND
CLIENT_NOT_RESPONDING
FREEMAIN_FAILURE
INVALID_FORMAT
INVALID_FUNCTION
INVALID_REQUEST
REQUEST_PURGED
WAIT_FAILURE
```
BINARY_FORMAT
Optional Parameter

The binary format in which numeric data is represented.

Values for the parameter are:
```
BIG_ENDIAN
LITTLE_ENDIAN
```

CLIENT_CCSID
Optional Parameter

The Coded Character Set Identifier (CCSID) of the code page used by the client.

CLIENT_INDEX
Optional Parameter

Specifies the conversion table associated with the **CLIENT_CCSID** parameter.

CODEPAGE
The code page of the request

DATA_ADDRESS
The address of the buffer containing the data received.

DATA_LENGTH
The length of the data received.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IEIE gate, SEND function

Sends a reply to an ECI client.

Input Parameters

DATA_ADDRESS
The address of the buffer containing the data to be sent. DATA_LENGTH.

DATA_LENGTH
The length of the data to be sent.

LAST
This is the last send in this conversation, or not.

Values for the parameter are:

LAST_NO
LAST_YES

Output Parameters

REASON
The values for the parameter are:

ABEND
FREEMAIN_FAILURE
INVALID_FORMAT
INVALID_FUNCTION
INVALID_REQUEST
REQUEST_PURGED
SEND_FAILURE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IEIE gate, SEND_ERROR function

Sends an FMH7 to an ECI client.

Input Parameters

MESSAGE_NUMBER
The number of the IE component message to be sent to the client.

INSERT1
Optional Parameter

The first message insert

INSERT2
: Optional Parameter

  The second message insert

INSERT3
: Optional Parameter

  The third message insert

INSERT4
: Optional Parameter

  The fourth message insert

Output Parameters

REASON
: The values for the parameter are:

  ABEND
  FREEMAIN_FAILURE
  INVALID_FORMAT
  INVALID_FUNCTION
  INVALID_REQUEST
  SEND_FAILURE

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IP ECI domain's generic gates

Table 49 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 49. IP ECI domain's generic gates

Gate	Trace	Functions	Format
DMDM	IE 0100 IE 0101	INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

Modules

Module	Function
DFHIEDM	IE domain initialization and termination.
DFHIEIE	The main part of IE domain. Processes all DFHIEIE_GATE functions.

Chapter 83. IIOP domain (II)

The IIOP domain represents the non-Java portion of the IIOP EJB support, encompassing the request receiver, request handler, request processor, request models, and command processor.

IIOP domain's specific gates

The specific gates provide access for other domains to functions that are provided by the II domain.

IICP gate, ABSTRACT function

The purpose of this function is to link to DFJIIRQ passing the incoming parameter list.

The parameter list contains:
- The "normal" domain parameter list
- The address of the parameter list
- The length of the entire parameter list (including the address, this length field, and any following blocks and buffers
- The contents of any blocks and buffers.

Input Parameters

LOGICAL_SERVER
The 4–character name of the logical server

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IICP gate, ADD_LOGICAL_SERVER function

Add a new logical server to the II domain and catalogs it. If a definition with the same name already exists it is replaced.

There is no cross checking between logical servers; we allow two or more logical servers to have the same attributes, provided they are valid.

The function is called by the RDO install code.

Input Parameters

LOGICAL_SERVER
The 4–character name of the logical server

SHELF
The 1–255 character fully-qualified name of a directory (a shelf, primarily for deployed JAR files)

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`SHELF_ACCESS_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IICP gate, DELETE_LOGICAL_SERVER function

Deletes an installed logical server definition from the II domain and from the Catalog.

This function is called by the SPI Exec Interface layer as part of discard EJBContainer processing.

Input Parameters

LOGICAL_SERVER
The 4–character name of the logical server

SHELF
The 1–255 character fully-qualified name of a directory (a shelf, primarily for deployed JAR files)

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
NOT_FOUND
SHELF_ACCESS_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IICP gate, DISCARD_DJAR function

Remove the definition of a specified deployed JAR file from the system, together with any associated beans.

Input Parameters

CORBASERVER
The 1-4 character name of the CorbaServer in which the DJAR is installed

DJAR
The 8-character name of the DJAR

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
SHELF_ACCESS_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IICP gate, DJAR_SCAN function

Scan a CorbaServer's deployed JAR file directory (also known as the pickup directory) for new or updated deployed JAR files.

Input Parameters

CORBASERVER
The 1–4 character name of the CorbaServer

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`DJARDIR_ACCESS_ERROR`
`HFS_ACCESS_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IICP gate, INSTALL_DJAR function

Install a deployed Java archive (DJAR)

Input Parameters

CORBASERVER
The 1-4 character name of the CorbaServer in which the DJAR is installed

DJAR
The 8-character name of the DJAR

HFSFILE
The 1-255 character fully-qualified file name of the DJAR in the UNIX file system.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`CONTAINER_ERROR`
`HFS_ACCESS_ERROR`
`HFSFILE_NOT_FOUND`
`SHELF_ACCESS_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IICP gate, PRE_INSTALL_DJAR function

This function is called by the EJ domain code when a deployed Java archive (DJAR) is installed. It copies the HFSFILE that contains the DJAR onto the shelf.

The Java Container should create a copy of the DJAR file on the shelf for the associated CORBASERVER.

When the EJ domain makes this call, it expects to be called back on its EJJO gate with the INQUIRE_CORBASERVER and INQUIRE_DJAR functions. Accordingly, the DJAR must be available for inquiries.

Input Parameters

CORBASERVER
The 1-4 character name of the CorbaServer in which the DJAR is installed

DJAR
The 8-character name of the DJAR

HFSFILE
The 1-255 character fully-qualified file name of the DJAR in the UNIX file system.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`CONTAINER_ERROR`
`HFS_ACCESS_ERROR`
`HFSFILE_NOT_FOUND`
`SHELF_ACCESS_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IICP gate, PUBLISH_CORBASERVER function

Publish the beans installed in a CorbaServer.

Input Parameters

CORBASERVER
The 4–character name of the CorbaServer.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`CONTAINER_ERROR`
`HFS_ACCESS_ERROR`
`JNDI_ACCESS_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IICP gate, PUBLISH_DJAR function

Publish the beans installed from a deployed Java archive (DJAR).

Input Parameters

CORBASERVER
The 1-4 character name of the CorbaServer in which the DJAR is installed

DJAR
The 8-character name of the DJAR

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`CONTAINER_ERROR`
`HFS_ACCESS_ERROR`
`JNDI_ACCESS_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IICP gate, PUBLISH_LOGICAL_SERVER function

Publish the beans installed in a logical server.

Input Parameters

LOGICAL_SERVER
The 4–character name of the logical server

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`JNDI_ERROR`
`NOT_FOUND`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IICP gate, RETRACT_CORBASERVER function

Retract all the beans installed in a CorbaServer.

Input Parameters

CORBASERVER
The 4–character name of the CorbaServer.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`HFS_ACCESS_ERROR`
`JNDI_ACCESS_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IICP gate, RETRACT_DJAR function

Retract all the beans installed in a deployed Java archive (DJAR).

Input Parameters

CORBASERVER
The 1-4 character name of the CorbaServer in which the DJAR is installed

DJAR
The 8-character name of the DJAR

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
HFS_ACCESS_ERROR
JNDI_ACCESS_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IICP gate, RETRACT_LOGICAL_SERVER function

Retract all the beans installed in a logical server.

Input Parameters

LOGICAL_SERVER
The 4–character name of the logical server

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
JNDI_ERROR
NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IIMM gate, ADD_REPLACE_RQMODEL function

The ADD_REPLACE_RQMODEL function of the IIMM gate is used to install or delete and install a request model.

Input Parameters

CATALOG
Indicates if the request model is to be added to the catalog.

Values for the parameter are:
NO
YES

CORBASERVER
Name of the corbaserver for this request model.

MODEL_TYPE
The type of request model.

Values for the parameter are:
CORBA
EJB
GENERIC

OPERATION_PATTERN
A name that matches the IDL operation or a Java-to-IDL mangled representation of the bean or CORBA stateless object's method signature.

RQMODEL_NAME
The name of the request model

TRANID
The name of the CICS transaction to be used when a new request processor transaction instance is required to process a method request matching the specification of the REQUESTMODEL.

BEAN_PATTERN
Optional Parameter

A name that matches the name of the enterprise bean in the XML deployment descriptor.

INTERFACE_PATTERN
Optional Parameter

A name that matches the IDL interface name.

INTERFACE_TYPE
Optional Parameter

The Java interface type for this REQUESTMODEL.

Values for the parameter are:
- BOTH
- HOME
- REMOTE

MODULE_PATTERN
Optional Parameter

A name that matches the IDL module name (which defines the name scope of the interface and operation).

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- DUPLICATE_PATTERN
- INVALID_NAME

DUPLICATE_MODEL_NAME
If RESPONSE(EXCEPTION), REASON(DUPLICATE_PATTERN) is returned, this parameter returns the name of the existing model that has the same matching pattern.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IIMM gate, COMMIT_RQMODELS function

The COMMIT_RQMODELS function of the IIMM gate is used to commit the request model to the catalog.

Input Parameters

COMMIT_TOKEN
Token for catalog writes.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
- CATALOG_WRITE_FAILED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IIMM gate, DELETE_RQMODEL function

The DELETE_RQMODEL function of the IIMM gate is used to delete an installed request model.

Input Parameters

RQMODEL_NAME
The name of the request model to be deleted.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`NOT_FOUND`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IIRH gate, FIND_REQUEST_STREAM function

The FIND_REQUEST_STREAM function of the IIRH gate is used to examine the incoming GIOP request and to find a new or existing request stream using request models and the directory.

Input Parameters

REQUEST_BLOCK
Address and length of the GIOP Request - the block must contain the whole of the request header. It need not contain the body.

AUTHENTICATION_TYPE
Optional Parameter

An enumerated type containing the TCPIPSERVICE AUTHENTICATION value - in other words, what sort of security context is expected.

Values for the parameter are:
`ASSERTED`
`BASIC`
`CERTIFICATE`
`KERBEROS`
`NONE`
`SSLUNAUTH`

FORCE_CREATE
Optional Parameter

YES indicates that IIRH must CREATE a new request stream. NO indicates that normal logic is used to see if a request stream exists and to JOIN it if it does or CREATE a new one if it does not.

Values for the parameter are:
`NO`
`YES`

URM_COMMAREA_BLOCK
Optional Parameter

Storage used as input to the security user-replaceable program.

URMNAME
Optional Parameter

The name of the security user-replaceable program.

USERID
Optional Parameter

The userid to be used by the ORB.

VAULT_PTR_ADDR
Optional Parameter

The address of the start of the vault chain. The vault contains sessionID to userid mappings and is added to, looked up in if the security context is BASIC.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`

The following values are returned when RESPONSE is EXCEPTION:
`INVALID_ADDRDISP`
`INVALID_OBJECT_KEY`
`NO_OBJECT_KEY`
`NO_SECURITY_CONTEXT`
`NO_TAGGED_PROFILE`
`OTTID_NULL_COORD`
`REQUEST_ERROR`
`SECURITY_CHECK_FAILED`
`SERVICE_NOT_AVAILABLE`
`URM_DENIED_PERMISSION`
`URM_USERID_NOTAUTH`

REQUEST_STREAM_TOKEN
The token, representing the request stream, to be used as input for the SEND_REQUEST.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RESULT
Indicates whether the request stream was joined or created.

Values for the parameter are:
`CREATED`
`JOINED`

LOGICAL_SERVER
Optional Parameter

The logical server (CorbaServer) that the request stream will use

SECURITY_CONTEXT
Optional Parameter

The security context specified in the GIOP request

SERVICE_CONTEXTS
Optional Parameter

The service contexts specified in the GIOP request

STRING
Optional Parameter

If an exception response is returned, STRING contains an enumerated type to be used in the STRING section of the system exception written to the client by DFHIIRR: for example, if the STRING returned is NO_PERMISSION, then the string NO_PERMISSION is added to the system_exception reply.

Values for the parameter are:
INTERNAL
MARSHAL
NO_PERMISSION

TARGET_APPLID
Optional Parameter

The APPLID of the CICS region to which the request is routed.

IIRH gate, PARSE function

The PARSE function of the IIRH gate is used to examine the incoming GIOP request or reply and to return selected information in the output parameters.

Input Parameters

REQUEST_BLOCK
Address and length of the GIOP Request/reply - the block must contain the whole of the request/reply header. It need not contain the body.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND

The following values are returned when RESPONSE is EXCEPTION:
INVALID_ADDRDISP
INVALID_OBJECT_KEY
REQUEST_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CODESET_CONTEXT
Optional Parameter

This is a block containing a pointer to and the length of the named context if it exists within the request or reply. The pointer and length are set to 0 if the context does not exist.

CONNECTION_CONTEXT
Optional Parameter

This is a block containing a pointer to and the length of the named context if it exists within the request or reply. The pointer and length are set to 0 if the context does not exist.

REDIRECTION_CONTEXT
Optional Parameter

This is a block containing a pointer to and the length of the named context if it exists within the request or reply. The pointer and length are set to 0 if the context does not exist.

REPLY_STATUS
Optional Parameter

The reply status extracted from a reply header.

Values for the parameter are:

LOC_NEEDS_ADDRESSING
LOC_SYSTEM_EXCEPTION
LOCATION_FORWARD
LOCATION_FORWARD_PERM
NEEDS_ADDRESSING_MODE
NO_EXCEPTION
OBJECT_FORWARD
OBJECT_FORWARD_PERM
OBJECT_HERE
SYSTEM_EXCEPTION
UNKNOWN_OBJECT
USER_EXCEPTION

REQUESTID
Optional Parameter

The *requestId* extracted from the request or reply header.

RESPONSE_EXPECTED
Optional Parameter

Indicates if the response_expected bit is on in the request header.

Values for the parameter are:
NO
YES

SENDING_CONTEXT
Optional Parameter

This is a block containing a pointer to and the length of the named context if it exists within the request or reply. The pointer and length are set to 0 if the context does not exist.

SERVICE_CONTEXTS
Optional Parameter

The service contexts specified in the GIOP request

TRACKING_CONTEXT
Optional Parameter

This is a block containing a pointer to and the length of the named context if it exists within the request or reply. The pointer and length are set to 0 if the context does not exist.

IIRP gate, GET_INITIAL_DATA function

The GET_INITIAL_DATA function of the IIRP gate is used by the ORB program DFJIIRP (or its CICS-key equivalent DFJIIRQ) to set up an environment to allow it to issue further IIRP requests and to return the output parameters below.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
ERROR_REENTERED

The following values are returned when RESPONSE is EXCEPTION:
NO_PUBLIC_ID
NO_SERVER_DATA
REQUEST_STREAM_NOT_CURRENT

PUBLIC_ID
The public_id that identifies the request stream for the incoming request.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RP_TOKEN
A token to allow further calls for the same Request Processor

SERVER_NAME
The name of the CORBA server held by the request stream for the incoming request.

IIRP gate, INITIALISE function

The INITIALISE function of the IIRP gate is used by the ORB program DFJIIRP (or its CICS-key equivalent DFJIIRQ) to set up an environment to allow it to issue further IIRP requests. This is used during COMMAND PROCESSING. For example when DFJIIRQ is processing an ADD_CORBASERVER command.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`ERROR_REENTERED`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RP_TOKEN
A token to allow further calls for the same Request Processor.

IIRP gate, INVOKE function

The INVOKE function of the IIRP gate is used by the ORB program DFJIIRP (or its CICS-key equivalent DFJIIRQ) to send an outbound request and to receive its reply.

Input Parameters

CONTINUE
YES | NO - YES is set if RECEIVE_REQUEST is to listen for a further request.

Values for the parameter are:
`NO`
`YES`

REQUEST_BUF
A buffer, into which the received request is to be placed.

RP_TOKEN
Token supplied by GET_INITIAL_DATA or INITIALISE representing state storage.

RS_TOKEN
Token representing the outbound request stream.

REPLY_BUF
Optional Parameter

A buffer, into which the reply is to be placed.

TARGET_APPLID
Optional Parameter

The APPLID of the outbound request's target system.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

```
ABEND
LISTEN_FAILED
REQUEST_INVALID
```

The following values are returned when RESPONSE is EXCEPTION:

```
BUFFER_TOO_SMALL
GIOP_CLOSE_CONN_RECEIVED
GIOP_FRAGMENT_EXPECTED
GIOP_FRAGMENT_INVALID
GIOP_FRAGMENT_NOT_EXPECTED
GIOP_INVALID_MESSAGE_TYPE
GIOP_INVALID_VERSION
GIOP_MESSAGE_ERROR_RCVD
GIOP_REP_HEADER_INVALID
MESSAGE_NOT_RECEIVABLE
RECEIVE_REPLY_FAILED
REDIRECTION_RECEIVED
REQUEST_RECEIVED
SEND_REQUEST_FAILED
TIMEOUT_NOTIFIED
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_RP_TOKEN
```

BYTES_AVAILABLE

Set if BUFFER_TOO_SMALL is set. It contains the actual size of the buffer needed for the reply which is obtained from the GIOP reply header received by INVOKE

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IIRP gate, RECEIVE_REPLY function

The RECEIVE_REPLY function of the IIRP gate is used by the ORB program DFJIIRP (or its CICS-key equivalent DFJIIRQ) to receive an outbound reply to an outbound request. It is used, following INVOKE, if INVOKE indicated that a further request was ready before the reply was available (loopback) or if the reply buffer supplied by INVOKE was too small.

Input Parameters

RECEIVE_TYPE

FULL is set for the first receive_request. OVERFLOW is set if the buffer supplied to the first receive_request was too small.

Values for the parameter are:

```
FULL
OVERFLOW
```

REPLY_BUF

A buffer, into which the reply is to be placed.

RP_TOKEN

Token supplied by GET_INITIAL_DATA or INITIALISE representing state storage.

RS_TOKEN

Token representing the outbound request stream.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`

The following values are returned when RESPONSE is EXCEPTION:
`BUFFER_TOO_SMALL`
`GIOP_CLOSE_CONN_RECEIVED`
`GIOP_FRAGMENT_EXPECTED`
`GIOP_FRAGMENT_INVALID`
`GIOP_FRAGMENT_NOT_EXPECTED`
`GIOP_INVALID_MESSAGE_TYPE`
`GIOP_INVALID_VERSION`
`GIOP_MESSAGE_ERROR_RCVD`
`GIOP_REP_HEADER_INVALID`
`MESSAGE_NOT_RECEIVABLE`
`RECEIVE_REPLY_FAILED`
`REDIRECTION_RECEIVED`
`REQUEST_RECEIVED`
`TIMEOUT_NOTIFIED`

The following values are returned when RESPONSE is INVALID:
`INVALID_RP_TOKEN`

BYTES_AVAILABLE
Set if BUFFER_TOO_SMALL is set. It contains the actual size of the buffer needed for the reply which is obtained from the GIOP reply header received by INVOKE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IIRP gate, RECEIVE_REQUEST function

The RECEIVE_REQUEST function of the IIRP gate is used by the ORB program DFJIIRP (or its CICS-key equivalent DFJIIRQ) to receive a request via a request stream from a Request Receiver. This is for INBOUND requests.

Input Parameters

CONTINUE
YES | NO - YES is set if RECEIVE_REQUEST is to listen for a further request.

Values for the parameter are:
`NO`
`YES`

RECEIVE_TYPE
FULL | OVERFLOW - FULL is set for the first receive_request. OVERFLOW is set if the buffer supplied to the first receive_request was too small.

Values for the parameter are:
`FULL`
`OVERFLOW`

REQUEST_BUF
A buffer, into which the received request is to be placed.

RP_TOKEN
Token supplied by GET_INITIAL_DATA or INITIALISE representing state storage.

Output Parameters

`REASON`
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`ERROR_REENTERED`
`LISTEN_FAILED`
`REQUEST_INVALID`

The following values are returned when RESPONSE is EXCEPTION:
`BUFFER_TOO_SMALL`
`GIOP_REQ_HEADER_INVALID`
`MESSAGE_NOT_RECEIVABLE`
`RECEIVE_REQUEST_FAILED`
`TIMEOUT_NOTIFIED`

The following values are returned when RESPONSE is INVALID:
`INVALID_RP_TOKEN`

`BYTES_AVAILABLE`
Set if BUFFER_TOO_SMALL is set. It contains the actual size of the buffer needed for the reply which is obtained from the GIOP reply header received by INVOKE

`CORRELATION_ID`
The correlation id returned by the request stream receive_request.

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

IIRP gate, SEND_REPLY function

The SEND_REPLY function of the IIRP gate is used by the ORB program DFJIIRP (or its CICS-key equivalent DFJIIRQ) to send a reply via a request stream to an inbound request.

Input Parameters

`CORRELATION_ID`
of the request returned by IIRP RECEIVE_REQUEST.

`REPLY_BUF`
A buffer, into which the reply is to be placed.

`RP_TOKEN`
Token supplied by GET_INITIAL_DATA or INITIALISE representing state storage.

Output Parameters

`REASON`
The following values are returned when RESPONSE is DISASTER:
`ABEND`

The following values are returned when RESPONSE is EXCEPTION:
`SEND_REPLY_FAILED`

The following values are returned when RESPONSE is INVALID:
`INVALID_RP_TOKEN`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

IIRP gate, TERMINATE function

The TERMINATE function of the IIRP gate is used by the ORB program DFJIIRP (or its CICS-key equivalent DFJIIRQ) in normal and command processing mode to free any storage obtained by GET_INITIAL_DATA or INITIALISE. If necessary, it will also leave the request stream.

Input Parameters

RP_TOKEN
: Token supplied by GET_INITIAL_DATA or INITIALISE representing state storage.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  - ABEND
  - ERROR_REENTERED

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IIRP gate, UPDATE_WORKREQUEST function

Update the target applid to contain a TCP/IP address and port number. It is called when a bean goes outbound over TCPIP instead of over MRO.

Input Parameters

TARGET_TCPIP_ADDR
: The target TCP/IP address of the target.

TARGET_TCPIP_PORT
: The target TCP/IP port.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  - ABEND
  - ERROR_REENTERED

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IIRQ gate, END_BROWSE function

The END_BROWSE function of the IIMM gate is used to end the browse session.

Input Parameters

BROWSE_TOKEN
: The token created by start_browse.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  - BROWSE_END
  - NOT_FOUND

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IIRQ gate, GET_NEXT function

The GET_NEXT function of the IIMM gate is used to pass back the output parameters for the next request model.

Input Parameters

BROWSE_TOKEN
The token created by start_browse.

BEAN_PATTERN
Optional Parameter

A name that matches the name of the enterprise bean in the XML deployment descriptor.

INTERFACE_PATTERN
Optional Parameter

A name that matches the IDL interface name.

MODULE_PATTERN
Optional Parameter

A name that matches the IDL module name (which defines the name scope of the interface and operation).

OPERATION_PATTERN
A name that matches the IDL operation or a Java-to-IDL mangled representation of the bean or CORBA stateless object's method signature.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`BROWSE_END`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RQMODEL_NAME
The name of the request model

CORBASERVER
Optional Parameter

Name of the corbaserver for this request model.

INTERFACE_TYPE
Optional Parameter

The Java interface type for this REQUESTMODEL.

Values for the parameter are:
`BOTH`
`HOME`
`REMOTE`

MODEL_TYPE
Optional Parameter

The type of request model.

Values for the parameter are:
`CORBA`
`EJB`
`GENERIC`

TRANID
Optional Parameter

The name of the CICS transaction to be used when a new request processor transaction instance is required to process a method request matching the specification of the REQUESTMODEL.

IIRQ gate, INQUIRE_RQMODEL function

The INQUIRE_RQMODEL function of the IIRQ gate is used to inquire on a particular model, returning the output parameters below.

Input Parameters

RQMODEL_NAME
Name of the request model for which information is needed.

BEAN_PATTERN
Optional Parameter

A name that matches the name of the enterprise bean in the XML deployment descriptor.

INTERFACE_PATTERN
Optional Parameter

A name that matches the IDL interface name.

MODULE_PATTERN
Optional Parameter

A name that matches the IDL module name (which defines the name scope of the interface and operation).

OPERATION_PATTERN
A name that matches the IDL operation or a Java-to-IDL mangled representation of the bean or CORBA stateless object's method signature.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`NOT_FOUND`

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

CORBASERVER
Optional Parameter

Name of the corbaserver for this request model.

INTERFACE_TYPE
Optional Parameter

The Java interface type for this REQUESTMODEL.

Values for the parameter are:
`BOTH`
`HOME`
`REMOTE`

MODEL_TYPE
Optional Parameter

The type of request model.

Values for the parameter are:
`CORBA`
`EJB`
`GENERIC`

TRANID
Optional Parameter

The name of the CICS transaction to be used when a new request processor transaction instance is required to process a method request matching the specification of the REQUESTMODEL.

IIRQ gate, MATCH_RQMODEL function

The MATCH_RQMODEL function of the IIRQ gate is used to find the most specific request model that matches the input parameters.

Input Parameters

CORBASERVER
Name of the corbaserver for this request model.

OPERATION_BLOCK
A block for the IDL operation or a Java-to-IDL mangled representation of the bean or CORBA stateless object's method signature.

BEAN_NAME_BLOCK
Optional Parameter

A block for the name of the enterprise bean in the XML deployment descriptor.

INTERFACE_NAME_BLOCK
Optional Parameter

A block for the IDL interface name.

INTERFACE_TYPE
Optional Parameter

The Java interface type for the REQUESTMODEL.

Values for the parameter are:
`HOME`
`REMOTE`

MODULE_NAME_BLOCK
Optional Parameter

A block for the IDL module name (which defines the name scope of the interface and operation).

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TRANID
The name of the CICS transaction to be used when a new request processor transaction instance is required to process a method request.

IIRQ gate, START_BROWSE function

The START_BROWSE function of the IIMM gate is used to return a token to allow all the request models to be browsed.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`BROWSE_END`
`NOT_FOUND`

BROWSE_TOKEN
A token that represents the browse session.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IIRR gate, PROCESS_REQUESTS function

The PROCESS_REQUESTS function of the IIRR gate is used to receive a GIOP request from a socket, find a request stream, send the request over the request stream, optionally receive a reply and send the reply to the socket. This process continues until the socket is closed or no further data is available.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
ERROR_REENTERED

The values for the parameter are:
GIOP_CLOSE_CONN_RECEIVED
GIOP_FRAGMENT_INVALID
GIOP_FRAGMENT_NOT_EXPECTED
GIOP_FRAGS_NOT_SUPPORTED
GIOP_INVALID_HEADER
GIOP_INVALID_MESSAGE_TYPE
GIOP_INVALID_VERSION
GIOP_MESSAGE_ERROR_RCVD
GIOP_REPLY_RECEIVED
IIRH_FIND_EXCEPTION
NO_PERMISSION
RESCHEDULE
SOCK_RECEIVE_EXCEPTION
SOCK_RECEIVE_TIMEOUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IIOP domain's generic gates

Table 50 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 50. IIOP domain's generic gates

Gate	Trace	Functions	Format
IIDM	IE 0000 IE 0001	INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM
IIST	II 0600 II 0601	COLLECT_STATISTICS COLLECT_RESOURCE_STATS	STST
IIXM	AP 09E0 AO 09E1	INIT_XM_CLIENT BIND_XM_CLIENT TRANSACTION_HANG ABEND_TERMINATE RELEASE_XM_CLIENT	XMAC

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

“Domain Manager domain's generic formats” on page 956
“Statistics domain's generic formats” on page 1777
“Transaction manager domain's generic formats” on page 1999

Modules

Module	Function
DFHIICP	II domain command processor DFHIICP provides a common mechanism for the following OT and EJ requests to call JAVA ORB code. RESYNC_COORDINATOR RESYNC_SUBORDINATE PUBLISH_CORBASERVER RETRACT_CORBASERVER PRE_INSTALL_DJAR INSTALL_DJAR DISCARD_DJAR PUBLISH_DJAR RETRACT_DJAR
DFHIIDM	Handles the following requests: PRE_INITIALIZE INITIALIZE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN
DFHIIDUF	II domain offline dump formatting routine
DFHIILS	Handles the following requests via DFHIICP: ADD_LOGIGICAL_SERVER DELETE_LOGIGICAL_SERVER PUBLISH_LOGIGICAL_SERVER RETRACT_LOGIGICAL_SERVER
DFHIIMM	Handles the following requests: ADD_REPLACE_RQMODEL DELETE_RQMODEL COMMIT_RQMODELS
DFHIIRH	Handles the following requests: FIND_REQUEST_STREAM PARSE
DFHIIRP	Handles the following requests: GET_INITIAL_DATA RECEIVE_REQUEST INVOKE SEND_REPLY RECEIVE_REPLY INITIALISE TERMINATE
DFHIIRQ	Handles the following requests: INQUIRE_RQMODEL START_BROWSE GET_NEXT END_BROWSE MATCH_RQMODEL
DFHIIRR	Handles the following requests: PROCESS_REQUESTS
DFHIIST	Handles the following requests: COLLECT_STATISTICS COLLECT_RESOURCE_STATS

Module	Function
DFHIITRI	Interprets II domain trace entries
DFHIIXM	Handles the following requests: INIT_XM_CLIENT BIND_XM_CLIENT TRANSACTION_HANG ABEND_TERMINATE RELEASE_XM_CLIENT

Exits

There is one user-replaceable program, DFHXOPUS, which is called by DFHIIRR during Request Receiver processing.

Chapter 84. Inter-system (IS) domain

The IS domain manages the resources, and the sending and receiving of requests and responses for IP interconnectivity (IPIC) connections.

IS domain specific gates

The specific gates provide access for other domains to functions that are provided by the IS domain.

ISCO gate, ACQUIRE_CONNECTION function

Acquire a connection to the partner CICS system named in the IPCONN parameter. It opens a web session, sends a capability exchange to the partner and waits for a response before setting the IPCONN connstatus to ACQUIRED. The IPCONN must be INS, REL before this function is called.

Input Parameters

IPCONN
Optional Parameter

The name of the IPCONN definition; that is, the name by which CICS knows the remote system.

TCPIPSERVICE
Optional Parameter

The name of the PROTOCOL(IPIC) TCPIPSERVICE definition that defines the attributes of the inbound processing for this connection.

Output Parameters

REASON

The values for the parameter are:

```
INVALID_FORMAT
INVALID_FUNCTION
INVALID_IPCONN_STATE
IPCONN_NOT_FOUND
ISCER_BAD_RESPONSE
ISCER_ERROR
ISCER_HTTP_ERROR
ISCER_TIMED_OUT
NO_IPCONN
SESSION_OPEN_FAILED
SHUTDOWN
TCPIP_CLOSED
TCPIPSERVICE_NOT_FOUND
TCPIPSERVICE_NOT_OPEN
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

```
OK
EXCEPTION
DISASTER
```

INVALID
KERNERROR
PURGED

ISCO gate, INITIALIZE_CONNECTION function

Accept an incoming connection from a partner CICS system. Called by the TCPIPSERVICE transaction, which is attached in response to a new PROTOCOl(IPIC) connection.

CICS reads the initial capability exchange, locates or creates an IPCONN to service further incoming IPIC requests from the partner and sends a response.

If a callback port is specified in the capability exchange, a connection is first made back to the client to allow outbound IPIC requests from this CICS system.

Output Parameters

REASON

The values for the parameter are:

AUTOINSTALL_FAILED
INVALID_FORMAT
INVALID_FUNCTION
INVALID_IPCONN_STATE
INVALID_PARTNER_STATE
IPCONN_NOT_FOUND
ISCE_BAD_RECOV
ISCE_ERROR
ISCE_INVALID_APPLID
ISCE_TIMED_OUT
ISCER_BAD_RESPONSE
ISCER_ERROR
ISCER_HTTP_ERROR
ISCER_TIMED_OUT
NO_IPCONN
ONE_WAY_IPCONN
SESSION_OPEN_FAILED
SHUTDOWN
TCPIP_CLOSED
TCPIPSERVICE_MISMATCH
TCPIPSERVICE_NOT_FOUND
TCPIPSERVICE_NOT_OPEN

RESPONSE

Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

Values for the parameter are:

OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

ISCO gate, RELEASE_CONNECTION function

Rejects new work for the named IPCONN.

Input Parameters

DRAIN

Optional Parameter

Values for the parameter are:

YES

When YES, CICS performs the following actions:

Notifies the partner to do likewise.

Waits for work in progress, and queued work, to complete but will not allow new work to the partner to be initiated. Work for which an allocate_send has completed or is queued is allowed to complete but new allocate requests are rejected.

NO

When NO, queued work is cancelled and the partner is only notified when it attempts to send new work to this IPCONN.

When all work associated with the server is complete, the server web session is closed.

The client is normally closed by the partner by passing a session_closed notification.

Once both client and server are released, the IPCONN is released.

For JCA, where there is no server session with which to notify the partner of the need to drain, incoming new work is rejected and, once the last work in progress (as indicated by the presence of an active receive session) is complete, the client session is closed.

IPCONN

Optional Parameter

The name of the IPCONN definition; that is, the name by which CICS knows the remote system.
If neither IPCONN nor TCPIPSERVICE is specified, all IPCONNs are released.

TCPIPSERVICE

Optional Parameter

The name of the PROTOCOL(IPIC) TCPIPSERVICE definition that defines the attributes of the inbound processing for this connection.
If specified, any IPCONNs referencing the given TCPIPSERVICE are released.
If neither IPCONN nor TCPIPSERVICE is specified, all IPCONNs are released.

Output Parameters

REASON

The values for the parameter are:

INVALID_FORMAT
INVALID_FUNCTION
INVALID_IPCONN_STATE
IPCONN_NOT_FOUND
NO_IPCONN
TCPIPSERVICE_NOT_FOUND

RESPONSE

Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

Values for the parameter are:

OK
EXCEPTION
DISASTER

INVALID
KERNERROR
PURGED

ISCO gate, TERMINATE_CONNECTION function

Release the IPCONN web sessions immediately, without waiting for any work in progress to complete. Used for error processing or when it is known that IS sessions (ISSBs) are no longer active.

Input Parameters

IPCONN
The name of the IPCONN definition; that is, the name by which CICS knows the remote system.

SESSION_TYPE
Optional Parameter

Restricts the command to the client or the server.

Values for the parameter are:
CLIENT
SERVER

Output Parameters

REASON
The values for the parameter are:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

ISIC gate, ADD_IPCONN function

Create and install an IPCONN in the running system.

Input Parameters

HOST
The host name of the remote system (for example, `abc.example.com`), or its dotted decimal IP address (for example, `9.20.181.3`)

INSTALL_TYPE
IPCONN installation method.

Values for the parameter are:
GRPLIST
ONLINE
WARM_AUTOINSTALLED
WARM_EXPLICIT

IPCONN
The name of the IPCONN definition; that is, the name by which CICS knows the remote system.

PORTNUMBER
: The port number used for outbound requests on this connection; that is, the number of the port on which the remote system will listen.

TCPIPSERVICE
: The name of the TCPIPSERVICE that defines the attributes of the inbound processing for this connection.

APPLID
: Optional Parameter

  The application identifier (applid) of the remote system. (If the remote system is a CICS region, its applid is specified on the APPLID parameter of its system initialization table.)

AUTOCONNECT
: Optional Parameter

  Values for the parameter are:
  `AUTOCONNECT_NO`
  `AUTOCONNECT_YES`

CERTIFICATE
: Optional Parameter

CIPHER_LIST
: Optional Parameter

INSERVICE
: Optional Parameter

  Values for the parameter are:
  `INSERVICE_NO`
  `INSERVICE_YES`

MAXQTIME
: Optional Parameter

  The maximum time, in seconds, for which allocate requests may be queued on this connection.

NETWORKID
: Optional Parameter

  The network ID of the remote system.

QUEUELIMIT
: Optional Parameter

  The maximum number of allocate requests that can be queued for this connection.

RECEIVECOUNT
: Optional Parameter

  The number of receive sessions for this connection

SECURITYNAME
: Optional Parameter

  The security name of the remote system.

SENDCOUNT
: Optional Parameter

  The number of send sessions for this connection

SSLTYPE
: Optional Parameter

  Whether to use secure socket layer (SSL) authentication.

  Values for the parameter are:
  `SSL_NO`

SSL_YES

USERAUTH

Optional Parameter

Type of user authentication to use.

Values for the parameter are:

CERTIFICAUTH
IDENTIFY
LOCAL
USERAUTH_NO
VERIFY

XLNACTION

Optional Parameter

Values for the parameter are:

FORCE
KEEP

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

UNLOCK_ERROR

The following values are returned when RESPONSE is EXCEPTION:

CERTIFICATE_ERROR
CIPHER_LIST_REDUCED
CIPHER_LIST_REJECTED
CONNECTION_MISMATCH
DUPLICATE_APPLID
IN_USE
NO_DEFAULT_CERTIFICATE

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

ISIC gate, AUTOINSTALL_IPCONN function

Attempt to create an IPCONN to an unknown NETWORKID or APPLID. This function always runs on the QR TCB.

Input Parameters

APPLID

The application identifier (applid) of the remote system. (If the remote system is a CICS region, its applid is specified on the APPLID parameter of its system initialization table.)

HOST
The host name of the remote system (for example, `abc.example.com`), or its dotted decimal IP address (for example, `9.20.181.3`).

NETWORKID
The network ID of the remote system.

PORTNUMBER
The port number used for outbound requests on this connection; that is, the number of the port on which the remote system is to listen.

RECOVERY
Recovery method.

Values for the parameter are:
CICS
NON_CICS

REQUESTED_SESSIONS
The number of sessions for this connection.

TCPIPSERVICE
The name of the PROTOCOL(IPIC) TCPIPSERVICE definition that defines the attributes of the inbound processing for this connection

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
AUP_ABENDED
AUP_AMODE_ERROR
AUP_NOT_AVAILABLE
AUP_NOT_KNOWN
AUP_NOT_SPECIFIED
AUP_VETO
CONNECTION_MISMATCH
DUPLICATE_APPLID
NAME_IN_USE
NAME_INVALID
PORT_INVALID
TEMPLATE_NOT_FOUND
TEMPLATE_OUTSERVICE

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

IPCONN
The name of the IPCONN definition; that is, the name of the remote system.

ISCB_TOKEN
ISCB token for this connection.

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

ISIC gate, DISCARD_IPCONN function

Remove an IPCONN from the system, if it is in an appropriate state.

Input Parameters

IPCONN
: The name of the IPCONN definition; that is, the name by which CICS knows the remote system.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  IN_USE
  NOT_FOUND

  The following values are returned when RESPONSE is INVALID:
  INVALID_FORMAT
  INVALID_FUNCTION

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

  Values for the parameter are:
  OK
  EXCEPTION
  DISASTER
  INVALID
  KERNERROR
  PURGED

ISIC gate, ENDBROWSE_IPCONN function

End an IPCONN browse.

Input Parameters

BROWSE_TOKEN

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  TOKEN_NOT_FOUND

  The following values are returned when RESPONSE is INVALID:
  INVALID_FORMAT
  INVALID_FUNCTION

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

  Values for the parameter are:
  OK
  EXCEPTION
  DISASTER
  INVALID
  KERNERROR
  PURGED

ISIC gate, GETNEXT_IPCONN function

Get the next IPCONN for browse.

Input Parameters

BROWSE_TOKEN
Dispatcher domain browse token.

CERTIFICATE
Optional Parameter

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`INVALID_BROWSE_TOKEN`

The following values are returned when RESPONSE is EXCEPTION:
`BROWSE_END`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

IPCONN
The name of the IPCONN definition; that is, the name by which CICS knows the remote system.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

APPLID
Optional Parameter

Application identifier.

AUTOCONNECT
Optional Parameter

Autoconnect.

Values for the parameter are:
`AUTOCONNECT_NO`
`AUTOCONNECT_YES`

CIPHER_COUNT
Optional Parameter

CIPHER_SUITES
Optional Parameter

CONNSTATUS
Optional Parameter

Values for the parameter are:
`ACQUIRED`
`FREEING`
`OBTAINING`
`RELEASED`

HOST
: Optional Parameter

  Host name.

MAXQTIME
: Optional Parameter

NETWORKID
: Optional Parameter

  Network identifier.

PENDSTATUS
: Optional Parameter

  Indicates whether work is pending.

  Values for the parameter are:
  `NOTPENDING`
  `PENDING`

PORTNUMBER
: Optional Parameter

  Port number.

QUEUELIMIT
: Optional Parameter

  Queue limit.

RECEIVECOUNT
: Optional Parameter

  Number of receives.

RECOVSTATUS
: Optional Parameter

  Recovery status.

  Values for the parameter are:
  `NORECOVDATA`
  `NRS`
  `RECOVDATA`

SECURITYNAME
: Optional Parameter

SENDCOUNT
: Optional Parameter

  Number of sends.

SERVSTATUS
: Optional Parameter

  Service status.

  Values for the parameter are:
  `INSERV`
  `OUTSERV`

SSLTYPE
: Optional Parameter

  SSL type.

  Values for the parameter are:
  `SSL_NO`
  `SSL_YES`

TCPIPSERVICE
: Optional Parameter

TCPIPSERVICE name.

USERAUTH

Optional Parameter

User authentication method.

Values for the parameter are:

```
CERTIFICAUTH
IDENTIFY
LOCAL
USERAUTH_NO
VERIFY
```

ISIC gate, INQUIRE_IPCONN function

Get information about an IPCONN.

Input Parameters

IPCONN

The name of the IPCONN definition; that is, the name by which CICS knows the remote system.

CERTIFICATE

Optional Parameter

Output Parameters

REASON

The following values are returned when RESPONSE is EXCEPTION:

```
NOT_FOUND
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
```

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9

Values for the parameter are:

```
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED
```

APPLID

Optional Parameter

The application identifier (applid) of the remote system. (If the remote system is a CICS region, its applid is specified on the APPLID parameter of its system initialization table.)

AUTOCONNECT

Optional Parameter

Values for the parameter are:

```
AUTOCONNECT_NO
AUTOCONNECT_YES
```

CIPHER_COUNT

Optional Parameter

The number of cipher suites that are available to negotiate with clients during the SSL handshake.

CIPHER_SUITES
Optional Parameter

The list of cipher suites that is used to negotiate with clients during the SSL handshake.

CONNSTATUS
Optional Parameter

The current status of the connection.

Values for the parameter are:
`ACQUIRED`
`FREEING`
`OBTAINING`
`RELEASED`

HOST
Optional Parameter

The host name of the remote system (for example, `abc.example.com`), or its dotted decimal IP address (for example, `9.20.181.3`).

MAXQTIME
Optional Parameter

The maximum time, in seconds, for which allocate requests may be queued on this connection.

NETWORKID
Optional Parameter

The network ID of the remote system.

PENDSTATUS
Optional Parameter

Indicates whether there are any pending units of work for this connection.

Values for the parameter are:
`NOTPENDING`
`PENDING`

PORTNUMBER
Optional Parameter

The port number used for outbound requests on this connection; that is, the number of the port on which the remote system is listening.

QUEUELIMIT
Optional Parameter

The maximum number of allocate requests that can be queued for this connection.

RECEIVECOUNT
Optional Parameter

The number of receive sessions defined for this connection.

RECOVSTATUS
Optional Parameter

Recovery status of the remote connection.

Values for the parameter are:
`NORECOVDATA`
`NRS`
`RECOVDATA`

SECURITYNAME
Optional Parameter

Link userid used for this connection.

SENDCOUNT
Optional Parameter

The number of send sessions defined for this connection.

SERVSTATUS
Optional Parameter

Service status.

Values for the parameter are:
`INSERV`
`OUTSERV`

SSLTYPE
Optional Parameter

Indicates whether the Secure Sockets Layer (SSL) is being used to secure communications for this transaction.

Values for the parameter are:
`SSL_NO`
`SSL_YES`

TCPIPSERVICE
Optional Parameter

The name of the PROTOCOL(IPIC) TCPIPSERVICE definition that defines the attributes of the inbound processing for this connection.

USERAUTH
Optional Parameter

The level of attach-time user security used for the connection.

Values for the parameter are:
`CERTIFICAUTH`
`IDENTIFY`
`LOCAL`
`USERAUTH_NO`
`VERIFY`

ISIC gate, INQUIRE_IPCONN_BY_APPLID function

Get information about an IPCONN with the given APPLID.

Input Parameters

APPLID
The application identifier (applid) of the remote system. If the remote system is a CICS region, its applid is specified on the APPLID parameter of its system initialization table.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`NOT_FOUND`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

AUTOCONNECT
Optional Parameter

Values for the parameter are:
`AUTOCONNECT_NO`
`AUTOCONNECT_YES`

CONNSTATUS
Optional Parameter

The current status of the connection.

Values for the parameter are:
`ACQUIRED`
`FREEING`
`OBTAINING`
`RELEASED`

HOST
Optional Parameter

The host name of the remote system (for example, `abc.example.com`), or its dotted decimal IP address (for example, `9.20.181.3`).

IPCONN
The name of the IPCONN definition; that is, the name by which CICS knows the remote system.

MAXQTIME
Optional Parameter

The maximum time, in seconds, for which allocate requests may be queued on this connection.

NETWORKID
Optional Parameter

The network ID of the remote system.

PENDSTATUS
Optional Parameter

Indicates whether there are any pending units of work for this connection.

Values for the parameter are:
`NOTPENDING`
`PENDING`

PORTNUMBER
Optional Parameter

The port number used for outbound requests on this connection; that is, the number of the port on which the remote system is listening.

QUEUELIMIT
Optional Parameter

The maximum number of allocate requests that can be queued for this connection.

RECEIVECOUNT
Optional Parameter

The number of receive sessions defined for this connection.

RECOVSTATUS
Optional Parameter

Recovery status of the remote connection.

Values for the parameter are:
`NORECOVDATA`
`NRS`
`RECOVDATA`

SECURITYNAME
Optional Parameter

Link userid used for this connection.

SENDCOUNT
Optional Parameter

The number of send sessions defined for this connection.

SERVSTATUS
Optional Parameter

Service status.

Values for the parameter are:
`INSERV`
`OUTSERV`

TCPIPSERVICE
Optional Parameter

The name of the PROTOCOL(IPIC) TCPIPSERVICE definition that defines the attributes of the inbound processing for this connection.

ISIC gate, SET_IPCONN function

Change the attributes of an IPCONN or cancel outstanding AIDs.

Input Parameters

IPCONN
Name of the IPCONN.

CONNSTATUS
Optional Parameter

Connection status.

Values for the parameter are:
`ACQUIRED`
`RELEASED`

PENDSTATUS
Optional Parameter

Indicates whether work is pending on this connection.

Values for the parameter are:
`PENDING`

PURGETYPE
Optional Parameter

Specifies the conditions for CICS to purge the task.

Values for the parameter are:
`CANCEL`
`FORCECANCEL`
`FORCEPURGE`

KILL
PURGE

RECOVSTATUS
Optional Parameter

Recovery status for this conection.

Values for the parameter are:
NORECOVDATA

SERVSTATUS
Optional Parameter

Service status for this connection.

Values for the parameter are:
INSERV
OUTSERV

UOWACTION
Optional Parameter

Normal resynchronization process is to be partially overridden: decisions are taken for any units of work that are indoubt because of a failure of the IPCONN; but the decisions are recorded and any data inconsistencies are reported when the connection is next acquired.

Values for the parameter are:
BACKOUT
COMMIT
FORCEUOW
RESYNC

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
ACQUIRED_ONE_WAY
ACQUIRED_WHEN_FREEING
NOT_FOUND
NOTPENDING_ERROR
RECOVSTATUS_INVALID
SERVSTATUS_ERROR
UNSUCCESSFUL_BACKOUT

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

ALLOCATES_CANCELLED
Optional Parameter

Indicates whether allocates are cancelled.

Values for the parameter are:
`CANCELLED_NO`
`CANCELLED_YES`

ISIC gate, STARTBROWSE_IPCONN function

Start a browse operation on IPCONN resources.

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

BROWSE_TOKEN
The browse token for the browse operation.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

ISIF gate, GET_IPFACILITY_LIST function

Input Parameters

TASK_NUMBER

IP_FACILITY_LIST
Optional Parameter

Name of list to get.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`BUFFER_NOT_BIG_ENOUGH`
`NOT_FOUND`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

LIST_SIZE
Size of retrieved list.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

ISIF gate, INQUIRE_IPFACILITY function

Retrieve information about an IPCONN facility.

Input Parameters

FACILITY_TOKEN
IPCONN facility token.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`NOT_FOUND`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

IPCONN
Optional Parameter

The name of the IPCONN definition; that is, the name by which CICS knows the remote system.

IPFACILITY_TYPE
Optional Parameter

Values for the parameter are:
`ALTERNATE`
`PRINCIPAL`

ISIS gate, ALLOCATE_SEND function

Allocate a session on the named IPIC connection.

Input Parameters

IPCONN
The name of the IPCONN resource that is used to route the transaction to the remote CICS region.

QUEUE
Flag indicating whether to queue if no sessions are immediately available.

Values for the parameter are:
`YES`
`NO`

FUNCTION_AREA
Indicates the CICS functional areas for which the session is being used. This parameter is passed to the user exit.

Value for the parameter is:
`transaction_routing`

TRAN_REMOTENAME
Name of the transaction to be routed. This parameter is passed to the user exit (for UEPTRANR).

Output Parameters

SESSION
Pointer to the ISSB for the link to the remote CICS region.

REASON
The following values are returned when RESPONSE is EXCEPTION:
ISIS_NOT_FOUND
ISIS_CAPABILITIES_UNKNOWN
ISIS_NOT_IN_SERVICE
ISIS_ALLOCATE_REJECTED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9

Values for the parameter are:
OK
EXCEPTION
INVALID

ISIS gate, BIND_RECEIVER function

Sets the IPCONN to be the BIND receiver

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

ISIS gate, CONVERSE function

Send a request to a partner system using an IPCONN.

Input Parameters

EXEC_ARGS
Specifies the argument string being passed.

IPCONN
The name of the IPCONN definition; that is, the name by which CICS knows the remote system.

QUEUE
Indicates whether the request is queued.

Values for the parameter are:
NO
YES

XFSTG
Transform storage area.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  - ALLOCATE_REJECTED
  - CONVERSATION_FAILURE
  - NO_SESSION
  - NOT_FOUND
  - NOT_IN_SERVICE
  - PROGRAM_ABEND
  - RESOURCE_UNAVAILABLE
  - UNSUPPORTED_REQUEST

  The following values are returned when RESPONSE is INVALID:
  - INVALID_FORMAT
  - INVALID_FUNCTION
  - INVALID_SYNCONRETURN
  - INVALID_TRANSID

ABEND_CODE
: EXEC abend code.

EIBRCODE
: EIB reason code.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

  Values for the parameter are:
  - OK
  - EXCEPTION
  - DISASTER
  - INVALID
  - KERNERROR
  - PURGED

WLMRCODE
: Workload manager response code.

ISIS gate, INITIALIZE_RECEIVER function

Check that the inbound message is consistent with the IPCONN USERAUTH attribute and return an error response if it is inconsistent.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  - MESSAGE_MISMATCH_IDENTIFY
  - MESSAGE_MISMATCH_LOCAL
  - MESSAGE_MISMATCH_VERIFY
  - SECURITY_INACTIVE
  - SECURITY_VIOLATION

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9

  Values for the parameter are:
  - OK
  - EXCEPTION
  - DISASTER
  - INVALID
  - KERNERROR

PURGED

SET_USER_TOKEN
Indicactes whether a user token is be used to identify the inbound message sender.

Values for the parameter are:
NO
YES

USER_TOKEN
User token associated with the inbound message sender.

ISIS gate, INQUIRE_FACILITY function

Expose web session token

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND

The following values are returned when RESPONSE is EXCEPTION:
ALLOCATE_REJECTED
CONVERSATION_FAILURE
FACILITY_NOT_ISSESSION
MESSAGE_MISMATCH_IDENTIFY
MESSAGE_MISMATCH_LOCAL
MESSAGE_MISMATCH_VERIFY
NO_DATA
NO_SESSION
NOT_FOUND
NOT_IN_SERVICE
PROGRAM_ABEND
RESOURCE_UNAVAILABLE
SECURITY_INACTIVE
SECURITY_VIOLATION
UNSUPPORTED_REQUEST

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION
INVALID_SYNCONRETURN
INVALID_TRANSID

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

IPCONN
Optional Parameter

The name of the IPCONN definition; that is, the name by which CICS knows the remote system.

WB_SESSION
Optional Parameter

Web session identifier.

ISIS gate, RECEIVE_BUFFER function

Receive the next buffer on the specified session. This function is used when the channel being transmitted does not fit into the first buffer.

Input Parameters

BUFFER_TYPE
Specifies whether this buffer is for a request or a response.

Values for the parameter are:
REQ
RESP

SESSION
Session name.

Output Parameters

LAST_IN_CHAIN
Indicates whether the buffer is last in chain.

Values for the parameter are:
LIC
NOT_LIC

DATA_BUFFER
Optional parameter.

Address and length of the data.

| **CONTINUE**
| Flag indicating whether the conversation ends after a request has been
| processed.

| Values for the parameter are:
| YES
| NO

| **CONDITION**
| Indicates the action if CONTINUE is set to NO.

| Values for the parameter are:
| NORMAL
| END
| SYNCPOINT
| ROLLBACK
| ABENDED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

REASON
The following values are returned when RESPONSE is DISASTER:

ABEND

The following values are returned when RESPONSE is EXCEPTION:
ALLOCATE_REJECTED
CONVERSATION_FAILURE
FACILITY_NOT_ISSESSION
MESSAGE_MISMATCH_IDENTIFY
MESSAGE_MISMATCH_LOCAL
MESSAGE_MISMATCH_VERIFY
NO_DATA
NO_SESSION
NOT_FOUND
NOT_IN_SERVICE
PROGRAM_ABEND
RESOURCE_UNAVAILABLE
SECURITY_INACTIVE
SECURITY_VIOLATION
UNSUPPORTED_REQUEST

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION
INVALID_SYNCONRETURN
INVALID_TRANSID

ISIS gate, RECEIVE_REQUEST function

Receive a complete request from the request stream domain.

Input Parameters

EXEC_ARGS
Argument string

XFSTG
Transform.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND

The following values are returned when RESPONSE is EXCEPTION:
ALLOCATE_REJECTED
CONVERSATION_FAILURE
FACILITY_NOT_ISSESSION
MESSAGE_MISMATCH_IDENTIFY
MESSAGE_MISMATCH_LOCAL
MESSAGE_MISMATCH_VERIFY
NO_DATA
NO_SESSION
NOT_FOUND
NOT_IN_SERVICE
PROGRAM_ABEND
RESOURCE_UNAVAILABLE
SECURITY_INACTIVE
SECURITY_VIOLATION
UNSUPPORTED_REQUEST

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION
INVALID_SYNCONRETURN
INVALID_TRANSID

INVOKING_PROGRAM
Name of the program that invoked this function.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

TRANSID
Transaction identifier.

CONDITION
Optional Parameter

Values for the parameter are:
ABENDED
NORMAL
ROLLBACK
SYNCPOINT

CONTINUE
Optional Parameter

Indicates whether this function should listen for the next request .

Values for the parameter are:
NO
YES

ISIS gate, ROUTING_CONVERSE function

Send data that is already transformed to the remote CICS region and receive the response data.

Input Parameters

SESSION_TOKEN
Pointer to the ISSB for the link to the remote CICS region, as returned by the ISIS gate, ALLOCATE_SEND function.

BUFFER_TYPE
Specifies whether this buffer is for a request or a response.

Values for the parameter are:
REQ
RESP

CHAINING
Specifies whether this request or response is one of a chain of requests or responses from the remote CICS region.

Values for the parameter are:
CHAIN
NOT_CHAIN

Output Parameters

LAST_IN_CHAIN
Flag indicating whether more data is to be transferred from the CICS remote region. If this flag is set to YES, the ISIS gate, RECEIVE_BUFFER, is used to retrieve the remaining data.

Values for the parameter are:
YES
NO

CONTINUE
Flag indicating whether the conversation ends after a request has been processed.

Values for the parameter are:
YES
NO

CONDITION
Indicates the action if CONTINUE is set to NO.

Values for the parameter are:
NORMAL
END
SYNCPOINT
ROLLBACK
ABENDED

REASON
The following values are returned when RESPONSE is EXCEPTION:
ISIS_CONVERSATION_FAILURE
ISIS_TPN_NOT_RECOGNISED
ISIS_NOT_FOUND
ISIS_TRANSACTION_DISABLED
ISIS_REMOTE_SYSTEM_QUIESCING

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9

Values for the parameter are:
OK
EXCEPTION
INVALID
PURGED

ISIS gate, SEND_BUFFER function

Send the current buffer of the specified session. This function is used when the channel being transmitted is too large for the first buffer.

Input Parameters

BUFFER_TYPE
Specifies whether this buffer is for a request or a response.

Values for the parameter are:
REQ
RESP

DATA_BUFFER
Address and size of the buffer.

CHAINING
Specifies whether the buffer is chained.

Values for the parameter are:

CHAIN
NOT_CHAIN

SESSION

Session name

LAST_IN_CHAIN

Optional parameter.

Specifies whether the buffer is last in chain.

Values for the parameter are:

LIC
NOT_LIC

LAST

Flag indicating whether this message is the last for this transaction.

Values for the parameter are:

YES
NO

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

ABEND

The following values are returned when RESPONSE is EXCEPTION:

ALLOCATE_REJECTED
CONVERSATION_FAILURE
FACILITY_NOT_ISSESSION
MESSAGE_MISMATCH_IDENTIFY
MESSAGE_MISMATCH_LOCAL
MESSAGE_MISMATCH_VERIFY
NO_DATA
NO_SESSION
NOT_FOUND
NOT_IN_SERVICE
PROGRAM_ABEND
RESOURCE_UNAVAILABLE
SECURITY_INACTIVE
SECURITY_VIOLATION
UNSUPPORTED_REQUEST

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION
INVALID_SYNCONRETURN
INVALID_TRANSID

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9

Values for the parameter are:

OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

ISIS gate, SEND_ERROR function

Issue a CICS message based on the sense code and, if the session is in the correct state, send an IS7 error message back to the client.

Input Parameters

SENSE
: Sense code.

ABEND_CODE
: Optional Parameter

  Abend code.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  ABEND

  The following values are returned when RESPONSE is EXCEPTION:
  ALLOCATE_REJECTED
  CONVERSATION_FAILURE
  FACILITY_NOT_ISSESSION
  MESSAGE_MISMATCH_IDENTIFY
  MESSAGE_MISMATCH_LOCAL
  MESSAGE_MISMATCH_VERIFY
  NO_DATA
  NO_SESSION
  NOT_FOUND
  NOT_IN_SERVICE
  PROGRAM_ABEND
  RESOURCE_UNAVAILABLE
  SECURITY_INACTIVE
  SECURITY_VIOLATION
  UNSUPPORTED_REQUEST

  The following values are returned when RESPONSE is INVALID:
  INVALID_FORMAT
  INVALID_FUNCTION
  INVALID_SYNCONRETURN
  INVALID_TRANSID

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

  Values for the parameter are:
  OK
  EXCEPTION
  DISASTER
  INVALID
  KERNERROR
  PURGED

ISIS gate, SEND_RESPONSE function

Sends the response data back to the caller.

Input Parameters

EIBRCODE
: EIB reason code.

EXEC_ARGS
Argument string.

XFSTG
Transform storage area.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND

The following values are returned when RESPONSE is EXCEPTION:
ALLOCATE_REJECTED
CONVERSATION_FAILURE
FACILITY_NOT_ISSESSION
MESSAGE_MISMATCH_IDENTIFY
MESSAGE_MISMATCH_LOCAL
MESSAGE_MISMATCH_VERIFY
NO_DATA
NO_SESSION
NOT_FOUND
NOT_IN_SERVICE
PROGRAM_ABEND
RESOURCE_UNAVAILABLE
SECURITY_INACTIVE
SECURITY_VIOLATION
UNSUPPORTED_REQUEST

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION
INVALID_SYNCONRETURN
INVALID_TRANSID

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

WLMRCODE
Workload Manger response code.

ISIS gate, SET_PARAMETERS function

Modify parameters for the IS domain obtained by Parameter Manager .

Input Parameters

CONFDATA
Optional Parameter

Specifies whether CICS is to suppress (hide) user data that might otherwise appear in CICS trace entries or in dumps.

Values for the parameter are:
HIDETC

SHOW

NETWORKID
Optional Parameter

Network identifier.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND

The following values are returned when RESPONSE is EXCEPTION:
ALLOCATE_REJECTED
CONVERSATION_FAILURE
FACILITY_NOT_ISSESSION
MESSAGE_MISMATCH_IDENTIFY
MESSAGE_MISMATCH_LOCAL
MESSAGE_MISMATCH_VERIFY
NO_DATA
NO_SESSION
NOT_FOUND
NOT_IN_SERVICE
PROGRAM_ABEND
RESOURCE_UNAVAILABLE
SECURITY_INACTIVE
SECURITY_VIOLATION
UNSUPPORTED_REQUEST

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION
INVALID_SYNCONRETURN
INVALID_TRANSID

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

ISRE gate, CICS_RESYNC function

Respond to messages from a partner CICS region that is attempting to resynchronize work after a connection is reestablished over IPCONNs.

When communication is reestablished between a pair of CICS regions over IPCONNs, one region assumes responsibility for a resync attempt, while the other calls the CICS_RESYNC function and waits for instructions from its partner. The CICS_RESYNC function responds to any messages that the partner sends it until the resync attempt is completed.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

ISRE gate, FORCE_LINKS function

Help force UOWs following an Exchange Log Name (XLN) failure during Acquire.

This function is called under the following circumstances to force indoubt and shunted UOWs associated with an IPCONN to complete heuristically:
- Following an Exchange Log Name (XLN) failure during Acquire, when the IPCONN is defined with XLNACTION(FORCE).
- In response to SET IPCONN() NOTPENDING, when the connection is acquired service and has pending work.
- In response to SET IPCONN() NORECOVDATA, when the connection is released and has outstanding work associated with it.

Input Parameters

IPCONN_NAME
The name of the IPCONN definition; that is, the name by which CICS knows the remote system.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

ISRE gate, KEEP_LINKS function

Looks for any outstanding UOWs that are either indoubt and shunted, or committed and awaiting forget, following an Exchange Log Name (XLN) failure.

This function is called when the connection is being acquired and an XLN failure is detected, and the local IPCONN is configured with XLNACTION(KEEP). If any outstanding UOWs are found, then a message is issued for each one indicating that a resync attempt could not be carried out because of the XLN failure, and the PENDING condition is raised for the IPCONN.

Input Parameters

IPCONN_NAME
The name of the IPCONN definition; that is, the name by which CICS knows the remote system.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
```
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED
```

ISRE gate, RESYNC_LINKS function

Attempt to resynchronize links following reestablishment of an IPCONN.

When communication is reestablished between a pair of regions over IPCONNs, one region assumes responsibility for an attempt to resynchronize links, and calls this function to initiate it.

The function looks for units of work on the local system associated with the IPCONN resource that are either indoubt and shunted, or committed and awaiting forget, and attempts to drive them to completion. When it has processed its own work, the function passes control to the partner region to carry out the same activity there.

When the function has completed, both regions know the outcome of the resync attempt, and can either put their end of the connection into service, or mark it to show that there is still further resync work to be carried out.

Input Parameters

IPCONN_NAME
The name of the IPCONN definition; that is, the name by which CICS knows the remote system.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
```
COMBINED_FAILURE
LOCAL_FAILURE
REMOTE_FAILURE
```
RESPONSE
Indicates whether the domain call was successful. For more information, see reference.

Values for the parameter are:
```
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
```

PURGED

ISRE gate, XA_RESYNC function

Resynchronize XA links in response to a request from an XA client.

An XA client can make one of two types of resync requests into CICS:

1. A request for a list of XIDs to be returned to the client, for all outstanding units of work that are associated with a connection that are indoubt and shunted.
2. A request to schedule a resync attempt for a specific unit of work based upon its associated XID.

CICS uses the XA_RESYNC function to respond to either of these requests.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:

```
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED
```

ISRR gate, NOTIFY function

Notify the system of an event on an IPCONN.

Input Parameters

ACTION
Event being performed.

Values for the parameter are:

```
DATA
ERROR
SERVICE_CLOSING
SERVICE_OPENED
SESSION_CANCELLED
SESSION_CLOSED
TIMEOUT
```

SESSION_TOKEN
IPCONN Sesstion Token.

USER_TOKEN
User token associated with the session token.

Output Parameters

REASON
The values for the parameter are:

```
INVALID_ACTION
INVALID_FORMAT
INVALID_FUNCTION
INVALID_USER_TOKEN
UNEXPECTED_EXCEPTION
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
```
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED
```

ISRR gate, NOTIFY_SERVICE function

Notifiy the system of an event relating to an IPIC TCPIPSERVICE.

Input Parameters

ACTION
The event being performed by the TCPIPSERVICE.

Values for the parameter are:
```
DATA
ERROR
SERVICE_CLOSING
SERVICE_OPENED
SESSION_CANCELLED
SESSION_CLOSED
TIMEOUT
```

TCPIPSERVICE
Optional Parameter

The name of the PROTOCOL(IPIC) TCPIPSERVICE definition that defines the attributes of the inbound processing for this connection.

If no TCPIPSERVICE name is supplied, the action relates to all connections in the system with TCPIPSERVICE(IPIC).

Output Parameters

REASON
The values for the parameter are:
```
ATTACH_FAILED
INVALID_ACTION
INVALID_FORMAT
INVALID_FUNCTION
UNEXPECTED_EXCEPTION
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
```
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED
```

ISRR gate, PROCESS_ERROR_QUEUE function

Handle errors that require error processing, message processing, or both.

Output Parameters

REASON

The values for the parameter are:
- INVALID_FORMAT
- INVALID_FUNCTION
- SHUTDOWN
- UNEXPECTED_EXCEPTION

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
- OK
- EXCEPTION
- DISASTER
- INVALID
- KERNERROR
- PURGED

ISRR gate, PROCESS_INPUT_QUEUE function

Handle inbound requests and responses for all IPCONNs.

Output Parameters

REASON

The values for the parameter are:
- BAD_INPUT_QUEUE
- INVALID_FORMAT
- INVALID_FUNCTION
- SHUTDOWN
- UNEXPECTED_EXCEPTION

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
- OK
- EXCEPTION
- DISASTER
- INVALID
- KERNERROR
- PURGED

ISRR gate, TERMINATE_INPUT function

Terminate the handling of the request/response input queue at CICS termination.

Output Parameters

REASON

The values for the parameter are:
- INVALID_FORMAT
- INVALID_FUNCTION
- UNEXPECTED_EXCEPTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Values for the parameter are:
```
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED
```

IS domain modules

Module	Function
DFHISAIP	Autoinstall user program to allow tailoring of autoinstalled IPCONN resources. Assembler user replaceable module. Default configuration.
DFHISCIP	Autoinstall user program to allow tailoring of autoinstalled IPCONN resources. COBOL version of DFHISAIP.
DFHISDIP	Autoinstall user program to allow tailoring of autoinstalled IPCONN resources. C version of DFHISAIP.
DFHISPIP	Autoinstall user program to allow tailoring of autoinstalled IPCONN resources. PL/I version of DFHISAIP.
DFHISAL	IPCONN resource session management
DFHISBU	Returns the entry points of the ISCU, and ISJU gates, which process the calls issued to RMCs during syncpoint.
DFHISCO	Basic connectivity functions for IPCONN resources.
DFHISCOP	The initial program for the IS domain connectivity transactions.
DFHISCU	Performs the processing for CICS to CICS communication using IPIC, and for JCA to CICS (respectively) during UOW syncpoint.
DFHISDM	IS initialization and termination
DFHISDUF	IS Domain dump formatting
DFHISEM	IPIC errors and messages
DFHISIC	IPCONN resource management
DFHISIF	IS Inquire IP Facilities data gate
DFHISIS	IPIC main functions
DFHISJU	Entry points for ISCU and ISJU.
DFHISRE	ISRE gate module
DFHISREX	IPCONN resource resync recovery for XA
DFHISRE1	IPCONN resource resync recovery for CICS
DFHISRR	IPIC inbound request and response
DFHISRRP	IPIC receiver

Module	Function
DFHISSR	IPIC inbound request and response
DFHISTRI	IS Domain Trace Interpretation
DFHISUE	IS Domain User Exit Control
DFHISXF	IS Request Transformers
DFHISXFT	IS Transformers
DFHISXM	IS XM Attach client
DFHISZA	IS Domain Request Logic

Chapter 85. Kernel Domain (KE)

The kernel domain provides a consistent linkage and recovery environment for CICS.

Kernel Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the KE domain.

KEAR gate, DEREGISTER function

The DEREGISTER function of the KEAR gate is used when performing a normal shutdown (and optionally at an immediate shutdown) to deregister CICS(R) from the MVS(TM) automatic restart manager.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEAR gate, READY function

The READY function of the KEAR gate is used at the end of CICS initialization to indicate to the MVS automatic restart manager. that this CICS region is ready for work.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEAR gate, REGISTER function

The REGISTER function of the KEAR gate is used very early in CICS initialization to register CICS with the MVS automatic restart manager.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEAR gate, WAITPRED function

The WAITPRED function of the KEAR gate is used to wait on predecessors in the restart policy for this CICS region, to ensure that prerequisite subsystems are available to CICS.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDD gate, ADD_DOMAIN function

The ADD_DOMAIN function of the KEDD gate is used to add a new domain to the domain table.

Input Parameters

DOMAIN_NAME
is the 8-character domain name for the new domain to be added.

DOMAIN_TOKEN
is the 31-bit constant that uniquely identifies the domain, for example, DFHSM_DOMAIN for storage manager domain.

ENTRY_POINT
is the 31-bit address of the entry point for that domain, for example, A(X'80000000' + DFHSMDM) for storage manager domain.

DOMAIN_AFFINITY
Optional Parameter

is the TCB that the domain has affinity with for TERMINATE_DOMAIN.

Values for the parameter are:
`CO`
`FO`
`QR`
`RO`
`STEP`

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`DUPLICATE_DOMAIN_NAME`
`DUPLICATE_DOMAIN_TOKEN`

The following values are returned when RESPONSE is INVALID:
`INVALID_DOMAIN_TOKEN`
`INVALID_ENTRY_POINT`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDD gate, ADD_GATE function

The ADD_GATE function of the KEDD gate is used to update the domain table to add a new gate to the calling domain's gate table.

Input Parameters

ENTRY_POINT
is the 31-bit address of the entry point for that domain, for example, A(X'80000000' + DFHSMDM) for storage manager domain.

GATE_INDEX
is the 31-bit constant that uniquely identifies the gate in the domain's gate table.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`DUPLICATE_GATE_INDEX`

The following values are returned when RESPONSE is INVALID:
`INVALID_DOMAIN_TOKEN`

`INVALID_ENTRY_POINT`
`INVALID_GATE_INDEX`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDD gate, DELETE_GATE function

The DELETE_GATE function of the KEDD gate is used to delete an existing gate from the calling domain's gate table.

Input Parameters

GATE_INDEX
is the 31-bit constant that uniquely identifies the gate in the domain's gate table.

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
`INVALID_DOMAIN_TOKEN`
`INVALID_GATE_INDEX`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDD gate, INQUIRE_ANCHOR function

The INQUIRE_ANCHOR function of the KEDD gate is used to return the specified domain's global storage pointer to the caller. If the domain token is omitted, the calling domain is assumed.

Input Parameters

DOMAIN_TOKEN
Optional Parameter

is the 31-bit constant that uniquely identifies the domain, for example, DFHSM_DOMAIN for storage manager domain.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`DOMAIN_TOKEN_NOT_FOUND`

The following values are returned when RESPONSE is INVALID:
`INVALID_DOMAIN_TOKEN`

ANCHOR
is the 31-bit address of the domain's global storage.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDD gate, INQUIRE_DOMAIN_BY_NAME function

The INQUIRE_DOMAIN_BY_NAME function of the KEDD gate is used to return the domain token for a given domain name.

Input Parameters

DOMAIN_NAME
: is the 8-character domain name for the new domain to be added.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `DOMAIN_NAME_NOT_FOUND`

DOMAIN_TOKEN
: is the 31-bit constant that uniquely identifies the domain.

RESPONSE
: Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

KEDD gate, INQUIRE_DOMAIN_BY_TOKEN function

The INQUIRE_DOMAIN_BY_TOKEN function of the KEDD gate is used to return the domain name for a specified domain token.

Input Parameters

DOMAIN_TOKEN
: is the 31-bit constant that uniquely identifies the domain, for example, DFHSM_DOMAIN for storage manager domain.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `DOMAIN_TOKEN_NOT_FOUND`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_DOMAIN_TOKEN`

DOMAIN_NAME
: is the 8-character domain name for the new domain to be added.

RESPONSE
: Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

KEDD gate, INQUIRE_DOMAIN_TRACE function

The INQUIRE_DOMAIN_TRACE function of the KEDD gate is used to return the value of the specified domain's trace flags to the caller. If the domain token is omitted, the calling domain is assumed.

Input Parameters

DOMAIN_TOKEN
: Optional Parameter

  is the 31-bit constant that uniquely identifies the domain, for example, DFHSM_DOMAIN for storage manager domain.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `DOMAIN_TOKEN_NOT_FOUND`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_DOMAIN_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SPECIAL_TRACE_FLAGS
Optional Parameter

is the set of 32 bits which determines selectivity of tracing within the domain for special tasks.

STANDARD_TRACE_FLAGS
Optional Parameter

is the set of 32 bits which determines selectivity of tracing within the domain for standard tasks.

KEDD gate, INQUIRE_GLOBAL_TRACE function

The INQUIRE_GLOBAL_TRACE function of the KEDD gate is used to return the value of the global trace flags to the caller.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
```
ABEND
LOOP
```
The following values are returned when RESPONSE is EXCEPTION:
```
DOMAIN_NAME_NOT_FOUND
DOMAIN_TOKEN_NOT_FOUND
DUPLICATE_DOMAIN_NAME
DUPLICATE_DOMAIN_TOKEN
DUPLICATE_GATE_INDEX
```
The following values are returned when RESPONSE is INVALID:
```
INVALID_DOMAIN_TOKEN
INVALID_ENTRY_POINT
INVALID_FUNCTION
INVALID_GATE_INDEX
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MASTER_TRACE_FLAG
Optional Parameter

determines whether tracing, for any of the trace destinations, is active.

Values for the parameter are:
```
OFF
ON
```

SYSTEM_TRACE_FLAG
Optional Parameter

determines whether tracing is allowed for tasks for which standard tracing is in effect.

Values for the parameter are:
```
OFF
ON
```

KEDD gate, INQUIRE_TASK_TRACE function

The INQUIRE_TASK_TRACE function of the KEDD gate is used to return the value of the calling task's trace flag to the caller.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:

DOMAIN_NAME_NOT_FOUND
DOMAIN_TOKEN_NOT_FOUND
DUPLICATE_DOMAIN_NAME
DUPLICATE_DOMAIN_TOKEN
DUPLICATE_GATE_INDEX

The following values are returned when RESPONSE is INVALID:

INVALID_DOMAIN_TOKEN
INVALID_ENTRY_POINT
INVALID_FUNCTION
INVALID_GATE_INDEX

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TRACE_TYPE

Optional Parameter

determines whether standard, special, or no tracing is required for this task.

Values for the parameter are:

SPECIAL
STANDARD
SUPPRESSED

KEDD gate, PERFORM_SYSTEM_ACTION function

The PERFORM_SYSTEM_ACTION function of the KEDD gate is used in exceptional circumstances either to terminate CICS (with or without a dump) or to take an MVS SDUMP.

Input Parameters

DUMP_SYSTEM

Optional Parameter

Specifies whether an MVS SDUMP is to be taken or not.

Values for the parameter are:

NO
YES

NORMAL_TERMINATION

Optional Parameter

Specifies whether CICS is being terminated normally. Normal termination includes controlled and immediate shutdowns.

Values for the parameter are:

NO
YES

TERMINATE_SYSTEM
Optional Parameter

Specifies whether CICS is to be terminated or not.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`DOMAIN_NAME_NOT_FOUND`
`DOMAIN_TOKEN_NOT_FOUND`
`DUPLICATE_DOMAIN_NAME`
`DUPLICATE_DOMAIN_TOKEN`
`DUPLICATE_GATE_INDEX`

The following values are returned when RESPONSE is INVALID:
`INVALID_DOMAIN_TOKEN`
`INVALID_ENTRY_POINT`
`INVALID_FUNCTION`
`INVALID_GATE_INDEX`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDD gate, SET_ANCHOR function

The SET_ANCHOR function of the KEDD gate is used to establish the calling domain's global storage pointer.

Input Parameters

ANCHOR
is the 31-bit address of the domain's global storage.

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
`INVALID_DOMAIN_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDD gate, SET_DEFAULT_RECOVERY function

The SET_DEFAULT_RECOVERY function of the KEDD gate is used to establish the calling domain's default recovery routine. Used by the Application domain to identify DFHSRP as its default recovery routine.

Input Parameters

ENTRY_POINT
is the 31-bit address of the entry point for that domain, for example, A(X'80000000' + DFHSMDM) for storage manager domain.

Output Parameters

REASON
: The following values are returned when RESPONSE is INVALID:
  `INVALID_DOMAIN_TOKEN`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDD gate, SET_DOMAIN_TRACE function

The SET_DOMAIN_TRACE function of the KEDD gate is used to store the value of the specified domain's trace flags in the kernel. If the domain token is omitted, the calling domain is assumed.

Input Parameters

DOMAIN_TOKEN
: Optional Parameter

  is the 31-bit constant that uniquely identifies the domain, for example, DFHSM_DOMAIN for storage manager domain.

SPECIAL_TRACE_FLAGS
: Optional Parameter

  is the set of 32 bits which determines selectivity of tracing within the domain for special tasks.

STANDARD_TRACE_FLAGS
: Optional Parameter

  is the set of 32 bits which determines selectivity of tracing within the domain for standard tasks.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `DOMAIN_TOKEN_NOT_FOUND`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_DOMAIN_TOKEN`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDD gate, SET_GLOBAL_TRACE function

The SET_GLOBAL_TRACE function of the KEDD gate is used to store the value of the global trace flags within the kernel.

Input Parameters

MASTER_TRACE_FLAG
: Optional Parameter

  determines whether tracing, for any of the trace destinations, is active.

  Values for the parameter are:
  `OFF`
  `ON`

SYSTEM_TRACE_FLAG
: Optional Parameter

determines whether tracing is allowed for tasks for which standard tracing is in effect.

Values for the parameter are:
`OFF`
`ON`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`DOMAIN_NAME_NOT_FOUND`
`DOMAIN_TOKEN_NOT_FOUND`
`DUPLICATE_DOMAIN_NAME`
`DUPLICATE_DOMAIN_TOKEN`
`DUPLICATE_GATE_INDEX`

The following values are returned when RESPONSE is INVALID:
`INVALID_DOMAIN_TOKEN`
`INVALID_ENTRY_POINT`
`INVALID_FUNCTION`
`INVALID_GATE_INDEX`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDD gate, SET_TASK_TRACE function

The SET_TASK_TRACE function of the KEDD gate is used to store the value of the task trace flag in the current task's task table entry. A task table is a logical block of tasks, allocated together by the Kernel domain, and used to simplify the process of dynamically adding new tasks. Task tables are chained together, and vary in number.

Input Parameters

TRACE_TYPE
determines whether standard, special, or no tracing is required for this task.

Values for the parameter are:
`SPECIAL`
`STANDARD`
`SUPPRESSED`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`DOMAIN_NAME_NOT_FOUND`
`DOMAIN_TOKEN_NOT_FOUND`
`DUPLICATE_DOMAIN_NAME`
`DUPLICATE_DOMAIN_TOKEN`
`DUPLICATE_GATE_INDEX`

The following values are returned when RESPONSE is INVALID:
`INVALID_DOMAIN_TOKEN`
`INVALID_ENTRY_POINT`
`INVALID_FUNCTION`
`INVALID_GATE_INDEX`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDD gate, SET_TRAP_OFF function

The SET_TRAP_OFF function of the KEDD gate is used to reset the kernel global trap point.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`DOMAIN_NAME_NOT_FOUND`
`DOMAIN_TOKEN_NOT_FOUND`
`DUPLICATE_DOMAIN_NAME`
`DUPLICATE_DOMAIN_TOKEN`
`DUPLICATE_GATE_INDEX`

The following values are returned when RESPONSE is INVALID:
`INVALID_DOMAIN_TOKEN`
`INVALID_ENTRY_POINT`
`INVALID_FUNCTION`
`INVALID_GATE_INDEX`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDD gate, SET_TRAP_ON function

The SET_TRAP_ON function of the KEDD gate is used to set a kernel global trap point.

Input Parameters

ENTRY_POINT
is the 31-bit address of the entry point for that domain, for example, A(X'80000000' + DFHSMDM) for storage manager domain.

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
`INVALID_ENTRY_POINT`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDS gate, ABNORMALLY_TERMINATE_TASK function

The ABNORMALLY_TERMINATE_TASK function of the KEDS gate identifies the task which is to be abnormally terminated.

Input Parameters

DUMP
A binary value indicating whether CICS should take a dump when the task terminates.

Values for the parameter are:
`DUMP_NO`
`DUMP_YES`

RETRY
A binary value indicating whether the task should be retried.

Values for the parameter are:
`RETRY_NO`
`RETRY_YES`

TASK_TOKEN
identifies the task which is to be abnormally terminated.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`TERMINATE_FAILED`

The following values are returned when RESPONSE is INVALID:
`INVALID_TASK_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDS gate, ADD_CRITICAL_MODULE function

Adds the module address to the vector of modules in which a runaway condition will be deferred.

Input Parameters

MODULE_ADDR
The address of the module to be added to the vector.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`VECTOR_FULL`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDS gate, ADD_CRITICAL_WINDOW function

Adds the window address to the vector of windows in modules in which the Runaway condition will be deferred. Within such windows Runaway will not be deferred.

Input Parameters

WINDOW_END
The end address of the window.

WINDOW_START
The start address of the window.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
: `VECTOR_FULL`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDS gate, CREATE_TASK function

The CREATE_TASK function of the KEDS gate is used to allocate a new executable task from the task table. A task table is a logical block of tasks, allocated together by the Kernel domain, and used to simplify the process of dynamically adding new tasks. Task tables are chained together, and vary in number.

Input Parameters

ALLOCATION
: indicates whether or not the returned task should be allocated from those tasks pre-allocated for MXT.

  Values for the parameter are:
  `DYNAMIC`
  `STATIC`

ATTACH_TOKEN
: is the 31-bit token that uniquely identifies the request. This token is returned on the corresponding TASK_REPLY to identify the request.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
: `INQUIRE_ERROR`

  The following values are returned when RESPONSE is EXCEPTION:
  `ADD_TASK_ERROR`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TASK_TOKEN
: is the 31-bit token that uniquely identifies the newly created task.

KEDS gate, CREATE_TCB function

The CREATE_TCB function of the KEDS gate creates the default task for a new MVS TCB, and MVS posts the TCB to start execution. The default task is the task, associated with the TCB, that executes the dispatcher loop which chooses the next CICS task (system or non-system) to be dispatched, or if no CICS task is to be dispatched, issues an MVS WAIT.

Input Parameters

ATTACH_TOKEN
: is the 31-bit token that uniquely identifies the request. This token is returned on the corresponding TASK_REPLY to identify the request.

ESSENTIAL_TCB
: indicates whether CICS is to be terminated if a TCB in this mode has its ESTAE exit driven for a non recoverable error.

  Values for the parameter are:
  `ESSENTIAL_NO`

`ESSENTIAL_YES`

`EXEC_CAPABLE`
indicates whether support should be provided under the new TCB for CICS API commands.

Values for the parameter are:
`EXEC_NO`
`EXEC_YES`

`INHERIT_SUBSPACE`
indicates whether TCBs in this mode are to inherit the subspace of the attaching TCB.

Values for the parameter are:
`INHERIT_NO`
`INHERIT_YES`

`LE_ENVIRONMENT`
indicates whether CICS should tell Language Environment that it is running in a CICS environment under this TCB. If LE_CICS is specified, Language Environment will issue CICS API commands.

Values for the parameter are:
`LE_CICS`
`LE_MVS`

`MODENAME`
specifies the mode of the new TCB.

`PARENT_MODENAME`
identifies the mode of the TCB that is to ATTACH the new TCB.

`PRTY_RELATIVE_TO_QR`
gives the priority of this TCB relative to QR.

`TCB_KEY`
specifies the key to be specified on the ATTACH of TCBs in this mode. The value ends up in TCBPKF.

Values for the parameter are:
`KEY8`
`KEY9`

`DEPENDENT_ON`
Optional Parameter

specifies that the TCB is dependent on the named parent TCB mode. This parameter is used to ensure that in the case of an immediate shutdown, worker JVMs (which are built on J8 or J9 mode TCBs) are terminated before master JVMs (which are built on JM mode TCBs).

`PTHREAD`
Optional Parameter

A binary value that indicates if a pthread is to be created.

Values for the parameter are:
`NO`
`YES`

`SZERO`
Optional Parameter

gives the value (YES or NO) of the SZERO parameter for the ATTACH request. If TCB_KEY(USERKEY) is specified, SZERO(NO) is assumed.

Values for the parameter are:
`SZERO_NO`
`SZERO_YES`

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

- `INQUIRE_ERROR`
- `VECTOR_FULL`

The following values are returned when RESPONSE is EXCEPTION:

- `ADD_KTCB_ERROR`
- `ADD_TASK_ERROR`
- `ATTACH_KTCB_ERROR`
- `INVALID_CALLING_MODE`

MVS_TCB_ADDRESS

The address of the newly created MVS TCB.

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TASK_TOKEN

is the 31-bit token that uniquely identifies the newly created task.

KEDS gate, DETACH_TERMINATED_OWN_TCBS function

The DETACH_TERMINATED_OWN_TCBS function of the KEDS gate detaches any terminated TCBs which were attached by the TCB on which this function is invoked.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

- `ABEND`
- `INQUIRE_ERROR`
- `INVALID_FUNCTION`
- `LOOP`
- `VECTOR_FULL`

The following values are returned when RESPONSE is EXCEPTION:

- `ADD_KTCB_ERROR`
- `ADD_TASK_ERROR`
- `ATTACH_KTCB_ERROR`
- `CANNOT_ACCESS_TCB`
- `DEFERRED_ABEND_NOT_SENT`
- `INVALID_CALLING_MODE`
- `TCB_NOT_WAITING`
- `TERMINATE_FAILED`

The following values are returned when RESPONSE is EXCEPTION:

- `NOT_FOUND`

The following values are returned when RESPONSE is INVALID:

- `INVALID_INPUT_COMB`
- `INVALID_TASK_TOKEN`

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDS gate, END_TASK function

The END_TASK function of the KEDS gate is used to free any resources that have been acquired by the kernel domain during the lifetime of the current task and need freeing before the end of the task.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

ABEND
INQUIRE_ERROR
INVALID_FUNCTION
LOOP
VECTOR_FULL

The following values are returned when RESPONSE is EXCEPTION:

ADD_KTCB_ERROR
ADD_TASK_ERROR
ATTACH_KTCB_ERROR
CANNOT_ACCESS_TCB
DEFERRED_ABEND_NOT_SENT
INVALID_CALLING_MODE
TCB_NOT_WAITING
TERMINATE_FAILED

The following values are returned when RESPONSE is EXCEPTION:

NOT_FOUND

The following values are returned when RESPONSE is INVALID:

INVALID_INPUT_COMB
INVALID_TASK_TOKEN

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDS gate, FREE_TCBS function

The FREE_TCBS function of the KEDS gate conditionally frees control blocks, in collaboration with the Dispatcher for re-use, associated with any detached TCBs.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

ABEND
INQUIRE_ERROR
INVALID_FUNCTION
LOOP
VECTOR_FULL

The following values are returned when RESPONSE is EXCEPTION:

ADD_KTCB_ERROR
ADD_TASK_ERROR
ATTACH_KTCB_ERROR
CANNOT_ACCESS_TCB
DEFERRED_ABEND_NOT_SENT
INVALID_CALLING_MODE
TCB_NOT_WAITING
TERMINATE_FAILED

The following values are returned when RESPONSE is EXCEPTION:

NOT_FOUND

The following values are returned when RESPONSE is INVALID:

INVALID_INPUT_COMB
INVALID_TASK_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDS gate, INQUIRE_MVSTCB function

Retrieve information about an MVS TCB.

Input Parameters

MVS_TCB_ADDRESS
The address of the TCB.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TCA_TASK_NUMBER
The task number.

TCB_ID
The TCB identifier.

KEDS gate, INQUIRE_TCB function

Retrieve the kernel task token for the current TCB.

Input Parameters

DEFAULT_TASK_TOKEN
The retrieved task token.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
CANNOT_ACCESS_TCB
TCB_NOT_WAITING

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDS gate, POP_TASK function

Given a TCB executing the current CICS task, the POP_TASK function of the KEDS gate is used to make it execute its default task instead.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
INQUIRE_ERROR
INVALID_FUNCTION
LOOP
VECTOR_FULL

The following values are returned when RESPONSE is EXCEPTION:
ADD_KTCB_ERROR
ADD_TASK_ERROR

ATTACH_KTCB_ERROR
CANNOT_ACCESS_TCB
DEFERRED_ABEND_NOT_SENT
INVALID_CALLING_MODE
TCB_NOT_WAITING
TERMINATE_FAILED

The following values are returned when RESPONSE is EXCEPTION:
NOT_FOUND

The following values are returned when RESPONSE is INVALID:
INVALID_INPUT_COMB
INVALID_TASK_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDS gate, PROCESS_KETA_ERROR function

The PROCESS_KETA_ERROR function of the KEDS gate is used to handle any errors for the DFHKETA module. (The DFHKETA module handles the performance sensitive KEDS functions, and calls the DFHKEDS module when its recovery routine is invoked.)

Input Parameters

ERROR_DATA
address of the error data that describes the error that has occurred in the DFHKETA module.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDS gate, PUSH_TASK function

Given a TCB executing its default task, the PUSH_TASK function of the KEDS gate is used to make it execute a CICS task instead.

Input Parameters

TASK_TOKEN
identifies the task which is to be abnormally terminated.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
INQUIRE_ERROR
INVALID_FUNCTION
LOOP
VECTOR_FULL

The following values are returned when RESPONSE is EXCEPTION:
ADD_KTCB_ERROR
ADD_TASK_ERROR
ATTACH_KTCB_ERROR
CANNOT_ACCESS_TCB
DEFERRED_ABEND_NOT_SENT

`INVALID_CALLING_MODE`
`TCB_NOT_WAITING`
`TERMINATE_FAILED`

The following values are returned when RESPONSE is EXCEPTION:
`NOT_FOUND`

The following values are returned when RESPONSE is INVALID:
`INVALID_INPUT_COMB`
`INVALID_TASK_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TASK_CPU_INTERVAL
Optional Parameter

The CPU time used by the task.

KEDS gate, READ_TIME function

The READ_TIME function of the KEDS gate is used to obtain the total CPU time that the current task has taken so far and the accumulated CPU time for the current TCB.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`INQUIRE_ERROR`
`INVALID_FUNCTION`
`LOOP`
`VECTOR_FULL`

The following values are returned when RESPONSE is EXCEPTION:
`ADD_KTCB_ERROR`
`ADD_TASK_ERROR`
`ATTACH_KTCB_ERROR`
`CANNOT_ACCESS_TCB`
`DEFERRED_ABEND_NOT_SENT`
`INVALID_CALLING_MODE`
`TCB_NOT_WAITING`
`TERMINATE_FAILED`

The following values are returned when RESPONSE is EXCEPTION:
`NOT_FOUND`

The following values are returned when RESPONSE is INVALID:
`INVALID_INPUT_COMB`
`INVALID_TASK_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACCUM_TIME
Optional Parameter

A doubleword containing the accumulated CPU time used so far by the current TCB.

TASK_CPU_ACCUM
Optional Parameter

The accumulated CPU time used by the task.

TASK_CPU_INTERVAL
Optional Parameter

The CPU time used by the task.

KEDS gate, RESET_TIME function

The RESET_TIME function of the KEDS gate is used to reset the total CPU time that the current task has taken so far.

Input Parameters

TASK_TOKEN
Optional Parameter

identifies the task which is to be abnormally terminated.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`INQUIRE_ERROR`
`INVALID_FUNCTION`
`LOOP`
`VECTOR_FULL`

The following values are returned when RESPONSE is EXCEPTION:
`ADD_KTCB_ERROR`
`ADD_TASK_ERROR`
`ATTACH_KTCB_ERROR`
`CANNOT_ACCESS_TCB`
`DEFERRED_ABEND_NOT_SENT`
`INVALID_CALLING_MODE`
`TCB_NOT_WAITING`
`TERMINATE_FAILED`

The following values are returned when RESPONSE is EXCEPTION:
`NOT_FOUND`

The following values are returned when RESPONSE is INVALID:
`INVALID_INPUT_COMB`
`INVALID_TASK_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TASK_CPU_ACCUM
Optional Parameter

The accumulated CPU time used by the task.

TASK_CPU_INTERVAL
Optional Parameter

The CPU time used by the task.

KEDS gate, RESTORE_STIMER function

The RESTORE_STIMER function of the KEDS gate is used to restore the kernel's STIMER exit after MVS requests that use the MVS STIMER macro internally.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `INQUIRE_ERROR`
  `INVALID_FUNCTION`
  `LOOP`
  `VECTOR_FULL`

  The following values are returned when RESPONSE is EXCEPTION:
  `ADD_KTCB_ERROR`
  `ADD_TASK_ERROR`
  `ATTACH_KTCB_ERROR`
  `CANNOT_ACCESS_TCB`
  `DEFERRED_ABEND_NOT_SENT`
  `INVALID_CALLING_MODE`
  `TCB_NOT_WAITING`
  `TERMINATE_FAILED`

  The following values are returned when RESPONSE is EXCEPTION:
  `NOT_FOUND`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_INPUT_COMB`
  `INVALID_TASK_TOKEN`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDS gate, SEND_DEFERRED_ABEND function

The SEND_DEFERRED_ABEND function of the KEDS gate is used by the transaction manager to implement the deferred purge function. If a purge request is made against a task that is not in a suitable state to be purged, this function defers the abend of that task until the task is no longer protected against purge.

Input Parameters

ERROR_CODE
: The abend code that CICS issues when the task is eventually purged.

DS_TASK_TOKEN
: Optional Parameter

  is the 31-bit dispatcher token that identifies the CICS task to be abended. If not supplied, DS_TASK_TOKEN defaults to the current task.

FORCE
: Optional Parameter

  indicates whether or not the deferred abend is to be forced.

  Values for the parameter are:
  `NO`
  `YES`

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `INQUIRE_ERROR`
  `INVALID_FUNCTION`

`LOOP`
`VECTOR_FULL`

The following values are returned when RESPONSE is EXCEPTION:
`ADD_KTCB_ERROR`
`ADD_TASK_ERROR`
`ATTACH_KTCB_ERROR`
`CANNOT_ACCESS_TCB`
`DEFERRED_ABEND_NOT_SENT`
`INVALID_CALLING_MODE`
`TCB_NOT_WAITING`
`TERMINATE_FAILED`

The following values are returned when RESPONSE is EXCEPTION:
`NOT_FOUND`

The following values are returned when RESPONSE is INVALID:
`INVALID_INPUT_COMB`
`INVALID_TASK_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDS gate, START_FORCE_PURGE_PROTECT function

The START_PURGE_PROTECTION function of the KEDS gate is used to inhibit force-purge for the current task.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDS gate, START_PURGE_PROTECTION function

The START_PURGE_PROTECTION function of the KEDS gate is used to inhibit purge, but not force-purge, for the current task.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDS gate, START_RUNAWAY_TIMER function

The START_RUNAWAY_TIMER function of the KEDS gate is used to resume runaway timing for the current task. This reduces the stop runaway count by one. The timer is resumed only when all outstanding STOP_RUNAWAY_TIMER requests have been canceled.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`INQUIRE_ERROR`
`INVALID_FUNCTION`
`LOOP`
`VECTOR_FULL`

The following values are returned when RESPONSE is EXCEPTION:
`ADD_KTCB_ERROR`
`ADD_TASK_ERROR`
`ATTACH_KTCB_ERROR`
`CANNOT_ACCESS_TCB`
`DEFERRED_ABEND_NOT_SENT`
`INVALID_CALLING_MODE`
`TCB_NOT_WAITING`
`TERMINATE_FAILED`

The following values are returned when RESPONSE is EXCEPTION:
`NOT_FOUND`

The following values are returned when RESPONSE is INVALID:
`INVALID_INPUT_COMB`
`INVALID_TASK_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

KEDS gate, STOP_FORCE_PURGE_PROTECT function

The STOP_FORCE_PURGE_PROTECTION function of the KEDS gate is used to enable again force purge for the current task after force purge has been suspended by a previous START_FORCE_ PURGE_PROTECTION function call.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

KEDS gate, STOP_PURGE_PROTECTION function

The STOP_PURGE_PROTECTION function of the KEDS gate is used to enable again purge for the current task after purge has been suspended by a previous START_PURGE_PROTECTION function call.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

KEDS gate, STOP_RUNAWAY_TIMER function

The STOP_RUNAWAY_TIMER function of the KEDS gate is used to inhibit runaway detection for the current task. The remaining runaway interval is preserved until a START_RUNAWAY_TIMER request is issued. The stop runaway count is incremented by one; this allows STOP_RUNAWAY_TIMER requests to be nested.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`INQUIRE_ERROR`
`INVALID_FUNCTION`
`LOOP`
`VECTOR_FULL`

The following values are returned when RESPONSE is EXCEPTION:

`ADD_KTCB_ERROR`
`ADD_TASK_ERROR`
`ATTACH_KTCB_ERROR`
`CANNOT_ACCESS_TCB`
`DEFERRED_ABEND_NOT_SENT`
`INVALID_CALLING_MODE`
`TCB_NOT_WAITING`
`TERMINATE_FAILED`

The following values are returned when RESPONSE is EXCEPTION:

`NOT_FOUND`

The following values are returned when RESPONSE is INVALID:

`INVALID_INPUT_COMB`
`INVALID_TASK_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEGD gate, INQUIRE_KERNEL function

The INQUIRE_KERNEL function of the KEGD gate is used to obtain the global data maintained by the kernel.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

`ABEND`
`LOOP`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ALTERNATE_XRF_IDS
Optional Parameter

is the 8-character name of the recoverable service table used if the CICS region is running with XRF and DBCTL.

CICS_SVC_NUMBER
Optional Parameter

is the 8-bit CICS service SVC number.

CPU_MONITORING
Optional Parameter

specifies whether the kernel is to perform CPU monitoring.

Values for the parameter are:

`NO`
`YES`

DUMP_RETRY_TIME
Optional Parameter

specifies the total time that CICS is to continue trying to obtain a system dump using the SDUMP macro.

GENERIC_APPLID
Optional Parameter

is the 8-character generic applid that identifies the active and alternate CICS systems to VTAM in an XRF environment.

HPO
Optional Parameter

specifies whether CICS is to use the VTAM high performance option.

Values for the parameter are:
- NO
- YES

ISC
Optional Parameter

specifies whether ISC support is included in this CICS region.

Values for the parameter are:
- NO
- YES

OP_REL
Optional Parameter

is the 2-byte operating system release and modification level.

OP_SYS
Optional Parameter

is the 1-character operating system identifier, for example, 'B' = MVS.

OP_VER
Optional Parameter

is the 1-byte operating system version.

OS_PARMS
Optional Parameter

is the 8-byte block containing the 31-bit address and 31-bit length of the MVS parameters.

SIT_NAME
Optional Parameter

is the 8-character SIT name.

SPECIFIC_APPLID
Optional Parameter

is the 8-character specific applid that identifies the CICS system in the VTAM network.

SYSID
Optional Parameter

is the 4-character ZCP system entry name.

SYSTEM_RUNAWAY_LIMIT
Optional Parameter

the ICVR time to be used by all tasks that have been defined to have the default runaway limit in the system.

USS_PROCESS
Optional Parameter

specifies whether the kernel successfully issued a Unix System Services **SET_DUB_DEFAULT DUBPROCESS** command during CICS initialization.

Values for the parameter are:
- NO
- YES

XRF
Optional Parameter

specifies whether ISC support is included in this CICS region.

Values for the parameter are:
`NO`
`YES`

`XRF_COMMAND_LIST`
Optional Parameter

is the 8-character name of the command list table used by the XRF alternate CICS region.

KEGD gate, SET_KERNEL function

The SET_KERNEL function of the KEGD gate is used to change the global data maintained by the kernel.

Input Parameters

`ALTERNATE_XRF_IDS`
Optional Parameter

is the 8-character name of the recoverable service table used if the CICS region is running with XRF and DBCTL.

`CICS_SVC_NUMBER`
Optional Parameter

is the 8-bit CICS service SVC number.

`CPU_MONITORING`
Optional Parameter

specifies whether the kernel is to perform CPU monitoring.

Values for the parameter are:
`NO`
`YES`

`DUMP_RETRY_TIME`
Optional Parameter

specifies the total time that CICS is to continue trying to obtain a system dump using the SDUMP macro.

`GENERIC_APPLID`
Optional Parameter

is the 8-character generic applid that identifies the active and alternate CICS systems to VTAM in an XRF environment.

`HPO`
Optional Parameter

specifies whether CICS is to use the VTAM high performance option.

Values for the parameter are:
`NO`
`YES`

`ISC`
Optional Parameter

specifies whether ISC support is included in this CICS region.

Values for the parameter are:
`NO`
`YES`

`SIT_NAME`
Optional Parameter

is the 8-character name of the system initialization table.

SPECIFIC_APPLID
Optional Parameter

is the 8-character specific applid that identifies the CICS system in the VTAM network.

SYSID
Optional Parameter

is the 4-character ZCP system entry name.

SYSTEM_RUNAWAY_LIMIT
Optional Parameter

the ICVR time to be used by all tasks that have been defined to have the default runaway limit in the system.

TERMINATE_FO
Optional Parameter

specifies whether the FO TCB can be normally terminated on an immediate shutdown.

Values for the parameter are:
NO
YES

XRF
Optional Parameter

specifies whether XRF support is included in the CICS region.

Values for the parameter are:
NO
YES

XRF_COMMAND_LIST
Optional Parameter

is the 8-character name of the command list table used by the XRF alternate CICS region.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
WRONG_SVC_NUMBER

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KETI gate, ADJUST_STCK_TO_LOCAL function

Perform local time adjustment on a STCK value

Input Parameters

GMT_STCK
The STCK value to be adjusted.

Output Parameters

LOCAL_STCK
The adjusted STCK value.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KETI gate, CONVERT_TO_DECIMAL_TIME function

The CONVERT_TO_DECIMAL_TIME function of the KETI gate is used to convert dates and times in the internal store clock (STCK) format to decimal format.

Input Parameters

STCK_TIME
is a doubleword containing a date and time in STCK format.

LOCAL_ADJUST
Optional Parameter

Specifies whether to adjust the STCK value to local time.

Values for the parameter are:

```
NO
YES
```

Output Parameters

DECIMAL_DATE
is an 8-character date in the format determined by FULL_DATE_FORMAT.

DECIMAL_MICROSECONDS
is the 6-character microseconds portion of DECIMAL_TIME.

DECIMAL_TIME
is the current local decimal time in the format HHMMSS.

FULL_DATE_FORMAT
is the current full date format determined by the default date format of the timer domain.

Values for the parameter are:

```
DDMMYYYY
MMDDYYYY
YYYYMMDD
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KETI gate, CONVERT_TO_STCK_FORMAT function

The CONVERT_TO_STCK_FORMAT function of the KETI gate is used to convert times and dates to STCK format.

Input Parameters

DECIMAL_TIME
is the current local decimal time in the format HHMMSS.

DECIMAL_DATE
Optional Parameter

is an optional 8-character date in the format determined either by FULL_DATE_FORMAT or by the default for the timer domain if FULL_DATE_FORMAT is omitted.

FULL_DATE_FORMAT
Optional Parameter

is the current full date format.

Values for the parameter are:

DDMMYYYY
MMDDYYYY
YYYYMMDD

INSTANCE
Optional Parameter

is required only if DECIMAL_DATE is omitted.

Values for the parameter are:
LAST
NEXT
TODAY

LOCAL_ADJUST
Optional Parameter

Specifies whether to apply a local time adjustment.

Values for the parameter are:
NO
YES

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STCK_TIME
is a doubleword containing the STCK value corresponding to the input local time.

KETI gate, INQ_LOCAL_DATETIME_DECIMAL function

The INQ_LOCAL_DATETIME_DECIMAL function of the KETI gate is used to return the local date, and the local time in decimal format.

Output Parameters

DECIMAL_DATE
is an 8-character date in the format determined by FULL_DATE_FORMAT.

DECIMAL_MICROSECONDS
is the 6-character microseconds portion of DECIMAL_TIME.

DECIMAL_TIME
is the current local decimal time in the format HHMMSS.

FULL_DATE_FORMAT
is the current full date format determined by the default date format of the timer domain.

Values for the parameter are:
DDMMYYYY
MMDDYYYY
YYYYMMDD

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KETI gate, INQUIRE_DATE_FORMAT function

The INQUIRE_DATE_FORMAT function of the KETI gate is used to return the current date format.

Output Parameters

DATE_FORMAT
is the current default date format for the timer domain.

Values for the parameter are:
DDMMYY
MMDDYY
YYMMDD

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KETI gate, REQUEST_NOTIFY_OF_A_RESET function

The REQUEST_NOTIFY_OF_A_RESET function of the KETI gate requests a shoulder tap from KETI whenever the local time is reset.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KETI gate, RESET_LOCAL_TIME function

The RESET_LOCAL_TIME function of the KETI gate is used by the AP domain to inform KETI that a local time reset has occurred.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KETI gate, SET_DATE_FORMAT function

The SET_DATE_FORMAT function of the KETI gate is used to set the date format for the timer domain.

Input Parameters

DATE_FORMAT
is the format to be set as the default for the timer domain.

Values for the parameter are:
DDMMYY
MMDDYY
YYMMDD

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEXM gate, TRANSACTION_INITIALISATION function

The TRANSACTION_INITIALISATION function of the KEXM gate is used to perform kernel initialisation during XM task-reply.

Input Parameters

TRANSACTION_TOKEN
: is a token identifying the transaction for which kernel initialization is to be performed.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `LOOP`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_FUNCTION`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Kernel domain generic formats

Table 51 describes the generic formats owned by the domain and shows the functions performed on the calls.

Table 51. Kernel domain generic formats

Format	Calling module	Function
KEDS	DFHKETA DFHKETCB	TASK_REPLY TCB_REPLY
KETI	DFHKETI	NOTIFY_RESET

Note: In the descriptions of the formats, the input parameters are input not to the Kernel domain, but to the domain being called by the Kernel domain. Similarly, the output parameters are output by the domain that was called by the Kernel domain, in response to the call.

KEDS gate, TASK_REPLY function

The TASK_REPLY function of the KEDS format is issued by the kernel to the issuer of CREATE_TASK, under the new task.

Input Parameters

ATTACH_TOKEN
: is the 31-bit token that uniquely identifies the corresponding CREATE_TASK request.

TASK_TOKEN
: is the 31-bit token that uniquely identifies the new task.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `INQUIRE_ERROR`
  `INVALID_FUNCTION`
  `LOOP`
  `VECTOR_FULL`

  The following values are returned when RESPONSE is EXCEPTION:

ADD_KTCB_ERROR
ADD_TASK_ERROR
ATTACH_KTCB_ERROR
CANNOT_ACCESS_TCB
DEFERRED_ABEND_NOT_SENT
INVALID_CALLING_MODE
TCB_NOT_WAITING
TERMINATE_FAILED

The following values are returned when RESPONSE is EXCEPTION:
NOT_FOUND

The following values are returned when RESPONSE is INVALID:
INVALID_INPUT_COMB
INVALID_TASK_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEDS gate, TCB_REPLY function

The TCB_REPLY function of the KEDS format is issued by the kernel to the issuer of CREATE_TCB, under the new TCB's default task.

Input Parameters

ATTACH_TOKEN
is the 31-bit token that uniquely identifies the corresponding CREATE_TCB request.

TASK_TOKEN
is the 31-bit token that uniquely identifies the new TCB's task.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
INQUIRE_ERROR
INVALID_FUNCTION
LOOP
VECTOR_FULL

The following values are returned when RESPONSE is EXCEPTION:
ADD_KTCB_ERROR
ADD_TASK_ERROR
ATTACH_KTCB_ERROR
CANNOT_ACCESS_TCB
DEFERRED_ABEND_NOT_SENT
INVALID_CALLING_MODE
TCB_NOT_WAITING
TERMINATE_FAILED

The following values are returned when RESPONSE is EXCEPTION:
NOT_FOUND

The following values are returned when RESPONSE is INVALID:
INVALID_INPUT_COMB
INVALID_TASK_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KETI gate, NOTIFY_RESET function

The NOTIFY_RESET function of the KETI format is used by KETI itself to inform domains that a RESET has occurred.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Modules

Module	Function
DFHKEAR	Implements KEAR service requests.
DFHKEDCL	Implements domain call requests.
DFHKEDD	Services KEDD-format requests.
DFHKEDRT	Implements domain return requests.
DFHKEDS	Services KEDS-format requests.
DFHKEDUF	Offline dump formatting routine to format the kernel domain control blocks.
DFHKEEDA	Handles deferred abends
DFHKEGD	Services KEGD-format requests.
DFHKEIN	Implements kernel domain initialization.
DFHKELCL	Implements LIFO Push.
DFHKELOC	Offline dump formatting routine to locate the kernel domain anchor blocks.
DFHKELRT	Implements LIFO Pop.
DFHKERCD	Constructs the kernel domain error data for error handling routines.
DFHKERER	Updates the kernel domain error table for error handling routines.
DFHKERET	Implements RESET_ADDRESS requests.
DFHKERKE	Handles KERNERROR responses for domain call requests which cannot handle them.
DFHKERPC	Implements recovery percolation both from RECOVERY_PERCOLATE requests and also other recovery events that, because of the existing environment, must be percolated.
DFHKERRI	Responsible for passing control to a recovery routine.
DFHKERRQ	Implements RECOVERY_REQUEST requests.
DFHKERRU	Implements runaway task error handling.
DFHKERRX	Implements RECOVERY_EXIT requests.
DFHKESCL	Implements subroutine call requests.
DFHKESFM	Handles freeing of stack segments.
DFHKESGM	Handles allocation of new stack segments.
DFHKESIP	Receives control from and returns control to MVS.
DFHKESRT	Implements subroutine return requests.
DFHKESTX	The CICS ESTAE exit which passes control to the appropriate level of recovery routine.
DFHKESVC	Provides authorized services for kernel domain functions.

Module	Function
DFHKETA	Implements KEDS CREATE_TASK requests.
DFHKETCB	Receives control from MVS for a kernel domain TCB.
DFHKETI	Provides service time functions at the KETI gate.
DFHKETIX	Performs task CPU monitoring functions and task runaway detection.
DFHKETRI	Offline trace formatting routine for kernel domain trace entries.
DFHKETXR	Allows an attaching TCB to detemine that a TCB (but not a specific TCB) which it attached, has terminated. This allows for the possibility of initiating a more timely detach of TCBs which have terminated normally, and to detect TCBs which have prematurely terminated.
DFHKEXM	Implements KEXM_FORMAT requests.

Chapter 86. Loader Domain (LD)

The loader domain is used to obtain access to storage-resident copies of nucleus and application programs, maps, and tables. The loader domain uses the operating system interfaces to load programs into the CICS dynamic storage areas (DSAs), and to scan the link pack area (LPA).

Loader domain's specific gates

The specific gates provide access for other domains to functions that are provided by the LD domain.

LDLB gate, ADD_REPLACE_LIBRARY function

The ADD_REPLACE_LIBRARY function of the LDLB gate is used to install a new LIBRARY resource into the CICS system, or to replace an installed disabled LIBRARY resource of the same name.

Input Parameters

LIBRARY_NAME
specifies the name of the LIBRARY to be installed or replaced.

CRITICAL
Optional parameter

specifies whether the LIBRARY is to be installed as critical (must be available at CICS startup) or non-critical (does not have to be available at CICS startup).

Values for the parameter are:
```
CRITICAL_YES
CRITICAL_NO
```

DSNAME01
Optional Parameter

specifies the name of a data set in the LIBRARY concatenation.

DSNAME02
Optional Parameter

specifies the name of a data set in the LIBRARY concatenation.

DSNAME03
Optional Parameter

specifies the name of a data set in the LIBRARY concatenation.

DSNAME04
Optional Parameter

specifies the name of a data set in the LIBRARY concatenation.

DSNAME05
Optional Parameter

specifies the name of a data set in the LIBRARY concatenation.

DSNAME06
Optional Parameter

specifies the name of a data set in the LIBRARY concatenation.

DSNAME07
Optional Parameter

specifies the name of a data set in the LIBRARY concatenation.

DSNAME08
Optional Parameter

specifies the name of a data set in the LIBRARY concatenation.

DSNAME09
Optional Parameter

specifies the name of a data set in the LIBRARY concatenation.

DSNAME10
Optional Parameter

specifies the name of a data set in the LIBRARY concatenation.

DSNAME11
Optional Parameter

specifies the name of a data set in the LIBRARY concatenation.

DSNAME12
Optional Parameter

specifies the name of a data set in the LIBRARY concatenation.

DSNAME13
Optional Parameter

specifies the name of a data set in the LIBRARY concatenation.

DSNAME14
Optional Parameter

specifies the name of a data set in the LIBRARY concatenation.

DSNAME15
Optional Parameter

specifies the name of a data set in the LIBRARY concatenation.

DSNAME16
Optional Parameter

specifies the name of a data set in the LIBRARY concatenation.

ENABLE_STATUS
Optional Parameter

specifies whether the LIBRARY is to be installed as enabled (participates in the search order) or disabled (does not participate in the search order).

Values for the parameter are:
```
DISABLED
ENABLED
```

RANKING
Optional Parameter

specifies the ranking value to be assigned to this LIBRARY, which is used to determine its position within the search order.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
```
ABEND
CATALOG_WRITE_FAILED
CATALOG_DELETE_FAILED
LIBRARY_LOCK_ERROR
LIBRARY_NAME_ERROR
LIBRARY_CHAIN_ERROR
LOOP
DSNAME_ARRAY_ERROR
```

The following values are returned when RESPONSE is EXCEPTION:

```
INSUFFICIENT_STORAGE
ALLOCATE_FAILED_ENABLE
CONCATENATE_FAILED_ENABLE
OPEN_FAILED_ENABLE
NOT_DISABLED
SECURITY_FAILURE
USERID_NOTAUTHED
MVS_ABEND_CONDITION
SERIOUS MVS ABEND
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
INVALID_PARAMETERS
```

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LDLB gate, DISCARD_LIBRARY function

The DISCARD_LIBRARY function of the LDLB gate is used to remove a LIBRARY resource from the CICS system.

Input Parameters

LIBRARY_NAME

specifies the name of the LIBRARY to be discarded.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

```
ABEND
CATALOG_DELETE_FAILED
LIBRARY_LOCK_ERROR
LIBRARY_NAME_ERROR
LIBRARY_CHAIN_ERROR
LOOP
DSNAME_ARRAY_ERROR
```

The following values are returned when RESPONSE is EXCEPTION:

```
LIBRARY_NOT_FOUND
NOT_DISABLED
CLOSE_FAILED
DECONCATENATE_FAILED
UNALLOCATE_FAILED
LIBRARY_DELETE_ERROR
MVS_ABEND_CONDITION
SERIOUS MVS ABEND
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
```

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LDLB gate, END_BROWSE_LIBRARY function

The END_BROWSE_LIBRARY function of the LDLB gate is used to end a browse session of the LIBRARY resources installed in the CICS system.

Input Parameters

BROWSE_TOKEN
is a token which identifies this browse session of LIBRARY resources.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is INVALID:
INVALID_BROWSE_TOKEN
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LDLB gate, GET_NEXT_LIBRARY function

The GET_NEXT_LIBRARY function of the LDLB gate is used to get information about the next LIBRARY in the current browse session of LIBRARY resources currently installed in the CICS system. The browse is in ranking order, and in install-time order within ranking.

Input Parameters

BROWSE_TOKEN
is a token which identifies this browse of LIBRARY resources.

LIBRARY_DSNAMES
Optional parameter

specifies buffer storage in which the list of all data sets within the LIBRARY is to be returned.

Output Parameters

LIBRARY_NAME
returns the name of the next LIBRARY in the browse of LIBRARY resources.

CRITICAL
Optional parameter

specifies whether the LIBRARY is to be installed as critical (must be available at CICS startup) or non-critical (does not have to be available at CICS startup).

Values for the parameter are:
CRITICAL_YES
CRITICAL_NO

DSNAME01
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME02
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME03
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME04
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME05
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME06
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME07
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME08
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME09
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME10
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME11
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME12
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME13
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME14
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME15
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME16
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

ENABLE_STATUS
Optional Parameter

returns a value which indicates whether the LIBRARY is currently enabled (participates in the search order) or disabled (does not participate in the search order)

Values for the parameter are:
DISABLED
ENABLED

RANKING
Optional Parameter

returns the ranking value currently assigned to this LIBRARY, which is used to determine its position within the search order.

SEARCH_POSITION
Optional Parameter

returns the actual current position of this LIBRARY in the overall LIBRARY search order (zero if the LIBRARY is disabled).

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
LIBRARY_NOT_FOUND
NO_MORE_DATA_AVAILABLE
BUFFER_TOO_SMALL

The following values are returned when RESPONSE is INVALID:
INVALID_BROWSE_TOKEN
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LDLB gate, INQUIRE_LIBRARY function

The INQUIRE_LIBRARY function of the LDLB gate is used to get information about the specified LIBRARY.

Input Parameters

LIBRARY_NAME
specifies the name of the required LIBRARY.

LIBRARY_DSNAMES
Optional parameter

specifies buffer storage in which the list of all data sets within the LIBRARY is to be returned.

Output Parameters

CRITICAL
Optional parameter

specifies whether the LIBRARY is defined as critical (must be available at CICS startup) or non-critical (does not have to be available at CICS startup).

Values for the parameter are:
```
CRITICAL_YES
CRITICAL_NO
```

DSNAME01
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME02
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME03
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME04
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME05
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME06
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME07
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME08
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME09
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME10
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME11
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME12
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME13
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME14
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME15
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

DSNAME16
Optional Parameter

returns the name of a data set in the LIBRARY concatenation. This name can be blank.

ENABLE_STATUS
Optional Parameter

returns a value which indicates whether the LIBRARY is currently enabled (participates in the search order) or disabled (does not participate in the search order)

Values for the parameter are:
`DISABLED`
`ENABLED`

RANKING
Optional Parameter

returns the ranking value currently assigned to this LIBRARY, which is used to determine its position within the search order.

SEARCH_POSITION
Optional Parameter

returns the actual current position of this LIBRARY in the overall LIBRARY search order (zero if the LIBRARY is disabled).

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`LIBRARY_NOT_FOUND`
`BUFFER_TOO_SMALL`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LDLB gate, LOG_LIBRARY_ORDER function

The LOG_LIBRARY_ORDER function of the LDLB gate is used to log the current configuration of installed enabled LIBRARY resources in the CICS system as part of an audit trail.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:

  ```
  ABEND
  LOOP
  ```

  The following values are returned when RESPONSE is INVALID:

  ```
  INVALID_FORMAT
  INVALID_FUNCTION
  ```

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LDLB gate, SET_LIBRARY function

The SET_LIBRARY function of the LDLB gate is used to set attributes of the specified LIBRARY. The specified LIBRARY must be installed in the CICS system.

Input Parameters

LIBRARY_NAME
: specifies the name of the LIBRARY to be updated.

CRITICAL
: Optional parameter

  specifies whether the LIBRARY is defined as critical (must be available at CICS startup) or non-critical (does not have to be available at CICS startup).

  Values for the parameter are:

  ```
  CRITICAL_YES
  CRITICAL_NO
  ```

ENABLE_STATUS
: Optional Parameter

  specifies whether the LIBRARY is to be enabled (participates in the search order) or disabled (does not participate in the search order).

  Values for the parameter are:

  ```
  DISABLED
  ENABLED
  ```

RANKING
: Optional Parameter

  specifies the ranking value to be assigned to this LIBRARY, which is used to determine its position within the search order.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:

  ```
  ABEND
  CATALOG_WRITE_FAILED
  ```

LOOP

The following values are returned when RESPONSE is EXCEPTION:

LIBRARY_NOT_FOUND
ALLOCATE_FAILED_ENABLE
CONCATENATE_FAILED_ENABLE
OPEN_FAILED_ENABLE
CLOSE_FAILED
DECONCATENATE_FAILED
UNALLOCATE_FAILED
MVS_ABEND_CONDITION

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LDLB gate, START_BROWSE_LIBRARY function

The START_BROWSE_LIBRARY function of the LDLB gate is used to start a browse session through the LIBRARY resources currently installed in the CICS system. It is used to obtain a browse token for use with a subsequent GET_NEXT_LIBRARY or END_BROWSE_LIBRARY call.

Output Parameters

BROWSE_TOKEN
returns a token used to refer to this browse session on subsequent LIBRARY browse requests

REASON
The following values are returned when RESPONSE is DISASTER:

ABEND
LOOP

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LDLD gate, ACQUIRE_PROGRAM function

The ACQUIRE_PROGRAM function of the LDLD gate is used to obtain the entry point and load point addresses and the length of a usable copy of the named program. The program must previously have been identified to the system in a DEFINE request, either during this session or in a previous session, if the catalog is in use.

Input Parameters

PROGRAM_NAME
specifies the name of the required program.

PROGRAM_TOKEN
is a valid program-identifying token as returned by a previous DEFINE or ACQUIRE request for the same program name.

SUSPEND
Optional Parameter

indicates whether the caller expects to receive control with an exception response if the loader encounters a shortage of virtual storage, or other transient error conditions. If there is insufficient storage to satisfy the request, SUSPEND(YES) causes the caller to be suspended until the request can be satisfied, and SUSPEND(NO) causes an exception response (reason NO_STORAGE) to be returned to the caller.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LIBRARY_IO_ERROR`
`LOOP`
`OS_STORAGE_SHORTAGE`

The following values are returned when RESPONSE is EXCEPTION:
`NO_STORAGE`

The following values are returned when RESPONSE is EXCEPTION:
`PROGRAM_NOT_DEFINED`
`PROGRAM_NOT_FOUND`

The following values are returned when RESPONSE is INVALID:
`INVALID_PROGRAM_TOKEN`

ENTRY_POINT
is the address of the entry point of the program instance.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

COPY_STATUS
Optional Parameter

indicates whether this request resulted in a physical load of the program into storage, and is used by the program manager domain to recognize that a COBOL program requires initialization.

Values for the parameter are:
`NEW_COPY`
`OLD_COPY`

FETCH_TIME
Optional Parameter

is the time taken to load the program from the DFHRPL or dynamic LIBRARY concatenation. This is represented as the middle 4 bytes of a doubleword stored clock (STCK) value. If the acquired program resides in the MVS link pack area (LPA) or has already been loaded into one of the CICS dynamic storage areas (DSAs), the returned value is zero.

LOAD_POINT
Optional Parameter

is the address of the load point of the program instance.

LOCATION
Optional Parameter

determines where the program instance for which the LOAD_POINT and ENTRY_POINT have been returned resides.

Values for the parameter are:

- `CDSA`
- `ECDSA`
- `ELPA`
- `ERDSA`
- `ESDSA`
- `LPA`
- `NONE`
- `RDSA`
- `SDSA`

NEW_PROGRAM_TOKEN

Optional Parameter

is the identifying token that may be used on subsequent ACQUIRE or RELEASE calls for this program name.

PROGRAM_ATTRIBUTE

Optional Parameter

reflects the program attribute from the program definition, and is used by the program manager domain to recognize RELOAD programs.

Values for the parameter are:

- `RELOAD`
- `RESIDENT`
- `REUSABLE`
- `TEST`
- `TRANSIENT`

PROGRAM_LENGTH

Optional Parameter

is the length of the program instance in bytes.

LDLD gate, CATALOG_PROGRAMS function

The CATALOG_PROGRAMS function of the LDLD gate is used at the end of CICS initialization to request the loader domain to catalog all the program definitions that need cataloging. The call is issued by the DFHSIJ1 module.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

- `ABEND`
- `LOOP`

The following values are returned when RESPONSE is EXCEPTION:

- `CATALOG_ERROR`
- `CATALOG_NOT_OPERATIONAL`

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LDLD gate, CONVERT_NAME function

Obtain the primary member name for a long alias name from the cache if known, otherwise from the DFHRPL or dynamic LIBRARY concatenation.

Input Parameters

LONG_NAME

Optional Parameter

the alias name to be converted.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:

LIBRARY_IO_ERROR
NO_STORAGE
OS_STORAGE_SHORTAGE
PROGRAM_NOT_FOUND

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PROGRAM_NAME

Optional Parameter

The primary member name corresponding to the alias name.

LDLD gate, DEFINE_PROGRAM function

The DEFINE_PROGRAM function of the LDLD gate is used to introduce a new program to the CICS system or to update the details of an existing program.

Input Parameters

PROGRAM_NAME

specifies the name of the required program.

CATALOG_MODULE

Optional Parameter

indicates whether the program definition should be written to one of the catalogs.

Values for the parameter are:

NO
YES

EXECUTION_KEY

Optional Parameter

is the execution key for the program. This is used to determine which DSA the program instance resides in.

Values for the parameter are:

CICS
USER

PROGRAM_ATTRIBUTE

Optional Parameter

is a residency attribute to be associated with the program.

Values for the parameter are:

RELOAD
RESIDENT
REUSABLE
TEST
TRANSIENT

PROGRAM_TYPE

Optional Parameter

is the type of program copy to be used.

Values for the parameter are:
`PRIVATE`
`SHARED`
`TYPE_ANY`

PROGRAM_USAGE
Optional Parameter

defines whether the program is part of the CICS nucleus, or is an application program defined by the user. This determines whether the program definition is written to the local catalog or to the global catalog.

Values for the parameter are:
`APPLICATION`
`NUCLEUS`

REQUIRED_AMODE
Optional Parameter

is the addressing mode required by CICS for the program. A program that does not have the required residency mode is not loaded.

Values for the parameter are:
`AMODE_ANY`
`24`
`31`

REQUIRED_RMODE
Optional Parameter

is the residency mode required by CICS for the program. A program that does not have the required mode requirements is not loaded.

Values for the parameter are:
`RMODE_ANY`
`24`

UPDATE
Optional Parameter

indicates whether the loader domain should update the program definition if the loader domain already has a program definition for the program. If UPDATE(NO) is specified, and the loader domain already has a program definition for the specified program, PROGRAM_ALREADY_DEFINED is returned.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`CATALOG_ERROR`
`CATALOG_NOT_OPERATIONAL`
`INVALID_PROGRAM_NAME`
`PROGRAM_ALREADY_DEFINED`

The following values are returned when RESPONSE is INVALID:

INVALID_MODE_COMBINATION
INVALID_TYPE_ATTRIB_COMBIN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

NEW_PROGRAM_TOKEN
Optional Parameter

is the identifying token that may be used on subsequent ACQUIRE or RELEASE calls for this program name.

LDLD gate, DELETE_PROGRAM function

The DELETE_PROGRAM function of the LDLD gate is used to remove a program from the CICS system. All subsequent ACQUIRE requests for the named program fail with a reason of PROGRAM_NOT_DEFINED. Any instance of the program in use at the time the DELETE is received continue to exist until a RELEASE request reduces the use count to zero, at which time the instance is removed from memory.

Input Parameters

PROGRAM_NAME
specifies the name of the required program.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
PROGRAM_NOT_DEFINED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LDLD gate, END_BROWSE function

The END_BROWSE function of the LDLD gate is used to end a browse session.

Input Parameters

BROWSE_TOKEN
is a valid browse token as returned by the preceding START_BROWSE request.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is INVALID:
INVALID_BROWSE_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LDLD gate, GET_NEXT_INSTANCE function

The GET_NEXT_INSTANCE function of the LDLD gate is used to browse the current program instances in ascending load point address sequence.

Input Parameters

BROWSE_TOKEN
: is a valid browse token as returned by the preceding START_BROWSE request.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  - ABEND
  - LOOP

  The following values are returned when RESPONSE is EXCEPTION:
  - END_LIST

  The following values are returned when RESPONSE is INVALID:
  - INVALID_BROWSE_TOKEN

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACCESS
: Optional Parameter

  is the type of storage that the program resides in.

  Values for the parameter are:
  - CICS
  - NONE
  - READ_ONLY
  - USER

ENTRY_POINT
: Optional Parameter

  is the address of the entry point of the program instance.

EXECUTION_KEY
: Optional Parameter

  is the execution key for the program.

  Values for the parameter are:
  - CICS
  - USER

INSTANCE_USE_COUNT
: Optional Parameter

  is the current number of users of this instance.

LOAD_POINT
: Optional Parameter

  is the address of the load point of the program instance.

LOCATION
: Optional Parameter

  determines where the program instance for which the LOAD_POINT and ENTRY_POINT have been returned resides.

  Values for the parameter are:
  - CDSA
  - ECDSA
  - ELPA
  - ERDSA
  - ESDSA
  - LPA

NONE
RDSA
SDSA

PROGRAM_ATTRIBUTE
Optional Parameter

reflects the program attribute from the program definition, and is used by the program manager domain to recognize RELOAD programs.

Values for the parameter are:
RELOAD
RESIDENT
REUSABLE
TEST
TRANSIENT

PROGRAM_LENGTH
Optional Parameter

is the length of the program instance in bytes.

PROGRAM_NAME
Optional Parameter

is the name of the program whose attributes have been returned.

PROGRAM_TYPE
Optional Parameter

is the current program copy type.

Values for the parameter are:
PRIVATE
SHARED
TYPE_ANY

PROGRAM_USAGE
Optional Parameter

is the current usage definition.

Values for the parameter are:
APPLICATION
NUCLEUS

SPECIFIED_AMODE
Optional Parameter

is the addressing mode required by CICS for the program. A program that does not have the required residency mode is not loaded. If REQUIRED_AMODE was omitted when the program was defined, AMODE_NOT_SPECIFIED is returned.

Values for the parameter are:
AMODE_ANY
AMODE_NOT_SPECIFIED
24
31

SPECIFIED_RMODE
Optional Parameter

is the residency mode required by CICS for the program. A program that does not have the required residency mode is not loaded. If REQUIRED_RMODE was omitted when the program was defined, RMODE_NOT_SPECIFIED is returned.

Values for the parameter are:

RMODE_ANY
RMODE_NOT_SPECIFIED
24

LDLD gate, GET_NEXT_PROGRAM function

The GET_NEXT_PROGRAM function of the LDLD gate is used to perform an INQUIRE function for the next program in the alphabetic sequence of programs in the current browse session.

Input Parameters

BROWSE_TOKEN
is a valid browse token as returned by the preceding START_BROWSE request.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
END_LIST

The following values are returned when RESPONSE is INVALID:
INVALID_BROWSE_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACCESS
Optional Parameter

is the type of storage that the program resides in.

Values for the parameter are:
CICS
NONE
READ_ONLY
USER

ENTRY_POINT
Optional Parameter

is the address of the entry point of the program instance.

EXECUTION_KEY
Optional Parameter

is the execution key for the program.

Values for the parameter are:
CICS
USER

LIBRARY
Optional parameter

is the name of the LIBRARY concatenation from which the program was loaded.

LIBRARYDSN
Optional parameter

is the name of the data set within the LIBRARY concatenation from which the program was loaded.

LOAD_POINT
Optional Parameter

is the address of the load point of the program instance.

LOCATION
Optional Parameter

determines where the program instance for which the LOAD_POINT and ENTRY_POINT have been returned resides.

Values for the parameter are:
```
CDSA
ECDSA
ELPA
ERDSA
ESDSA
LPA
NONE
RDSA
SDSA
```

PROGRAM_ATTRIBUTE
Optional Parameter

reflects the program attribute from the program definition, and is used by the program manager domain to recognize RELOAD programs.

Values for the parameter are:
```
RELOAD
RESIDENT
REUSABLE
TEST
TRANSIENT
```

PROGRAM_LENGTH
Optional Parameter

is the length of the program instance in bytes.

PROGRAM_NAME
Optional Parameter

is the name of the program whose attributes have been returned.

PROGRAM_TYPE
Optional Parameter

is the current program copy type.

Values for the parameter are:
```
PRIVATE
SHARED
TYPE_ANY
```

PROGRAM_USAGE
Optional Parameter

is the current usage definition.

Values for the parameter are:
```
APPLICATION
NUCLEUS
```

PROGRAM_USE_COUNT
Optional Parameter

is the cumulative use count of the program.

PROGRAM_USER_COUNT
Optional Parameter

is the current number of users of the program.

SPECIFIED_AMODE
Optional Parameter

is the addressing mode required by CICS for the program. A program that does not have the required residency mode is not loaded. If REQUIRED_AMODE was omitted when the program was defined, AMODE_NOT_SPECIFIED is returned.

Values for the parameter are:
- AMODE_ANY
- AMODE_NOT_SPECIFIED
- 24
- 31

SPECIFIED_RMODE
Optional Parameter

is the residency mode required by CICS for the program. A program that does not have the required residency mode is not loaded. If REQUIRED_RMODE was omitted when the program was defined, RMODE_NOT_SPECIFIED is returned.

Values for the parameter are:
- RMODE_ANY
- RMODE_NOT_SPECIFIED
- 24

LDLD gate, IDENTIFY_PROGRAM function

The IDENTIFY_PROGRAM function of the LDLD gate is used to locate the program instance which contains the specified address.

Input Parameters

ADDRESS
is a storage address.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
- ABEND
- LOOP

The following values are returned when RESPONSE is EXCEPTION:
- INSTANCE_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACCESS
Optional Parameter

is the type of storage that the program resides in.

Values for the parameter are:
- CICS
- NONE
- READ_ONLY
- USER

CSECT_NAME
: Optional Parameter

  is the name of the CSECT within the module which contains the address. If no CSECT is available, the module name is returned.

ENTRY_POINT
: Optional Parameter

  is the address of the entry point of the program instance.

EXECUTION_KEY
: Optional Parameter

  is the execution key for the program.

  Values for the parameter are:
  `CICS`
  `USER`

INSTANCE_USE_COUNT
: Optional Parameter

  is the current number of users of this instance.

LOAD_POINT
: Optional Parameter

  is the address of the load point of the program instance.

LOCATION
: Optional Parameter

  determines where the program instance for which the LOAD_POINT and ENTRY_POINT have been returned resides.

  Values for the parameter are:
  `CDSA`
  `ECDSA`
  `ELPA`
  `ERDSA`
  `ESDSA`
  `LPA`
  `NONE`
  `RDSA`
  `SDSA`

OFFSET_INTO_CSECT
: Optional Parameter

  is the offset of the address within the CSECT. If no CSECT is available, the module name is returned.

PROGRAM_ATTRIBUTE
: Optional Parameter

  reflects the program attribute from the program definition, and is used by the program manager domain to recognize RELOAD programs.

  Values for the parameter are:
  `RELOAD`
  `RESIDENT`
  `REUSABLE`
  `TEST`
  `TRANSIENT`

PROGRAM_LENGTH
: Optional Parameter

  is the length of the program instance in bytes.

PROGRAM_NAME
Optional Parameter

is the name of the program whose attributes have been returned.

PROGRAM_TYPE
Optional Parameter

is the current program copy type.

Values for the parameter are:
`PRIVATE`
`SHARED`
`TYPE_ANY`

PROGRAM_USAGE
Optional Parameter

is the current usage definition.

Values for the parameter are:
`APPLICATION`
`NUCLEUS`

SPECIFIED_AMODE
Optional Parameter

is the addressing mode required by CICS for the program. A program that does not have the required residency mode is not loaded. If REQUIRED_AMODE was omitted when the program was defined, AMODE_NOT_SPECIFIED is returned.

Values for the parameter are:
`AMODE_ANY`
`AMODE_NOT_SPECIFIED`
`24`
`31`

SPECIFIED_RMODE
Optional Parameter

is the residency mode required by CICS for the program. A program that does not have the required residency mode is not loaded. If REQUIRED_RMODE was omitted when the program was defined, RMODE_NOT_SPECIFIED is returned.

Values for the parameter are:
`RMODE_ANY`
`RMODE_NOT_SPECIFIED`
`24`

LDLD gate, INQUIRE_OPTIONS function

The INQUIRE_OPTIONS function of the LDLD gate is used to return loader global options.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SHARED_PROGRAMS
Optional Parameter

indicates whether the loader is utilizing LPA-resident programs to satisfy ACQUIRE requests.

Values for the parameter are:
`NO`
`YES`

STORAGE_FACTOR
Optional Parameter

indicates the percentage of system free storage that may be occupied by program instances that have a zero use count.

LDLD gate, INQUIRE_PROGRAM function

The INQUIRE_PROGRAM function of the LDLD gate is used to return the details of a specific program.

Input Parameters

PROGRAM_NAME
specifies the name of the required program.

PROGRAM_TOKEN
is a valid program-identifying token as returned by a previous DEFINE or ACQUIRE request for the same program name.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`PROGRAM_NOT_DEFINED`

The following values are returned when RESPONSE is INVALID:
`INVALID_PROGRAM_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACCESS
Optional Parameter

is the type of storage that the program resides in.

Values for the parameter are:
`CICS`
`NONE`
`READ_ONLY`
`USER`

ENTRY_POINT
Optional Parameter

is the address of the entry point of the program instance.

EXECUTION_KEY
Optional Parameter

is the execution key for the program.

Values for the parameter are:

`CICS`
`USER`

`LIBRARY`

Optional parameter

is the name of the LIBRARY concatenation from which the program was loaded.

`LIBRARYDSN`

Optional parameter

is the name of the data set within the LIBRARY concatenation from which the program was loaded.

`LOAD_POINT`

Optional Parameter

is the address of the load point of the program instance.

`LOCATION`

Optional Parameter

determines where the program instance for which the LOAD_POINT and ENTRY_POINT have been returned resides.

Values for the parameter are:

`CDSA`
`ECDSA`
`ELPA`
`ERDSA`
`ESDSA`
`LPA`
`NONE`
`RDSA`
`SDSA`

`NEW_PROGRAM_TOKEN`

Optional Parameter

is the identifying token that may be used on subsequent ACQUIRE or RELEASE calls for this program name.

`PROGRAM_ATTRIBUTE`

Optional Parameter

reflects the program attribute from the program definition, and is used by the program manager domain to recognize RELOAD programs.

Values for the parameter are:

`RELOAD`
`RESIDENT`
`REUSABLE`
`TEST`
`TRANSIENT`

`PROGRAM_LENGTH`

Optional Parameter

is the length of the program instance in bytes.

`PROGRAM_TYPE`

Optional Parameter

is the current program copy type.

Values for the parameter are:

`PRIVATE`
`SHARED`

TYPE_ANY

PROGRAM_USAGE

Optional Parameter

is the current usage definition.

Values for the parameter are:

APPLICATION
NUCLEUS

PROGRAM_USE_COUNT

Optional Parameter

is the cumulative use count of the program.

PROGRAM_USER_COUNT

Optional Parameter

is the current number of users of the program.

SPECIFIED_AMODE

Optional Parameter

is the addressing mode required by CICS for the program. A program that does not have the required residency mode is not loaded. If REQUIRED_AMODE was omitted when the program was defined, AMODE_NOT_SPECIFIED is returned.

Values for the parameter are:

AMODE_ANY
AMODE_NOT_SPECIFIED
24
31

SPECIFIED_RMODE

Optional Parameter

is the residency mode required by CICS for the program. A program that does not have the required residency mode is not loaded. If REQUIRED_RMODE was omitted when the program was defined, RMODE_NOT_SPECIFIED is returned.

Values for the parameter are:

RMODE_ANY
RMODE_NOT_SPECIFIED
24

LDLD gate, REFRESH_PROGRAM function

The REFRESH_PROGRAM function of the LDLD gate is used to inform the loader domain that a new version of the program has been cataloged, and that this version of the named program should be used for all future ACQUIRE requests.

Input Parameters

PROGRAM_NAME

specifies the name of the required program.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

ABEND
LIBRARY_IO_ERROR
LOOP
OS_STORAGE_SHORTAGE

The following values are returned when RESPONSE is EXCEPTION:
`PROGRAM_NOT_DEFINED`
`PROGRAM_NOT_FOUND`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

NEW_VERSION_FOUND
Optional Parameter

indicates whether a new version of the program has been found.

Values for the parameter are:
`NO`
`YES`

LDLD gate, RELEASE_PROGRAM function

The RELEASE_PROGRAM function of the LDLD gate is used to inform the loader domain that use of a copy of the named program is no longer required. The use count of the specified program instance is decremented; if the use count reaches zero, and the program is eligible to be removed from memory, it is removed from memory.

Input Parameters

ENTRY_POINT
specifies the address of the entry point of the module.

PROGRAM_NAME
specifies the name of the required program.

PROGRAM_TOKEN
is a valid program-identifying token as returned by a previous DEFINE or ACQUIRE request for the same program name.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`PROGRAM_NOT_DEFINED`
`PROGRAM_NOT_IN_USE`

The following values are returned when RESPONSE is INVALID:
`INVALID_ENTRY_POINT`
`INVALID_PROGRAM_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LOAD_POINT
Optional Parameter

is the address of the load point of the program instance.

LOCATION
Optional Parameter

determines where the program instance for which the LOAD_POINT and ENTRY_POINT have been returned resides.

Values for the parameter are:
`CDSA`

ECDSA
ELPA
ERDSA
ESDSA
LPA
NONE
RDSA
SDSA

PROGRAM_LENGTH
Optional Parameter

is the length of the program instance in bytes.

LDLD gate, SET_OPTIONS function

The SET_OPTIONS function of the LDLD gate is used to set loader global options.

Input Parameters

LLACOPY
Optional Parameter

indicates whether the loader is to use the MVS macro LLACOPY or BLDL to locate programs.

Values for the parameter are:
NEWCOPY
NO
YES

PRVMOD
Optional Parameter

is a list of the names of modules that are not to be used from the MVS link pack area (LPA), but instead are to be loaded as private copies from the DFHRPL or dynamic program LIBRARY.

SHARED_PROGRAMS
Optional Parameter

indicates whether the loader is to use LPA-resident programs to satisfy ACQUIRE requests.

Values for the parameter are:
NO
YES

STORAGE_FACTOR
Optional Parameter

indicates the percentage of system free storage that may be occupied by program instances that have a zero use count.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
CATALOG_ERROR
CATALOG_NOT_OPERATIONAL

The following values are returned when RESPONSE is INVALID:
INVALID_STORAGE_FACTOR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LDLD gate, START_BROWSE function

The START_BROWSE function of the LDLD gate is used to start a browse session.

Input Parameters

ENTRY_POINT
Optional Parameter

specifies the address of the entry point of the module.

PROGRAM_NAME
Optional Parameter

specifies the name of the required program.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

BROWSE_TOKEN
is a token used to refer to this browse session on subsequent browse requests.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Loader domain's generic gates

Table 52 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 52. Loader domain's generic gates

Gate	Trace	Functions	Format
DMDM	LD 6001 LD 6002	PRE_INITIALISE INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM
SMNT	LD 4001 LD 4002	STORAGE_NOTIFY	SMNT
STST	LD 5001 LD 5002	COLLECT_STATISTICS COLLECT_RESOURCE_STATS	STST

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

"Storage manager domain generic formats" on page 1709

"Statistics domain's generic formats" on page 1777

Modules

Module	Function
DFHLDDM	Handles the following requests: PRE_INITIALIZE INITIALIZE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN
DFHLDDMI	Reinstates any program resources and dynamic LIBRARY resources defined during previous runs of CICS. It is called by DFHLDDM.
DFHLDDUF	Formats the loader domain control blocks in a CICS system.
DFHLDLD	Directs the following requests to DFHLDLD1, DFHLDLD2, or DFHLDLD3, as appropriate: ACQUIRE_PROGRAM RELEASE_PROGRAM REFRESH_PROGRAM DEFINE_PROGRAM DELETE_PROGRAM INQUIRE_PROGRAM START_BROWSE GET_NEXT_PROGRAM GET_NEXT_INSTANCE END_BROWSE IDENTIFY_PROGRAM SET_OPTIONS INQUIRE_OPTIONS CATALOG_OPTIONS
DFHLDLD1	Handles the following requests: ACQUIRE_PROGRAM RELEASE_PROGRAM REFRESH_PROGRAM
DFHLDLD2	Handles the following requests: DEFINE_PROGRAM DELETE_PROGRAM
DFHLDLD3	Handles the following requests: INQUIRE_PROGRAM START_BROWSE GET_NEXT_PROGRAM GET_NEXT_INSTANCE END_BROWSE IDENTIFY_PROGRAM SET_OPTIONS INQUIRE_OPTIONS CATALOG_OPTIONS

Module	Function
DFHLDLB	Handles the following request: LOG_LIBRARY_ORDER and directs the following requests to DFHLDLB2 or DFHLDLB3 as appropriate: ADD_REPLACE_LIBRARY DISCARD_LIBRARY SET_LIBRARY INQUIRE_LIBRARY START_BROWSE_LIBRARY GET_NEXT_LIBRARY END_BROWSE_LIBRARY
DFHLDLB2	Handles the following requests: ADD_REPLACE_LIBRARY DISCARD_LIBRARY
DFHLDLB3	Handles the following requests: SET_LIBRARY INQUIRE_LIBRARY START_BROWSE_LIBRARY GET_NEXT_LIBRARY END_BROWSE_LIBRARY
DFHLDNT	Handles the following request: STORAGE_NOTIFY
DFHLDST	Handles the following requests: COLLECT_STATISTICS COLLECT_RESOURCE_STATS
DFHLDSVC	Provides authorized services for loader domain functions that involve MVS load facilities.
DFHLDTRI	Provides a loader domain trace interpretation routine for CICS dumps and traces.

Chapter 87. Log manager domain (LG)

The log manager domain (also sometimes known as "log manager" or "logger") provides facilities for Recovery Manager to write records to the CICS system log, read records from the CICS system log, and maintain the system log deleting obsolete records and shunting old, but still needed, records to a secondary system log.

The log manager also provides facilities to:

- Write user journal, forward recovery and auto journals records to MVS system logger logstreams or the MVS SMF log
- Install, discard and inquire for Journalmodel resource definitions
- Auto-install, discard, inquire and set for Journal definitions
- Connect, disconnect and define for MVS system logger logstreams
- Collect statistics for Journal and Logstream usage.

Log manager domain's specific gates

The specific gates provide access for other domains to functions that are provided by the LG domain.

LGBA gate, BROWSE_ALL_GET_NEXT function

Returns the next record in the browse all object.

Output Parameters

REASON
The values for the parameter are:
ABEND
AKP_KICK_OFF
BUFFER_FULL
CONNECT_FAILURE
END_OF_CHAINS
END_OF_DATA
INVALID_FORMAT
INVALID_FUNCTION
LOG_NOT_DEFINED
LOOP
WRITE_FAILURE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USER_DATA
is the address of the record just read from the system log.

USER_DATA_LEN
is the length of the record just read from the system log.

USER_TOKEN
is a user token that was passed in by RESTORE_CHAIN_TOKEN.

LGBA gate, END_BROWSE_ALL function

Destroys the browse all object.

Output Parameters

REASON
: The values for the parameter are:
  - ABEND
  - AKP_KICK_OFF
  - BUFFER_FULL
  - CONNECT_FAILURE
  - END_OF_CHAINS
  - END_OF_DATA
  - INVALID_FORMAT
  - INVALID_FUNCTION
  - LOG_NOT_DEFINED
  - LOOP
  - WRITE_FAILURE

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGBA gate, START_BROWSE_ALL function

Creates a browse all object for the CICS system log.

Output Parameters

REASON
: The values for the parameter are:
  - ABEND
  - AKP_KICK_OFF
  - BUFFER_FULL
  - CONNECT_FAILURE
  - END_OF_CHAINS
  - END_OF_DATA
  - INVALID_FORMAT
  - INVALID_FUNCTION
  - LOG_NOT_DEFINED
  - LOOP
  - WRITE_FAILURE

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGCB gate, CHAIN_BROWSE_GET_NEXT function

Creates a browse object for the chain denoted by CHAIN_TOKEN.

Input Parameters

CHAIN_TOKEN
: is a chain token.

Output Parameters

REASON
: The values for the parameter are:
  - ABEND
  - AKP_KICK_OFF
  - BUFFER_FULL
  - CONNECT_FAILURE
  - END_OF_CHAINS
  - END_OF_DATA

INVALID_FORMAT
INVALID_FUNCTION
LOG_NOT_DEFINED
LOOP
WRITE_FAILURE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USER_DATA
is the address of the record just read from the system log.

USER_DATA_LEN
is the length of the record just read from the system log.

LGCB gate, END_CHAIN_BROWSE function

Destroys the chain browse object denoted by CHAIN_TOKEN.

Input Parameters

CHAIN_TOKEN
is a chain token.

Output Parameters

REASON
The values for the parameter are:

ABEND
AKP_KICK_OFF
BUFFER_FULL
CONNECT_FAILURE
END_OF_CHAINS
END_OF_DATA
INVALID_FORMAT
INVALID_FUNCTION
LOG_NOT_DEFINED
LOOP
WRITE_FAILURE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGCB gate, START_CHAIN_BROWSE function

Creates a browse object for the chain denoted by CHAIN_TOKEN.

Input Parameters

CHAIN_TOKEN
is a chain token.

Output Parameters

REASON
The values for the parameter are:

ABEND
AKP_KICK_OFF
BUFFER_FULL
CONNECT_FAILURE
END_OF_CHAINS
END_OF_DATA
INVALID_FORMAT

INVALID_FUNCTION
LOG_NOT_DEFINED
LOOP
WRITE_FAILURE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGCC gate, BROWSE_CHAINS_GET_NEXT function

Returns the next chain token and moves the browse cursor position to the next chain.

Output Parameters

REASON
The values for the parameter are:
ABEND
AKP_KICK_OFF
BUFFER_FULL
CONNECT_FAILURE
END_OF_CHAINS
END_OF_DATA
INVALID_FORMAT
INVALID_FUNCTION
LOG_NOT_DEFINED
LOOP
OUT_OF_RANGE
WRITE_FAILURE

CHAIN_TOKEN
is a new chain token token, which can be used as input to RELEASE_CHAIN_TOKEN, RESTORE_CHAIN_TOKEN, START_CHAIN_BROWSE, CHAIN_BROWSE_GET_NEXT, END_CHAIN_BROWSE, MOVE_CHAIN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USER_TOKEN
is a user token that was passed in by RESTORE_CHAIN_TOKEN.

LGCC gate, CREATE_CHAIN_TOKEN function

Creates a CHAIN TOKEN.

Output Parameters

REASON
The values for the parameter are:
ABEND
AKP_KICK_OFF
BUFFER_FULL
CONNECT_FAILURE
END_OF_CHAINS
END_OF_DATA
INVALID_FORMAT
INVALID_FUNCTION
LOG_NOT_DEFINED
LOOP
OUT_OF_RANGE

WRITE_FAILURE

CHAIN_TOKEN
is a new chain token token, which can be used as input to RELEASE_CHAIN_TOKEN, RESTORE_CHAIN_TOKEN, START_CHAIN_BROWSE, CHAIN_BROWSE_GET_NEXT, END_CHAIN_BROWSE, MOVE_CHAIN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGCC gate, DELETE_ALL function

Deletes all of the data on both log streams of the CICS system log.

Output Parameters

REASON
The values for the parameter are:

ABEND
AKP_KICK_OFF
BUFFER_FULL
CONNECT_FAILURE
END_OF_CHAINS
END_OF_DATA
INVALID_FORMAT
INVALID_FUNCTION
LOG_NOT_DEFINED
LOOP
OUT_OF_RANGE
WRITE_FAILURE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGCC gate, DELETE_HISTORY function

Deletes all blocks of data, for both log streams of the CICS system log, that are older than the corresponding history point saved during a call of SET_HISTORY.

Output Parameters

REASON
The values for the parameter are:

ABEND
AKP_KICK_OFF
BUFFER_FULL
CONNECT_FAILURE
END_OF_CHAINS
END_OF_DATA
INVALID_FORMAT
INVALID_FUNCTION
LOG_NOT_DEFINED
LOOP
OUT_OF_RANGE
WRITE_FAILURE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGCC gate, END_BROWSE_CHAINS function

Destroys the browse chains object.

Output Parameters

REASON
The values for the parameter are:
ABEND
AKP_KICK_OFF
BUFFER_FULL
CONNECT_FAILURE
END_OF_CHAINS
END_OF_DATA
INVALID_FORMAT
INVALID_FUNCTION
LOG_NOT_DEFINED
LOOP
OUT_OF_RANGE
WRITE_FAILURE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGCC gate, INQUIRE_DEFER_INTERVAL function

Returns the number of millisecoonds for which a forced log write will be deferred.

Output Parameters

REASON
The values for the parameter are:
ABEND
AKP_KICK_OFF
BUFFER_FULL
CONNECT_FAILURE
END_OF_CHAINS
END_OF_DATA
INVALID_FORMAT
INVALID_FUNCTION
LOG_NOT_DEFINED
LOOP
OUT_OF_RANGE
WRITE_FAILURE

DEFER_INTERVAL
is the number of millisecoonds for which a forced log write will be deferred.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGCC gate, INQUIRE_KEYPOINT_FREQUENCY function

Returns the activity keypoint frequency value in KEYPOINT_FREQUENCY.

Output Parameters

REASON
The values for the parameter are:
ABEND
AKP_KICK_OFF

BUFFER_FULL
CONNECT_FAILURE
END_OF_CHAINS
END_OF_DATA
INVALID_FORMAT
INVALID_FUNCTION
LOG_NOT_DEFINED
LOOP
OUT_OF_RANGE
WRITE_FAILURE

KEYPOINT_FREQUENCY
is the current keypoint frequency value.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGCC gate, INQUIRE_KEYPOINT_STATS function

Return the number of keypoints that have occurred since the count was last reset.

Output Parameters

REASON
The values for the parameter are:
ABEND
AKP_KICK_OFF
BUFFER_FULL
CONNECT_FAILURE
END_OF_CHAINS
END_OF_DATA
INVALID_FORMAT
INVALID_FUNCTION
LOG_NOT_DEFINED
LOOP
OUT_OF_RANGE
WRITE_FAILURE

KEYPOINT_COUNT
is the number of keypoints that have occurred since the count was last reset.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGCC gate, RELEASE_CHAIN_TOKEN function

Destroys the chain token in CHAIN_TOKEN

Input Parameters

CHAIN_TOKEN
is a chain token.

Output Parameters

REASON
The values for the parameter are:
ABEND
AKP_KICK_OFF
BUFFER_FULL
CONNECT_FAILURE
END_OF_CHAINS

END_OF_DATA
INVALID_FORMAT
INVALID_FUNCTION
LOG_NOT_DEFINED
LOOP
OUT_OF_RANGE
WRITE_FAILURE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGCC gate, RESET_KEYPOINT_STATS function

Reset the count of the number of keypoints.

Output Parameters

REASON
The values for the parameter are:
ABEND
AKP_KICK_OFF
BUFFER_FULL
CONNECT_FAILURE
END_OF_CHAINS
END_OF_DATA
INVALID_FORMAT
INVALID_FUNCTION
LOG_NOT_DEFINED
LOOP
OUT_OF_RANGE
WRITE_FAILURE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGCC gate, RESTORE_CHAIN_TOKEN function

Creates a chain token and adds the last record (viewed as a chain element) read from the system log during a BROWSE_ALL_GET_NEXT

Input Parameters

USER_TOKEN
is a user token that is returned by BROWSE_CHAINS_GET_NEXT and BROWSE_ALL_GET_NEXT.

Output Parameters

REASON
The values for the parameter are:
ABEND
AKP_KICK_OFF
BUFFER_FULL
CONNECT_FAILURE
END_OF_CHAINS
END_OF_DATA
INVALID_FORMAT
INVALID_FUNCTION
LOG_NOT_DEFINED
LOOP

OUT_OF_RANGE
WRITE_FAILURE

CHAIN_TOKEN
is a new chain token token, which can be used as input to RELEASE_CHAIN_TOKEN, RESTORE_CHAIN_TOKEN, START_CHAIN_BROWSE, CHAIN_BROWSE_GET_NEXT, END_CHAIN_BROWSE, MOVE_CHAIN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGCC gate, SET_DEFER_INTERVAL function

Sets the log defer interval.

Input Parameters

DEFER_INTERVAL
is the number of milliseconds for which a forced log write will be deferred. The maximum value that may be specified is 65535 milliseconds.

Output Parameters

REASON
The values for the parameter are:
ABEND
AKP_KICK_OFF
BUFFER_FULL
CONNECT_FAILURE
END_OF_CHAINS
END_OF_DATA
INVALID_FORMAT
INVALID_FUNCTION
LOG_NOT_DEFINED
LOOP
OUT_OF_RANGE
WRITE_FAILURE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGCC gate, SET_HISTORY function

Evaluates and saves the current history point for both log streams of the CICS system log. The history point of a log stream is the oldest block id that CICS knows of on the log stream.

Output Parameters

REASON
The values for the parameter are:
ABEND
AKP_KICK_OFF
BUFFER_FULL
CONNECT_FAILURE
END_OF_CHAINS
END_OF_DATA
INVALID_FORMAT
INVALID_FUNCTION
LOG_NOT_DEFINED

LOOP
OUT_OF_RANGE
WRITE_FAILURE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGCC gate, SET_KEYPOINT_FREQUENCY function

Sets the activity frequency to KEYPOINT_FREQUENCY.

Input Parameters

KEYPOINT_FREQUENCY

How often, in terms of physical writes to the system log, activity keypoints should be initiated. A value of zero indicates that activity keypoints should not be initiated.

Non-zero values outside the range from 200 to 65535 inclusive are invalid and cause the OUT_OF_RANGE exception to be returned.

Output Parameters

REASON
The values for the parameter are:
ABEND
AKP_KICK_OFF
BUFFER_FULL
CONNECT_FAILURE
END_OF_CHAINS
END_OF_DATA
INVALID_FORMAT
INVALID_FUNCTION
LOG_NOT_DEFINED
LOOP
OUT_OF_RANGE
WRITE_FAILURE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGCC gate, START_BROWSE_CHAINS function

Creates a chains browse object and initializes the browse cursor position.

Output Parameters

REASON
The values for the parameter are:
ABEND
AKP_KICK_OFF
BUFFER_FULL
CONNECT_FAILURE
END_OF_CHAINS
END_OF_DATA
INVALID_FORMAT
INVALID_FUNCTION
LOG_NOT_DEFINED
LOOP
OUT_OF_RANGE

WRITE_FAILURE

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGCC gate, SYSINI function

Creates a primary and secondary log stream objects of type MVS(TM) that comprises the CICS system log.

Output Parameters

REASON
The values for the parameter are:
ABEND
AKP_KICK_OFF
BUFFER_FULL
CONNECT_FAILURE
END_OF_CHAINS
END_OF_DATA
INVALID_FORMAT
INVALID_FUNCTION
LOG_NOT_DEFINED
LOOP
OUT_OF_RANGE
WRITE_FAILURE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGGL gate, CLOSE function

Invalidates the LOG_TOKEN, on the last usage of a log stream disconnects from the log stream

Input Parameters

LOG_TOKEN
The token returned by OPEN

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
WRITE_ERROR

The following values are returned when RESPONSE is INVALID:
UNKNOWN_LOG_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGGL gate, FORCE function

Ensures that the previously written records have been flushed from the buffer and hardened on the chosen log stream

Input Parameters

LOG_TOKEN
The token returned by OPEN

FORCE_TOKEN
Optional Parameter

Token returned by WRITE to indicate a specific record to be written. If omitted all records are forced.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`WRITE_ERROR`

The following values are returned when RESPONSE is INVALID:
`UNKNOWN_LOG_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGGL gate, FORCE_JNL function

Ensures that the previously written records have been hardened on the chosen log.

Input Parameters

JNL_NAME
The 8-byte journal name to be opened

FORCE_TOKEN
Optional Parameter

Token returned by WRITE to indicate a specific record to be written. If omitted all records are forced.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`LOG_HAS_FAILED`
`LOG_IS_DISABLED`
`LOG_IS_NOT_ACTIVE`
`LOG_IS_SYSTEM_LOG`
`WRITE_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGGL gate, INITIALIZE function

Establish subpools, locks, and anchor control blocks

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGGL gate, OPEN function

Opens a general log and returns a log token. The log token is used by the WRITE, FORCE and CLOSE operations.

Input Parameters

COMPONENT
Identifies the component (e.g. FC) opening this stream

JNL_NAME
The 8-byte journal name to be opened

STREAM_NAME
The 26-byte log stream name to be opened

ERROR_GATE
Optional Parameter

The domain gate number that the logger should call using ERROR if an error occurs accessing the log stream.

USER_TOKEN
Optional Parameter

is a user token that is returned by BROWSE_CHAINS_GET_NEXT and BROWSE_ALL_GET_NEXT.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
ERROR_OPENING_LOG
INVALID_JNL_NAME
LOG_HAS_FAILED
LOG_IS_DISABLED
LOG_IS_SYSTEM_LOG
LOG_NOT_DEFINED
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_PARAMETERS
```

LOG_TOKEN
The token to be used on subsequent WRITE, FORCE, CLOSE requests.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

JNL_STREAM
Optional Parameter

The MVS logstream name associated with the journal being opened

LOG_TYPE
Optional Parameter

The associated log stream type.

Values for the parameter are:

```
DUMMY
MVS
SMF
```

LGGL gate, UOW_TIME function

Returns the oldest active transactions first log write time for use in calculating the recovery time for Backup while open.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

UOW_TIME_STAMP
The 8-byte STCK format time of the oldest active transaction that has written log records with the FORCE_AT_SYNC option, or current time if there are no active transactions.

LGGL gate, WRITE function

Write a record to a general log identified by a token from a previous OPEN.

Input Parameters

DATA
The address of a reusable Iliffe vector describing the items of data to be written to the log stream.

LOG_TOKEN
The token returned by OPEN

FORCE_AT_SYNC
Optional Parameter

Indicates that the caller wants the log stream to be forced when the associated transaction reaches Syncpoint. FORCE_AT_SYNC can be used in conjunction with FORCE_NOW. This is needed by File control for ESDS writes which have to be forced immediately but which also need the UOW structure to allow the calculation of Fuzzy backup recovery times.

Values for the parameter are:
NO
YES

FORCE_NOW
Optional Parameter

Indicates that the caller wants to wait until the data has been successfully written to the log stream.

Values for the parameter are:
NO
YES

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
BUFFER_LENGTH_ERROR
WRITE_ERROR

The following values are returned when RESPONSE is INVALID:
UNKNOWN_LOG_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FORCE_TOKEN
Optional Parameter

A token to be used on a subsequent FORCE to ensure that a specific records and any prior records have been hardened

LGGL gate, WRITE_JNL function

Write a record to a general log identified by a journal name

Input Parameters

COMPONENT
Identifies the component (e.g. FC) opening this stream

DATA
The address of a reusable Iliffe vector describing the items of data to be written to the log stream.

JNL_NAME
The 8-byte journal name to be opened

FORCE_AT_SYNC
Optional Parameter

Indicates that the caller wants the log stream to be forced when the associated transaction reaches Syncpoint. FORCE_AT_SYNC can be used in conjunction with FORCE_NOW. This is needed by File control for ESDS writes which have to be forced immediately but which also need the UOW structure to allow the calculation of Fuzzy backup recovery times.

Values for the parameter are:
`NO`
`YES`

FORCE_NOW
Optional Parameter

Indicates that the caller wants to wait until the data has been successfully written to the log stream.

Values for the parameter are:
`NO`
`YES`

SUSPEND
Optional Parameter

Supported for compatibility with old EXEC interface. Causes BUFFER_FULL exception to be raised if there is no space rather than waiting for space. The task may still be suspended for many other reasons.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`BUFFER_FULL`
`BUFFER_LENGTH_ERROR`
`ERROR_OPENING_LOG`
`INVALID_JNL_NAME`
`LOG_HAS_FAILED`
`LOG_IS_DISABLED`
`LOG_IS_SYSTEM_LOG`
`LOG_NOT_DEFINED`
`WRITE_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FORCE_TOKEN
Optional Parameter

A token to be used on a subsequent FORCE to ensure that a specific records and any prior records have been hardened

LGJN gate, DISCARD function

Remove a journal from the set of known journals to clean up the catalog or to allow it to be reinstalled with a new set of attributes.

Input Parameters

JNL_NAME
The 8-byte journal name to be opened

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`LOG_IS_SYSTEM_LOG`
`UNKNOWN_JNL_NAME`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGJN gate, END_BROWSE function

Terminate browse and invalidate browse token

Input Parameters

BROWSE_TOKEN
Token returned by START_BROWSE

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
`INVALID_BROWSE_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGJN gate, EXPLICIT_OPEN function

Inquire on a journal and if the journal does not already exist in the set of known journals perform the autoinstall process to define it.

Input Parameters

JNL_NAME
The 8-byte journal name to be opened

SYSTEM_LOG
Whether or not this journal is to be used as a system log

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`ERROR_OPENING_LOG`
`INVALID_JNL_NAME`
`JNL_HAS_FAILED`
`JNL_IS_DISABLED`
`SYSTEM_LOG_CONFLICT`
`UNABLE_TO_CREATE_JNL`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STREAM_TOKEN
The log stream token if the journal is currently connected to an MVS log stream or the logbuf token for an SMF journal.

If specified the stream shared lock will be acquired and it its the callers responsibility to free the lock when they have finished with the stream token.

JNL_STATUS
Optional Parameter

The associated log stream status. Status will always appear as disconnected for journals that have not been used as user journals (i.e. system logs, forward recovery logs, fc auto journals) even though they may be in use

Values for the parameter are:
`CONNECTED`
`DISABLED`
`DISCONNECTED`
`FAILED`
`FLUSH`

LOG_TOKEN
Optional Parameter

The token to be used on subsequent WRITE, FORCE, CLOSE requests.

LOG_TYPE
Optional Parameter

The associated log stream type.

Values for the parameter are:
`DUMMY`
`MVS`
`SMF`

STREAM_NAME
Optional Parameter

The associated MVS log stream name. Blank for SMF or DUMMY

STRUCTURE_NAME
Optional Parameter

is the 16 byte name of the coupling facility structure of the log stream.

LGJN gate, GET_NEXT function

Return information for next Journal.

Input Parameters

BROWSE_TOKEN
Token returned by START_BROWSE

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`NO_MORE_DATA_AVAILABLE`

The following values are returned when RESPONSE is INVALID:
`INVALID_BROWSE_TOKEN`

JNL_NAME
The next 8-byte Journal name found

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

JNL_STATUS
Optional Parameter

The associated log stream status. Status will always appear as disconnected for journals that have not been used as user journals (i.e. system logs, forward recovery logs, fc auto journals) even though they may be in use.

Values for the parameter are:
`CONNECTED`
`DISABLED`
`DISCONNECTED`
`FAILED`

LOG_TYPE
Optional Parameter

The associated log stream type.

Values for the parameter are:
`DUMMY`
`MVS`
`SMF`

STREAM_NAME
Optional Parameter

The associated MVS log stream name. Blank for SMF or DUMMY

SYSTEM_LOG
Optional Parameter

Whether or not the journal is a system log.

Values for the parameter are:
`NO`
`YES`

LGJN gate, IMPLICIT_OPEN function

Inquire on a journal and if the journal does not already exist in the set of known journals perform the autoinstall process to define it. If the associated log stream has not been opened then it is opened and the stream token returned.

Input Parameters

JNL_NAME
The 8-byte journal name to be opened

SYSTEM_LOG
Whether or not this journal is to be used as a system log.

Values for the parameter are:
`NO`
`YES`

FORCE
Optional Parameter

Indicates that a force of the data in the buffer has been requested. This is used to indicate when the stats field in the journal info, which records the number of flushes, needs incrementing.

Values for the parameter are:
`NO`
`YES`

WRITE_BYTES
Optional Parameter

The number of bytes of data being written, as a 64 bit value. This field is used to update the bytes counter in the stats information for a journal, and also indicates that the writes counter also needs incrementing.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`ERROR_OPENING_LOG`
`INVALID_JNL_NAME`
`JNL_HAS_FAILED`
`JNL_IS_DISABLED`
`SYSTEM_LOG_CONFLICT`
`UNABLE_TO_CREATE_JNL`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STREAM_TOKEN
The log stream token if the journal is currently connected to an MVS log stream or the logbuf token for an SMF journal. If specified the stream shared lock will be acquired and it its the caller's responsibility to free the lock when it has finished with the stream token.

JNL_STATUS
Optional Parameter

The associated log stream status. Status will always appear as disconnected for journals that have not been used as user journals (i.e. system logs, forward recovery logs, fc auto journals) even though they may be in use.

Values for the parameter are:
`CONNECTED`
`DISABLED`
`DISCONNECTED`
`FAILED`
`FLUSH`

LOG_TYPE
Optional Parameter

The associated log stream type.

Values for the parameter are:
`DUMMY`
`MVS`
`SMF`

STREAM_NAME
Optional Parameter

The associated MVS log stream name. Blank for SMF or DUMMY

LGJN gate, INITIALIZE function

Establish subpools, locks, and anchor control blocks

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGJN gate, INQUIRE function

Returns information about the current state of a user journal

Input Parameters

JNL_NAME
The 8-byte journal name to be opened

FORCE
Optional Parameter

Indicates that a force of the data in the buffer has been requested. This is used to indicate when the stats field in the journal info, which records the number of flushes, needs incrementing.

Values for the parameter are:
NO
YES

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
UNKNOWN_JNL_NAME

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

JNL_STATUS
Optional Parameter

The associated log stream status. Status will always appear as disconnected for journals that have not been used as user journals (i.e. system logs, forward recovery logs, fc auto journals) even though they may be in use.

Values for the parameter are:
CONNECTED
DISABLED
DISCONNECTED
FAILED

LOG_TYPE
Optional Parameter

Values for the parameter are:
DUMMY
MVS
SMF

STREAM_NAME
Optional Parameter

The associated MVS log stream name. Blank for SMF or DUMMY

STREAM_TOKEN
Optional Parameter

The log stream token if the journal is currently connected to an MVS log stream or the logbuf token for an SMF journal. If specified the stream shared lock will be acquired and it its the callers responsibility to free the lock when they have finished with the stream token.

SYSTEM_LOG
Optional Parameter

Whether or not the journal is a system log.

Values for the parameter are:

NO
YES

LGJN gate, PROCESS_STATISTICS function

Deal with the various types of requests for journal statistics using the information in the STST parameter list.

Input Parameters

STATS_PARMS
The address of the STST parameter list.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
NO_JOURNALS_DEFINED
UNKNOWN_JNL_NAME

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGJN gate, SET function

Update the status of the Journal.

Input Parameters

JNL_NAME
The 8-byte journal name to be opened

JNL_STATUS
The new status for the journal.

Values for the parameter are:
CONNECTED
DISABLED
DISCONNECTED
FAILED
FLUSH

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
ERROR_OPENING_LOG
INVALID_JNL_NAME
JNL_ALREADY_IN_REQ_STATE
JNL_HAS_FAILED
JNL_IS_NOT_ACTIVE
LOG_IS_SYSTEM_LOG
SYSTEM_LOG_CONFLICT
UNABLE_TO_CREATE_JNL
UNKNOWN_JNL_NAME
WRITE_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGJN gate, START_BROWSE function

Initialize browse token for subsequent GET_NEXT requests

Output Parameters

BROWSE_TOKEN
: Token for use on subsequent GET_NEXT requests

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGJN gate, STREAM_FAIL function

Marks all journals that have used the failing log stream as failed, issues a message, and closes the stream connection. This ensures that all subsequent activity for the log stream is rejected until either CICS is restarted or the operator explicitly reactivates the journal

Input Parameters

STREAM_NAME
: The 26-byte log stream name to be opened

STREAM_TOKEN
: The token of the log stream that has failed

Output Parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGLB gate, CONNECT function

Creates a log stream object and if of type MVS, a connection is made to the log stream, denoted by its name, through the MVS logger.

Input Parameters

JOURNAL_NAME
: is the journal name associated with the log stream on this request.

LOG_TYPE
: is the log stream type.

  Values for the parameter are:
  ```
  MVS
  SMF
  ```

STREAM_NAME
: The 26-byte log stream name to be opened

SYSTEM_LOG
: Whether or not this journal is to be used as a system log.

  Values for the parameter are:
  ```
  NO
  YES
  ```

Output Parameters

REASON
: The values for the parameter are:
  ```
  ABEND
  AKP_KICK_OFF
  BUFFER_FULL
  BUFFER_LENGTH_ERROR
  CONNECT_FAILURE
  END_OF_CHAINS
  END_OF_DATA
  ```

INVALID_FORMAT
INVALID_FUNCTION
LOG_NOT_DEFINED
LOOP
WRITE_FAILURE

LOGBUF_TOKEN
is the token denoting the connected log stream, which can be used as input to GL_WRITE, GL_FORCE and DISCONNECT.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STRUCTURE_NAME
Optional Parameter

is the 16 byte name of the coupling facility structure of the log stream.

LGLB gate, DISCONNECT function

Destroys the log stream object and if it is of type MVS, disconnects from the MVS logger.

Input Parameters

LOGBUF_TOKEN
is the token of the log stream created during a call of CONNECT.

Output Parameters

REASON
The values for the parameter are:
ABEND
AKP_KICK_OFF
BUFFER_FULL
BUFFER_LENGTH_ERROR
CONNECT_FAILURE
END_OF_CHAINS
END_OF_DATA
INVALID_FORMAT
INVALID_FUNCTION
LOG_NOT_DEFINED
LOOP
WRITE_FAILURE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGLB gate, DISCONNECT_ALL function

Ensures that any data in the output buffer has been written to the physical media before the stream connection is destroyed for all connected streams.

Output Parameters

REASON
The values for the parameter are:
ABEND
AKP_KICK_OFF
BUFFER_FULL
BUFFER_LENGTH_ERROR
CONNECT_FAILURE

`END_OF_CHAINS`
`END_OF_DATA`
`INVALID_FORMAT`
`INVALID_FUNCTION`
`LOG_NOT_DEFINED`
`LOOP`
`WRITE_FAILURE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGLB gate, GL_FORCE function

Ensures that the output buffer denoted by FORCE_TOKEN for the log stream denoted by LOGBUF_TOKEN has been written to the physical media.

Input Parameters

FORCE_TOKEN
Token returned by WRITE to indicate a specific record to be written. If omitted all records are forced.

LOGBUF_TOKEN
is the token of the log stream created during a call of CONNECT.

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`AKP_KICK_OFF`
`BUFFER_FULL`
`BUFFER_LENGTH_ERROR`
`CONNECT_FAILURE`
`END_OF_CHAINS`
`END_OF_DATA`
`INVALID_FORMAT`
`INVALID_FUNCTION`
`LOG_NOT_DEFINED`
`LOOP`
`WRITE_FAILURE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGLB gate, GL_WRITE function

Writes a record to a general log denoted by LOGBUF_TOKEN.

Input Parameters

COMPONENT
Identifies the component (e.g. FC) opening this stream

DATA
The address of a reusable Iliffe vector describing the items of data to be written to the log stream.

JOURNAL_NAME
is the journal name associated with the log stream on this request.

LOGBUF_TOKEN
is the token of the log stream created during a call of CONNECT.

SUSPEND
Supported for compatibility with old EXEC interface. Causes BUFFER_FULL exception to be raised if there is no space rather than waiting for space. The task may still be suspended for many other reasons.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`AKP_KICK_OFF`
`BUFFER_FULL`
`BUFFER_LENGTH_ERROR`
`CONNECT_FAILURE`
`END_OF_CHAINS`
`END_OF_DATA`
`INVALID_FORMAT`
`INVALID_FUNCTION`
`LOG_NOT_DEFINED`
`LOOP`
`WRITE_FAILURE`

FORCE_TOKEN
A token to be used on a subsequent FORCE to ensure that a specific records and any prior records have been hardened

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGLD gate, DISCARD function

Remove a JournalModel from the set of defined JournalModels

Input Parameters

JOURNALMODEL_NAME
The 8-byte JournalModel name to be inquired upon

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`UNKNOWN_JOURNALMODEL_NAME`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGLD gate, END_BROWSE function

Terminate browse and invalidate browse token

Input Parameters

BROWSE_TOKEN
Token returned by START_BROWSE

Output Parameters

REASON
: The following values are returned when RESPONSE is INVALID:
  `INVALID_BROWSE_TOKEN`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGLD gate, GET_NEXT function

Return information for next JournalModel entry

Input Parameters

BROWSE_TOKEN
: Token returned by START_BROWSE

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `NO_MORE_DATA_AVAILABLE`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_BROWSE_TOKEN`

JOURNALMODEL_NAME
: The next 8-byte JournalModel name

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

JNL_TEMPLATE
: Optional Parameter

  The associated journal name template

LOG_TYPE
: Optional Parameter

  The associated log stream type.

  Values for the parameter are:
  `DUMMY`
  `MVS`
  `SMF`

STREAM_PROTOTYPE
: Optional Parameter

  The associated MVS log stream name prototype

LGLD gate, INITIALIZE function

Establish subpools, locks, and anchor control blocks

Output Parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGLD gate, INQUIRE function

Returns information about the current state of a JournalModel

Input Parameters

JOURNALMODEL_NAME
: The 8-byte JournalModel name to be inquired upon

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  - `UNKNOWN_JOURNALMODEL_NAME`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

JNL_TEMPLATE
: Optional Parameter

  The associated journal name template

LOG_TYPE
: Optional Parameter

  The associated log stream type.

  Values for the parameter are:
  - `DUMMY`
  - `MVS`
  - `SMF`

STREAM_PROTOTYPE
: Optional Parameter

  The associated MVS log stream name prototype

LGLD gate, INSTALL function

Create/replace JournalModel entry

Input Parameters

JNL_TEMPLATE
: The associated journal name template

JOURNALMODEL_NAME
: The 8-byte JournalModel name to be inquired upon

LOG_TYPE
: is the log stream type.

  Values for the parameter are:
  - `DUMMY`
  - `MVS`
  - `SMF`

STREAM_PROTOTYPE
: The associated MVS log stream name prototype

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  - `INVALID_JNL_TEMPLATE`
  - `INVALID_STREAM_PROTOTYPE`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGLD gate, MATCH function

Find JournalModel entry that best matches a journal name. Variables in the stream name prototype are resolved and the resultant stream name is returned.

Input Parameters

JNL_NAME
The 8-byte journal name to be opened

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`INVALID_JNL_NAME`

LOG_TYPE
The associated log stream type.

Values for the parameter are:
`DUMMY`
`MVS`
`SMF`

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

STREAM_NAME
The associated MVS log stream name. Blank for SMF or DUMMY

LGLD gate, START_BROWSE function

Initialize browse token for subsequent GET_NEXT requests

Output Parameters

BROWSE_TOKEN
Token for use on subsequent GET_NEXT requests

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

LGMV gate, MOVE_CHAIN function

Destroys the chain browse object denoted by CHAIN_TOKEN.

Input Parameters

CHAIN_TOKEN
is a chain token.

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`AKP_KICK_OFF`
`BUFFER_FULL`
`CONNECT_FAILURE`
`DUMMY_SECONDARY_LOG`
`END_OF_CHAINS`
`END_OF_DATA`
`INVALID_FORMAT`
`INVALID_FUNCTION`
`LOG_NOT_DEFINED`

LOOP
OUT_OF_RANGE
WRITE_FAILURE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGPA gate, INQUIRE_PARAMETERS function

Inquire logger domain parameters.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
OUT_OF_RANGE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DEFER_INTERVAL
Optional Parameter

is the number of millisecoonds for which a forced log write will be deferred.

KEYPOINT_FREQUENCY
Optional Parameter

is the current keypoint frequency value.

LGPA gate, SET_PARAMETERS function

Set logger domain parameters.

Input Parameters

DEFER_INTERVAL
Optional Parameter

is the number of milliseconds for which a forced log write will be deferred. The maximum value that may be specified is 65535 milliseconds.

KEYPOINT_FREQUENCY
Optional Parameter

How often, in terms of physical writes to the system log, activity keypoints should be initiated. A value of zero indicates that activity keypoints should not be initiated.
Non-zero values outside the range from 200 to 65535 inclusive are invalid and cause the OUT_OF_RANGE exception to be returned.

Output Parameters

REASON
The values for the parameter are:
OUT_OF_RANGE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGSR gate, LOGSTREAM_STATS function

Collects, and resets if required, the log stream statistics of either the log stream denoted by LOGSTREAM_NAME or of all log streams known to the log manager.

Input Parameters

ALL
: if specified then the request is for all log streams of type MVS known to the log manager.

  Values for the parameter are:
  `NO`
  `YES`

DATA
: The address of a reusable Iliffe vector describing the items of data to be written to the log stream.

  Values for the parameter are:
  `NO`
  `YES`

LOGSTREAM_NAME
: if specified then this is a log stream name, which must be of type MVS.

RESET
: is a request qualifier.

  Values for the parameter are:
  `NO`
  `YES`

STATS_BUFFER_ADDR
: is the address of a buffer to put the log stream statistics record(s).

STATS_BUFFER_LENGTH
: is the length of the buffer.

Output Parameters

REASON
: The values for the parameter are:
  `ABEND`
  `AKP_KICK_OFF`
  `BUFFER_FULL`
  `CONNECT_FAILURE`
  `END_OF_CHAINS`
  `END_OF_DATA`
  `INVALID_FORMAT`
  `INVALID_FUNCTION`
  `LOG_NOT_DEFINED`
  `LOOP`
  `OUT_OF_RANGE`
  `WRITE_FAILURE`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGST gate, CONNECT function

Connect to an MVS log stream, or increment use count on subsequent call.

Input Parameters

STREAM_NAME
: The 26-byte log stream name to be opened

SYSTEM_LOG
: Whether or not this journal is to be used as a system log.

  Values for the parameter are:

NO
YES

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`CONNECT_FAILURE`
`DEFINE_FAILURE`
`LOG_HAS_FAILED`
`SYSTEM_LOG_CONFLICT`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STREAM_TOKEN
The log stream token if the journal is currently connected to an MVS log stream or the logbuf token for an SMF journal.

If specified the stream shared lock will be acquired and it its the callers responsibility to free the lock when they have finished with the stream token.

STRUCTURE_NAME
Optional Parameter

is the 16 byte name of the coupling facility structure of the log stream.

LGST gate, DISCONNECT function

Decrement the stream use count and disconnect from the MVS logger on last use

Input Parameters

STREAM_TOKEN
The token of the log stream that has failed

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGST gate, END_BROWSE function

Terminate browse and invalidate browse token

Input Parameters

BROWSE_TOKEN
Token returned by START_BROWSE

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
`INVALID_BROWSE_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGST gate, GET_NEXT function

Return information for next stream entry

Input Parameters

BROWSE_TOKEN
: Token returned by START_BROWSE

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  NO_MORE_DATA_AVAILABLE

  The following values are returned when RESPONSE is INVALID:
  INVALID_BROWSE_TOKEN

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STREAM_NAME
: The associated MVS log stream name. Blank for SMF or DUMMY

FAILED
: Optional Parameter

  The MVS log stream has failed

  Values for the parameter are:
  NO
  YES

SYSTEM_LOG
: Optional Parameter

  Whether or not the journal is a system log.

  Values for the parameter are:
  NO
  YES

USE_CT
: Optional Parameter

  The current number of users of the stream

LGST gate, INITIALIZE function

Establish subpools, locks, and anchor control blocks

Output Parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGST gate, INQUIRE function

Returns information about the current state of a stream name

Input Parameters

STREAM_NAME
: The 26-byte log stream name to be opened

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  UNKNOWN_STREAM_NAME

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FAILED
Optional Parameter

The MVS log stream has failed

Values for the parameter are:
```
NO
YES
```

SYSTEM_LOG
Optional Parameter

Whether or not the journal is a system log.

Values for the parameter are:
```
NO
YES
```

USE_CT
Optional Parameter

The current number of users of the stream

LGST gate, START_BROWSE function

Initialize browse token for subsequent GET_NEXT requests

Output Parameters

BROWSE_TOKEN
Token for use on subsequent GET_NEXT requests

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGWF gate, FORCE_DATA function

Ensures that the output buffer denoted by FORCE_TOKEN has been written to the physical media.

Input Parameters

FORCE_TOKEN
Token returned by WRITE to indicate a specific record to be written. If omitted all records are forced.

Output Parameters

REASON
The values for the parameter are:
```
ABEND
AKP_KICK_OFF
BUFFER_FULL
BUFFER_LENGTH_ERROR
CONNECT_FAILURE
END_OF_CHAINS
END_OF_DATA
INVALID_FORMAT
INVALID_FUNCTION
LOG_NOT_DEFINED
LOOP
```

WRITE_FAILURE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LGWF gate, WRITE function

Writes a record to the CICS system log.

Input Parameters

CHAIN_TOKEN
is a chain token.

DATA
The address of a reusable Iliffe vector describing the items of data to be written to the log stream.

FORCE

Indicates that a force of the data in the buffer has been requested.

This is used to indicate when the statistics field in the journal information, which records the number of flushes, needs incrementing.

Values for the parameter are:
NO
YES

RAISE_LENGERR
is a request qualifier. RAISE_LENGERR(YES) indicates that if the data length is too large to fit into the output buffer then an EXCEPTION condition is returned to the caller.

Values for the parameter are:
NO
YES

SUSPEND
Supported for compatibility with old EXEC interface. Causes BUFFER_FULL exception to be raised if there is no space rather than waiting for space. The task may still be suspended for many other reasons.

Values for the parameter are:
NO
YES

MOVE_NEEDED
Optional Parameter

Binary value indicating whether existence records are to be moved to the shunt log on each activity keypoint.

Values for the parameter are:
NO
YES

Output Parameters

REASON
The values for the parameter are:
ABEND
AKP_KICK_OFF
BUFFER_FULL
BUFFER_LENGTH_ERROR
CONNECT_FAILURE
END_OF_CHAINS

END_OF_DATA
INVALID_FORMAT
INVALID_FUNCTION
LOG_NOT_DEFINED
LOOP
WRITE_FAILURE

FORCE_TOKEN
A token to be used on a subsequent FORCE to ensure that a specific records and any prior records have been hardened

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Logger manager domain's generic gates

Table 53 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 53. Log manager domain's generic gates

Gate	Trace	Function	Format
APUE	LG 0101 LG 0102	SET_EXIT_STATUS	APUE
DMDM	LG 0101 LG 0102	INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM
STST	LG 0101 LG 0102	COLLECT_STATISTICS COLLECT_RESOURCE_STATISTICS	STST

In Initialization processing, the log manager domain retrieves Journal and Journalmodel information from the catalog and initializes the system log except on a cold start when system log initialization occurs after group list install has completed.

In Quiesce processing, the log manager disconnects from MVS(TM) log streams after all transactions have completed.

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Application Manager Domain's generic formats" on page 867

"Domain Manager domain's generic formats" on page 956

"Statistics domain's generic formats" on page 1777

Log manager domain's call-back gates

Table 54 summarizes the domain's call-back gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 54. Log manager domain's call-back gates

Gate	Trace	Function	Format
RMRO	LG 0201 LG 0202	PERFORM_PREPARE PERFORM_COMMIT START_BACKOUT DELIVER_BACKOUT_DATA END_BACKOUT PERFORM_SHUNT PERFORM_UNSHUNT	RMRO

For PERFORM_PREPARE, PERFORM_COMMIT, END_BACKOUT the log manager forces any log buffers written using the FORCE_AT_SYNCH option of the LGGL WRITE gate to the MVS system logger. For the other RMRO gate functions the log manager does nothing.

For descriptions of these functions and their input and output parameters, refer to descriptions of the following call-back formats:

"Recovery manager domain call-back formats" on page 1599

Log manager domain's call-back formats

Table 55 describes the call-back formats owned by the domain and shows the functions performed on the calls.

Table 55. Log manager domain's call-back formats

Format	Calling module	Function
LGGL	DFHLGGL	ERROR

Note: In the descriptions of the formats, the input parameters are input not to the log manager domain, but to the domain being called by the log manager domain. Similarly, the output parameters are output by the domain that was called by the log manager domain, in response to the call.

LGGL gate, ERROR function

This is a back-to-front or outbound function. The logger will call the domain that issued OPEN, using the gate number specified in ERROR_GATE, when a long term error condition is detected on the opened log stream.

Input Parameters

COMPONENT
The 2-byte component id supplied on OPEN

ERROR_TYPE
Indicates the severity of the error.

Values for the parameter are:
LONG_TERM
RECOVERED

LOG_TOKEN
The token returned by OPEN

STREAM_NAME
The 26-byte name of the failing log stream name

USER_TOKEN
The 8-byte token supplied on OPEN, this allows the opening domain to determine what resource (eg DSNB) this open is associated with.

JNL_NAME
Optional Parameter

The 8-byte journal name if the open was by journal name

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Modules

Module	Function
DFHLGDM	Log manager domain initialization and termination. Also handles exit activation for XLGSTRM and XRSINDI. Handles the DMDM and APUE gate functions
DFHLGDUF	A routine to format system dump information
DFHLGGL	Handles the LGGL and RMRO gate functions
DFHLGHB	Assesses the availability of the MVS system logger
DFHLGICV	Log record conversion for SSI exit
DFHLGIGT	Log record get routine for SSI exit
DFHLGILA	Lexical analysis for SSI exit
DFHLGIMS	Message composer for SSI exit
DFHLGIPA	Parser for SSI exit
DFHLGIPI	Parse interface for SSI exit
DFHLGISM	Parse message exit for SSI exit
DFHLGJN	Handles the LGJN gate functions
DFHLGLD	Handles the LGLD gate functions
DFHLGPA	Handles the LGPA gate functions
DFHLGSC	Handles the STST gate functions
DFHLGSSI	Handles the batch QSAM access to CICS(R) logstreams via the DD SUBSYS=(LOGR...) SSI interface
DFHLGST	Handles the LGST gate functions
DFHLGTRI	A routine to format trace points
DFHL2DM	Initializes the 'L2' part of the Log Manager Domain
DFHL2TRI	A routine to format the 'L2' trace points
DFHL2LB	Handles the LGLB gate functions
DFHL2SR	Handles the LGSR gate functions
DFHL2WF	Handles the LGWF gate functions
DFHL2CC	Handles the LGCC gate functions

Module	Function
DFHL2CB	Handles the LGCB gate functions
DFHL2BA	Handles the LGBA gate functions
DFHL2MV	Handles the LGMV gate functions
DFHL2BL1	Initializes the Block class data
DFHL2BL2	Retrieves the current block on the CICS system log
DFHL2BS1	Initializes the BrowseableStream class data
DFHL2BS2	Creates a BrowseableStream class instance
DFHL2BS33	Destroys a BrowseableStream class instance
DFHL2BS4	Destroys all BrowseableStream class instance
DFHL2CH1	Initializes the Chain class data
DFHL2CH2	Creates a Chain class instance
DFHL2CH3	Handles start chain browse
DFHL2CH4	Handles chain browse get next
DFHL2CH5	Handles end chain browse
DFHL2CHA	Handles start browse all
DFHL2CHN	Handles browse all get next
DFHL2CHL	Handles end browse all
DFHL2CHH	Handles start browse chains
DFHL2CHG	Handles browse chains get next
DFHL2CHI	Handles end browse chains
DFHL2CHR	Handles chain restore
DFHL2CHS	handles set history point
DFHL2CHE	Handles delete at history point
DFHL2CHM	Handles move chain
DFHL2HS2	Handles the log stream connect request to the MVS logger
DFHL2HS3	Handles the log stream disconnect request to the MVS logger
DFHL2HS4	Handles the log stream delete all request to the MVS logger
DFHL2HS5	Handles the log stream delete history request to the MVS logger
DFHL2HS6	Handles the log stream start browse block request to the MVS logger
DFHL2HS7	Handles the log stream start browse cursor request to the MVS logger
DFHL2HS8	Handles the log stream read browse cursor request to the MVS logger
DFHL2HS9	Handles the log stream end browse cursor request to the MVS logger
DFHL2HSG	Handles the log stream read browse block request to the MVS logger
DFHL2HSJ	Handles the log stream end browse block request to the MVS logger
DFHL2OFI	Initializes the ObjectFactory instance data
DFHL2SL1	Initializes the SystemLog class data
DFHL2SLN	Handles system log log stream open request
DFHL2SLE	Handles system log log stream failure notification
DFHL2SR1	Initializes the Stream class data
DFHL2SR2	Creates a Stream class instance
DFHL2SR3	Destroys a Stream class instance

Module	Function
DFHL2SR4	Collect and resets Stream statistics
DFHL2SR5	Destroys all Stream class instances
DFHL2VPX	Initializes the VariablePool class data

Exits

Two global user exit points are provided in this domain.

XLGSTRM
: This exit is called before defining a new log stream to the MVS system logger

XRSINDI
: This exit is called when a Journal or Journalmodel is installed or discarded. It is also called when CICS connects or disconnects an MVS system logger logstream.

See the *CICS Customization Guide* for further details.

Chapter 88. Lock Manager Domain (LM)

The lock manager domain provides locking and associated queuing facilities for CICS resources. Before using these facilities, a resource must add a named lock for itself. This lock can then be requested as either exclusive or shared. If an exclusive lock is obtained, no other task may obtain the lock with that name; if a shared lock is obtained, multiple tasks may obtain that lock, and the exclusive lock with that name cannot be acquired.

Lock Manager domain's specific gates

The specific gates provide access for other domains to functions that are provided by the LM domain.

LMLM gate, ADD_LOCK function

The ADD_LOCK function of the LMLM gate is used to add a named lock to LM's state.

Input Parameters

LOCK_NAME
is an 8-character name.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
INSUFFICIENT_STORAGE
LOOP

LOCK_TOKEN
is the 8-character token that uniquely identifies the lock, returned to the caller on the this call.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LMLM gate, DELETE_LOCK function

The DELETE_LOCK function of the LMLM gate is used to delete the named lock from LM's state.

Input Parameters

LOCK_TOKEN
is the token returned to the caller on the ADD_LOCK call.

OWNER_TOKEN
Optional Parameter

defines the owner of the lock.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:

`LOCK_TOKEN_NOT_FOUND`
`NOT_LOCK_OWNER`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

LMLM gate, LOCK function

The LOCK function of the LMLM gate is used to request the lock.

Input Parameters

`LOCK_TOKEN`
is the token returned to the caller on the ADD_LOCK call.

`MODE`
defines the type of lock.

Values for the parameter are:

`EXCLUSIVE`
`SHARED`

`WAIT`
Optional Parameter

indicates whether a task is suspended (CICS) or a LOCK_BUSY is to be returned as a reason output parameter (NO).

Values for the parameter are:

`CICS`
`NO`

Output Parameters

`REASON`
The following values are returned when RESPONSE is DISASTER:

`ABEND`
`INSUFFICIENT_STORAGE`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:

`DUPLICATE_LOCK_OWNER`
`LOCK_BUSY`
`LOCK_TOKEN_NOT_FOUND`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

LMLM gate, TEST_LOCK_OWNER function

The TEST_LOCK_OWNER function of the LMLM gate is used to test the owner of a lock for self.

Input Parameters

`LOCK_TOKEN`
is the token returned to the caller on the ADD_LOCK call.

Output Parameters

`REASON`
The following values are returned when RESPONSE is DISASTER:

`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:

`LOCK_TOKEN_NOT_FOUND`
`NOT_LOCK_OWNER`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LMLM gate, UNLOCK function

The UNLOCK function of the LMLM gate is used to release the lock.

Input Parameters

LOCK_TOKEN
is the token returned to the caller on the ADD_LOCK call.

MODE
defines the type of lock.

Values for the parameter are:

`EXCLUSIVE`
`SHARED`

OWNER_TOKEN
Optional Parameter

defines the owner of the lock.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:

`LOCK_TOKEN_NOT_FOUND`
`NOT_LOCK_OWNER`
`SHARED_LOCK_FREE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Lock manager domain's generic gates

Table 56 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 56. Lock manager domain's generic gates

Gate	Trace	Functions	Format
DMDM	LM 0001 LM 0002	PRE_INITIALISE INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM
DSNT	LM 0005 LM 0006	DISPATCHER_NOTIFY	DSNT

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

“Dispatcher domain's generic formats” on page 1031

Modules

Module	Function
DFHLMDM	Handles the following requests: PRE_INITIALIZE INITIALIZE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN
DFHLMDS	Handles transaction manager domain MXT_CHANGE_NOTIFY requests.
DFHLMDUF	Formats the LM domain control blocks
DFHLMLM	Handles the following requests: ADD_LOCK DELETE_LOCK LOCK TEST_LOCK_OWNER UNLOCK
DFHLMTRI	Interprets LM domain trace entries

Chapter 89. Message Domain (ME)

The message domain acts as a repository for CICS messages, and handles the sending of messages to transient data destinations or to the console. It also provides an interface for returning the text of a message to the caller.

Message Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the ME domain.

MEBM gate, INQUIRE_MESSAGE_DEFINITION function

The INQUIRE_MESSAGE_DEFINITION function of the MEBM gate is used to return the action and severity codes of a message.

Input Parameters

MESSAGE_NUMBER
is the numeric message identifier.

MESSAGE_TABLE
is a table containing all the message definitions for the message domain.

COMPONENT_ID
Optional Parameter

is the component identifier for the message.

Output Parameters

REASON
The values for the parameter are:
MESSAGE_CANNOT_BE_FOUND

ACTION_CODE
is the action code for the message.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SEVERITY_CODE
is the severity of the message.

MEBM gate, INQUIRE_MESSAGE_LENGTH function

The INQUIRE_MESSAGE_LENGTH function of the MEBM gate is used to find the length of the message in order to obtain the appropriate sized buffer to retrieve the message.

Input Parameters

MESSAGE_NUMBER
is the numeric message identifier.

MESSAGE_TABLE
is a table containing all the message definitions for the message domain.

COMPONENT_ID
Optional Parameter

is the component identifier for the message.

INSERT*n*
Optional Parameter

A user-supplied insert, if required by the message definition.

Output Parameters

REASON
: The values for the parameter are:
  `MESSAGE_CANNOT_BE_FOUND`

MESSAGE_LENGTH
: is the length of the message being inquired on.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MEBM gate, RETRIEVE_MESSAGE function

The RETRIEVE_MESSAGE function of the MEBM gate is used to retrieve the message text and build the message into a buffer.

Input Parameters

MESSAGE_BUFFER
: is the buffer to receive the message text.

MESSAGE_NUMBER
: is the numeric message identifier.

MESSAGE_TABLE
: is a table containing all the message definitions for the message domain.

COMPONENT_ID
: Optional Parameter

  is the component identifier for the message.

INSERT*n*
: Optional Parameter

  A user-supplied insert, if required by the message definition.

MODULE_NAME
: Optional Parameter

  is the name of the module in error, supplied as data for the symptom string.

MODULE_PTF
: Optional Parameter

  is the PTF level of the module in error, supplied as data for the symptom string.

SUPPRESS_SRBUILD
: Optional Parameter

  indicates whether or not a symptom record build is suppressed.

  Values for the parameter are:
  `NO`
  `YES`

SYMPTOM_BUFFER
: Optional Parameter

  is the buffer to receive a symptom string for the message.

UPPERCASE
: Optional Parameter

  determines whether or not messages should be converted to uppercase.

  Values for the parameter are:
  `NO`
  `YES`

Output Parameters

REASON
: The values for the parameter are:
  `MESSAGE_CANNOT_BE_PRODUCED`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MEME gate, CONVERSE function

The CONVERSE function of the MEME gate is used to send a message and receive a reply.

Input Parameters

MESSAGE_NUMBER
: is the numeric message identifier.

REPLY_FORMAT
: indicates the format of the reply.

  Values for the parameter are:
  `TEXT`
  `TEXT_OR_VALUE`
  `VALUE`

COMPONENT_ID
: Optional Parameter

  is the component identifier for the message.

INSERT*n*
: Optional Parameter

  A user-supplied insert, if required by the message definition.

NETNAME
: Optional Parameter

  is the network name to be used to override the netname obtained by the message domain.

PRODUCT
: Optional Parameter

  is an optional product identifier.

REPLY_BUFFER
: Optional Parameter

  is the buffer into which the text reply is to be returned.

TERMID
: Optional Parameter

  is the terminal identifier to be used to override the termid obtained by the message domain.

TRANID
: Optional Parameter

  is the transaction identifier to be used to override the tranid obtained by the message domain.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `INSUFFICIENT_STORAGE`

INVALID_MODULE_PTR
INVALID_TEMPLATE
MAX_REPLIES_EXCEEDED

The following values are returned when RESPONSE is EXCEPTION:
REPLY_BUFFER_TOO_SMALL

The following values are returned when RESPONSE is INVALID:
INVALID_COMPONENT_TYPE
INVALID_DESTINATION
INVALID_FUNCTION
INVALID_INSERT
INVALID_REPLY_BUFFER
MESSAGE_NOT_FOUND
MESSAGE_SET_NOT_FOUND
MISSING_INSERT
OPT_INSERT_NOT_FOUND
REPLY_BUFFER_REQUIRED
REPLY_INDEX_REQUIRED
RETRY_MSG_LOCATE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

REPLY_INDEX
Optional Parameter

is the number of the template reply option that matches the user's reply text.

MEME gate, INQUIRE_MESSAGE function

The INQUIRE_MESSAGE function of the MEME gate is used to find the system default language as a one-character CICS language suffix and a three-character IBM standard national language code.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND

The following values are returned when RESPONSE is INVALID:
INVALID_FUNCTION

DEFAULT_LANGUAGE_CODE
is the three-character code for the default language.

DEFAULT_LANGUAGE_SUFFIX
is the one-character suffix for the default language.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MEME gate, INQUIRE_MESSAGE_LENGTH function

The INQUIRE_MESSAGE_LENGTH function of the MEME gate is used to find the length of the message in order to obtain the appropriate size buffer to retrieve the message.

Input Parameters

MESSAGE_NUMBER
is the numeric message identifier.

COMPONENT_ID
Optional Parameter

is the component identifier for the message.

INSERT*n*
Optional Parameter

A user-supplied insert, if required by the message definition.

LANGUAGE
Optional Parameter

is an optional language code.

MSGTABLE
Optional Parameter

indicates that the feature message table is to be used.

NETNAME
Optional Parameter

is the network name to be used to override the netname obtained by the message domain.

PRODUCT
Optional Parameter

is an optional product identifier.

TERMID
Optional Parameter

is the terminal identifier to be used to override the termid obtained by the message domain.

TRANID
Optional Parameter

is the transaction identifier to be used to override the tranid obtained by the message domain.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
```
ABEND
INSUFFICIENT_STORAGE
INVALID_MODULE_PTR
INVALID_TEMPLATE
```
The following values are returned when RESPONSE is INVALID:
```
INVALID_COMPONENT_TYPE
INVALID_FUNCTION
INVALID_INSERT
MESSAGE_NOT_FOUND
MESSAGE_SET_NOT_FOUND
MISSING_INSERT
OPT_INSERT_NOT_FOUND
RETRY_MSG_LOCATE
```
MESSAGE_LENGTH
is the length of the message being inquired on.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MEME gate, RETRIEVE_MESSAGE function

The RETRIEVE_MESSAGE function of the MEME gate is used to retrieve a message text.

Input Parameters

MESSAGE_BUFFER
is the buffer to receive the message text.

MESSAGE_NUMBER
is the numeric message identifier.

COMPONENT_ID
Optional Parameter

is the component identifier for the message.

INSERT*n*
Optional Parameter

A user-supplied insert, if required by the message definition.

LANGUAGE
Optional Parameter

is an optional language code.

MSGTABLE
Optional Parameter

indicates that the feature message table is to be used.

NETNAME
Optional Parameter

is the network name to be used to override the netname obtained by the message domain.

PRODUCT
Optional Parameter

is an optional product identifier.

SUPPRESS_DUMP
Optional Parameter

Indicates whether dumps have been suppressed.

Values for the parameter are:
- NO
- YES

TERMID
Optional Parameter

is the terminal identifier to be used to override the termid obtained by the message domain.

TRANID
Optional Parameter

is the transaction identifier to be used to override the tranid obtained by the message domain.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
- ABEND
- INSUFFICIENT_STORAGE
- INVALID_MODULE_PTR
- INVALID_TEMPLATE

The following values are returned when RESPONSE is EXCEPTION:
`MSG_BUFFER_TOO_SMALL`
`REPLY_BUFFER_TOO_SMALL`

The following values are returned when RESPONSE is INVALID:
`INVALID_COMPONENT_TYPE`
`INVALID_FUNCTION`
`INVALID_INSERT`
`INVALID_MESSAGE_BUFFER`
`MESSAGE_NOT_FOUND`
`MESSAGE_SET_NOT_FOUND`
`MISSING_INSERT`
`OPT_INSERT_NOT_FOUND`
`RETRY_MSG_LOCATE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MEME gate, SEND_MESSAGE function

The SEND_MESSAGE function of the MEME gate is used to send a message to one or more destinations.

Input Parameters

MESSAGE_NUMBER
is the numeric message identifier.

COMPONENT_ID
Optional Parameter

is the component identifier for the message.

IGNORE_EXCEPTIONS
Optional Parameter

specifies whether the caller requests that a failure sending a message to a transient data destination is to be ignored.

INSERT*n*
Optional Parameter

A user-supplied insert, if required by the message definition.

MSGTABLE
Optional Parameter

indicates that the feature message table is to be used.

NETNAME
Optional Parameter

is the network name to be used to override the netname obtained by the message domain.

NOREROUTE
Optional Parameter

Indicates that the message cannot be rerouted.

PRODUCT
Optional Parameter

is an optional product identifier.

RESTART_CICS
Optional Parameter

specifies whether the caller requests CICS to be restarted.

Values for the parameter are:
NO
YES

SYSTEM_DUMPCODE
Optional Parameter

is the dump code to be used when the message domain requests a dump on behalf of its caller.

TDQUEUES
Optional Parameter

A block containing the names of the message destinations.

TERMID
Optional Parameter

is the terminal identifier to be used to override the terminal identifier obtained by the message domain.

TERMINATE_CICS
Optional Parameter

specifies whether the caller requests CICS to be terminated.

Values for the parameter are:
NO
YES

TRANID
Optional Parameter

is the transaction identifier to be used to override the transaction identifier obtained by the message domain.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
INSUFFICIENT_STORAGE
INVALID_MODULE_PTR
INVALID_TEMPLATE
NO_STORAGE_FOR_WTO

The following values are returned when RESPONSE is INVALID:
INVALID_COMPONENT_TYPE
INVALID_DBCS_FORMAT
INVALID_DESTINATION
INVALID_FUNCTION
INVALID_INSERT
INVALID_MEFO_RESPONSE
MESSAGE_NOT_FOUND
MESSAGE_SET_NOT_FOUND
MISSING_INSERT
OPT_INSERT_NOT_FOUND
RETRY_MSG_LOCATE

The following values are returned when RESPONSE is PURGED:
TDQ_PURGED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RESP2
Optional Parameter

Second response code.

SEVERITY
Optional Parameter

The message severity.

MEME gate, VALIDATE_LANGUAGE_CODE function

The VALIDATE_LANGUAGE_CODE function of the MEME gate is used to determine whether a specific three-letter IBM standard national language code is valid. If it is valid, this function returns the equivalent one-character CICS language suffix.

Input Parameters

LANGUAGE_CODE
is the three-character national language code to be validated. The IBM standard three-character codes, and their corresponding one-character CICS language suffices, are listed in "Languages and their codes."

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`

The following values are returned when RESPONSE is EXCEPTION:
`LANGUAGE_CODE_INVALID`
`LANGUAGE_NOT_SUPPORTED`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LANGUAGE_SUFFIX
Optional Parameter

is the one-character CICS language suffix that corresponds to the input LANGUAGE_CODE.

Languages and their codes

NATLANG code	NLS code	Language
A	ENG	Alternative English
Q	ARA	Arabic
1	BEL	Byelorussian
L	BGR	Bulgarian
B	PTB	Brazilian Portuguese
T DBCS	CHT	Traditional Chinese
C DBCS	CHS	Simplified Chinese
2	CSY	Czech
D	DAN	Danish
G	DEU	German
O	ELL	Greek
S	ESP	Spanish
W	FIN	Finnish
F	FRA	French
X	HEB	Hebrew

NATLANG code	NLS code	Language
3	HRV	Croatian
4	HUN	Hungarian
J	ISL	Icelandic
I	ITA	Italian
H DBCS	KOR	Korean
M	MKD	Macedonian
9	NLD	Dutch
N	NOR	Norwegian
5	PLK	Polish
P	PTG	Portuguese
6	ROM	Romanian
R	RUS	Russian
Y	SHC	Serbo-Croatian (Cyrillic)
7	SHL	Serbo-Croatian (Latin)
V	SVE	Swedish
Z	THA	Thai
8	TRK	Turkish
U	UKR	Ukrainian

Notes:

1. **DBCS** denotes Double-Byte Character Set languages.
2. Code letter A means *alternative English* to distinguish your edited English message tables from the default US English message tables supplied by CICS. The default US English tables are designated by the language code letter E.
3. The NATLANG code for the selected language is used as the suffix of your edited message data sets that you can create using the message editing utility. For more information about the message editing utility, see the *CICS Operations and Utilities Guide*.

MEME gate, VALIDATE_LANGUAGE_SUFFIX function

The VALIDATE_LANGUAGE_SUFFIX function of the MEME gate is used to determine whether a specific one-character CICS language suffix is valid. If it is valid, this function returns the equivalent three-character IBM standard national language code.

Input Parameters

LANGUAGE_SUFFIX

is the one-character CICS language code to be validated. The IBM standard three-character codes, and their corresponding one-character CICS language suffices, are listed in "Languages and their codes" on page 1331.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:
`ABEND`

The following values are returned when RESPONSE is EXCEPTION:
`LANGUAGE_NOT_SUPPORTED`
`LANGUAGE_SUFFIX_INVALID`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LANGUAGE_CODE
Optional Parameter

is the three-character CICS language suffix that corresponds to the input LANGUAGE_SUFFIX.

MESR gate, SET_MESSAGE_OPTIONS function

The SET_MESSAGE_OPTIONS function of the MESR gate is used to set the various message options specified by the system initialization parameters MSGCASE, MSGLVL, and NATLANG.

Input Parameters

LANGUAGES_USED
Optional Parameter

is a list of the languages used in the system.

MESSAGE_CASE
Optional Parameter

is either MIXED for mixed-case messages, or UPPER for messages to be folded to uppercase.

Values for the parameter are:
`MIXED`
`UPPER`

MESSAGE_LEVEL
Optional Parameter

can be 0 or 1. 0 means that information messages do not appear (are suppressed) at the console.

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Message domain's generic gates

Table 57 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 57. Message domain's generic gates

Gate	Trace	Functions	Format
DMDM	ME 0101 ME 0102	PRE_INITIALISE INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM

In preinitialization processing, the message domain sets the following message options:

- The national languages to be supported during this CICS run
- The message level for initialization messages
- The message case.

For a cold start, the information comes from the system initialization parameters; for any other type of start, the information comes from the local catalog, but is then modified by any relevant system initialization parameters.

The message domain does no quiesce processing or termination processing.

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

Modules

Module	Function
DFHCMAC	Displays messages and codes online for the CMAC transaction
DFHMEBM	Is executed in an offline environment, and is provided for use by batch utility programs
DFHMEBU	Builds a message into a buffer, and also builds a symptom string when required
DFHMEDM	Performs the necessary domain manager functions; that is, preinitialize, initialize, quiesce, and terminate for the message domain
DFHMEDUF	ME domain offline dump formatting routine
DFHMEFO	Formats a long message into lines of specified length
DFHMEIN	Provides all the data required to build a message
DFHMEME	Handles the following functions: **SEND_MESSAGE** sends a message to any individual or combination of MVS/MCS consoles, or CICS TD queues. **CONVERSE** sends a message to any individual or combination of MVS/MCS consoles and receives a reply from one of them. **RETRIEVE_MESSAGE** builds a message and places it in a buffer passed by the caller. **INQUIRE_MESSAGE_LENGTH** returns the length of a terminal end user message. **INQUIRE_MESSAGE** returns the requested data, held by the ME domain (for example, Default_Language). **VALIDATE_LANGUAGE_CODE** checks whether a three-character language code is valid. **VALIDATE_LANGUAGE_SUFFIX** checks whether a one-character language suffix is valid.
DFHMESR	Collects the system initialization parameter overrides for a particular CICS start
DFHMETRI	ME domain offline trace interpretation routine
DFHMEWS	Writes a symptom record containing a symptom string to SYS1.LOGREC by using the MVS SYMRBLD macro
DFHMEWT	Provides support to execute the MVS WTOR SVC

Exits

There is one global user exit point in the message domain: XMEOUT. See the *CICS Customization Guide* for further details.

Chapter 90. Markup language domain (ML)

The Markup language domain (ML) processes markup languages.

Markup language domain's specific gates

The specific gates provide access for other domains to functions that are provided by the ML domain.

MLPC gate, PARSE_CONTAINER function

Parse the contents of a container.

Input parameters

CCSID
The fullword binary CCSID value. This value is used for header value input and output parameters.

CHANNEL_TOKEN
A token referencing the channel.

CONTAINER_NAME
The 16-character container name.

Output parameters

REASON
The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`
`LOCK_FAILURE`
`PARSE_FAILED`

The following values are returned when RESPONSE is PURGED:
`TASK_CANCELLED`

The following values are returned when RESPONSE is EXCEPTION:
`NOT_WELL_FORMED`
`RESOURCE_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MLTF gate, PARSE_XSDBIND_FILE function

Parse the XML binding file.

Input parameters

XSDBIND_BLOCK
A block that contains the XML binding.

XMLSCHEMA
Optional parameter

A buffer for the XML schema.

XMLTRANSFORM
The 32-byte name of the XMLTRANSFORM resource.

Output parameters

XSDBIND_TOKEN
A token that represents the XML binding, which contains the metadata for transforming the XML to and from application data.

CCSID
Optional parameter

The fullword binary CCSID value.

MAPPINGLEVEL
Optional parameter

The 8-byte character string of the mapping level that was used to generate the XML binding.

MAPPINGVNUM
Optional parameter

The fullword binary value of the version number for the mapping level that was used when generating the XML binding.

MAPPINGRNUM
The fullword binary value of the release number for the mapping level that was used when generating the XML binding.

MINRUNLEVEL
An 8-byte character string of the minimum runtime level that is required to install the XMLTRANSFORM resource in CICS.

MINRUNVNUM
The fullword binary value of the version number for the minimum runtime level that is required to install the XMLTRANSFORM resource in CICS.

MINRUNRNUM
The fullword binary value of the release number for the minimum runtime level that is required to install the XMLTRANSFORM resource in CICS.

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
INTERNAL_ERROR
LOOP
SEVERE_ERROR

The following values are returned when RESPONSE is EXCEPTION:
XSDBIND_BAD_RUN_LVL
XSDBIND_CONVERSION_ERROR
XSDBIND_INPUT_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MLTF gate, QUERY_XML function

Query a fragment of XML.

Input parameters

CHANNEL_NAME
The 16-byte name of the current channel.

CHANNEL_TOKEN
A token that represents the current channel.

ELEMENT_NAME
Optional parameter

A buffer for the XML element name.

ELEMENT_NAMESPACE
Optional parameter

A buffer for the XML element namespace.

NAMESPACE_CONTAINER
Optional parameter

A list of XML namespace prefix declarations that are processed as in scope for the XML.

TYPE_NAME
Optional parameter

A buffer for the name of the XML global data type.

TYPE_NAMESPACE
Optional parameter

A buffer for the namespace of the XML global data type.

XML_CONTAINER
The 16-byte name of the container that has the XML that CICS will transform into application data.

Output parameters

REASON
The following values are returned when RESPONSE is DISASTER:

```
ABEND
INTERNAL_ERROR
SEVERE_ERROR
```

The following values are returned when RESPONSE is EXCEPTION:

```
CHANNEL_NOT_FOUND
CONTAINER_NOT_FOUND_XML
CONTAINER_NOT_FOUND_NS
CONTAINER_NOT_TEXT_MODE
ELEMENT_NAME_BUFF_OVERFLOW
ELEMENT_NMSP_BUFF_OVERFLOW
EMPTY_XML_CONTAINER
EMPTY_XML_DATA
TYPE_NAME_BUFF_OVERVIEW
TYPE_NMSP_BUFF_OVERVIEW
XML_CONVERSION_ERROR
XML_INPUT_ERROR
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MLTF gate, RELEASE_XSDBIND function

Release the XML binding token after the XML transformation or query has completed.

Input parameters

XSDBIND_TOKEN
A token that represents the XML binding, which contains the metadata for transforming the XML to and from application data.

Output parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`INTERNAL_ERROR`
`LOOP`
`SEVERE_ERROR`

The following values are returned when RESPONSE is EXCEPTION:
`XSDBIND_TOKEN_INVALID`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MLTF gate, TRANSFORM_STRUCTURE_TO_XML function

Transform application data to XML.

Input parameters

CHANNEL_NAME
The 16-byte name of the current channel.

CHANNEL_TOKEN
A token that represents the current channel.

DATA_CONTAINER
The 16-byte name of the container in which CICS puts the application data.

ELEMENT_NAME
Optional parameter

A buffer for the XML element name.

ELEMENT_NAMESPACE
Optional parameter

A buffer for the XML element namespace.

TYPE_NAME
Optional parameter

A buffer for the name of the XML global data type.

TYPE_NAMESPACE
Optional parameter

A buffer for the namespace of the XML global data type.

VALIDATE
Optional parameter

The parameter is set to Yes or No depending on whether validation is required.

XML_CONTAINER
The 16-byte name of the container that has the XML that CICS will transform into application data.

XMLSCHEMA
Optional parameter

A buffer for the XML schema.

XMLTRANSFORM
The 32-byte name of the XMLTRANSFORM resource.

XSDBIND_TOKEN
A token that represents the XML binding, which contains the metadata for transforming the XML to and from application data.

Output parameters

REASON
: The following values are returned when RESPONSE is DISASTER:

  ABEND
  INTERNAL_ERROR
  SEVERE_ERROR

  The following values are returned when RESPONSE is INVALID:

  INVALID_FORMAT
  INVALID_FUNCTION

  The following values are returned when RESPONSE is EXCEPTION:

  CHANNEL_NOT_FOUND
  CONTAINER_DATATYPE_ERR
  CONTAINER_NOT_BIT_MODE
  CONTAINER_NOT_FOUND_DATA
  CONTAINER_NOT_FOUND_OTHER
  DATA_CONVERSION_ERROR
  DATA_INTPUT_ERROR
  ELEMENT_NOT_SUPPORTED
  METADATA_NOT_FOUND
  TYPE_NOT_SUPPORTED
  VALIDATION_FAILURE
  VENDOR_CONVERTER_FAILURE
  XSDBIND_TOKEN_INVALID

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MLTF gate, TRANSFORM_XML_TO_STRUCTURE function

Transform XML to application data.

Input parameters

CHANNEL_NAME
: The 16-byte name of the current channel.

CHANNEL_TOKEN
: A token that represents the current channel.

DATA_CONTAINER
: The 16-byte name of the container in which CICS puts the application data.

ELEMENT_NAME
: Optional parameter

  A buffer for the XML element name.

ELEMENT_NAMESPACE
: Optional parameter

  A buffer for the XML element namespace.

TYPE_NAME
: Optional parameter

  A buffer for the name of the XML global data type.

TYPE_NAMESPACE
: Optional parameter

  A buffer for the namespace of the XML global data type.

TYPE_NAME_OVERRIDE
: Optional parameter

  A block that sets the xsi:type that is assumed when parsing the XML.

TYPE_NAMESPACE_OVERRIDE
Optional parameter

A block that sets the xsi:type that is assumed when parsing the XML.

VALIDATE
Optional parameter

The parameter is set to Yes or No depending on whether validation is required.

XML_CONTAINER
The 16-byte name of the container that has the XML that CICS will transform into application data.

XMLSCHEMA
Optional parameter

A buffer for the XML schema.

XMLTRANSFORM
The 32-byte name of the XMLTRANSFORM resource.

XSDBIND_TOKEN
A token that represents the XML binding, which contains the metadata for transforming the XML to and from application data.

Output parameters

REASON
The following values are returned when RESPONSE is DISASTER:

ABEND
INTERNAL_ERROR
SEVERE_ERROR

The following values are returned when RESPONSE is EXCEPTION:

CHANNEL_NOT_FOUND
CONTAINER_DATATYPE_ERR
CONTAINER_NOT_FOUND_XML
CONTAINER_NOT_FOUND_NS
CONTAINER_NOT_TEXT_MODE
CONTAINER_DATATYPE_ERR
DATA_CONVERSION_ERROR
DATA_INTPUT_ERROR
ELEMENT_NAME_BUFF_OVERFLOW
ELEMENT_NMSP_BUFF_OVERFLOW
ELEMENT_NOT_SUPPORTED
EMPTY_XML_CONTAINER
EMPTY_XML_DATA
METADATA_NOT_FOUND
TYPE_NAME_BUFF_OVERVIEW
TYPE_NMSP_BUFF_OVERVIEW
TYPE_NOT_SUPPORTED
VALIDATION_FAILURE
VENDOR_CONVERTER_FAILURE
XML_CONVERSION_ERROR
XML_INPUT_ERROR
XSDBIND_TOKEN_INVALID

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MLXT gate, INSTALL_XMLTRANSFORM function

Install an XMLTRANSFORM resource.

Input parameters

XMLTRANSFORM
The 32-byte name of the XMLTRANSFORM resource.

XSDBIND_CONTENT
A block for the content of the XML binding.

XSDBIND_FILENAME
A buffer for the name of the XML binding file.

RESOURCE_SIGNATURE
The resource signature of the XMLTRANSFORM resource.

BUNDLE
The name of the BUNDLE resource that created the XMLTRANSFORM resource. Either this parameter or the **ATOMSERVICE** parameter is used.

ATOMSERVICE
The name of the ATOMSERVICE resource that created the XMLTRANSFORM resource. Either this parameter or the **BUNDLE** parameter is used.

Output parameters

CCSID
Optional parameter

The fullword binary CCSID value.

MAPPINGLEVEL
Optional parameter

The 8-byte character string of the mapping level that was used to generate the XML binding.

MAPPINGVNUM
Optional parameter

The fullword binary value of the version number for the mapping level that was used when generating the XML binding.

MAPPINGRNUM
The fullword binary value of the release number for the mapping level that was used when generating the XML binding.

MINRUNLEVEL
An 8-byte character string of the minimum runtime level that is required to install the XMLTRANSFORM resource in CICS.

MINRUNVNUM
The fullword binary value of the version number for the minimum runtime level that is required to install the XMLTRANSFORM resource in CICS.

MINRUNRNUM
The fullword binary value of the release number for the minimum runtime level that is required to install the XMLTRANSFORM resource in CICS.

REASON
The following values are returned when RESPONSE is DISASTER:

```
ABEND
INTERNAL_ERROR
SEVERE_ERROR
```

The following values are returned when RESPONSE is EXCEPTION:

```
INSTALL_FAILED
INSTALLED_DISABLED
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MLXT gate, DISCARD_XMLTRANSFORM function

Discard an XMLTRANSFORM resource.

Input parameters

XMLTRANSFORM
The 32-byte name of the XMLTRANSFORM resource.

Output parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`INTERNAL_ERROR`
`SEVERE_ERROR`

The following values are returned when RESPONSE is EXCEPTION:
`XMLTRANSFORM_NOT_FOUND`
`INVALID_STATE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MLXT gate, INQUIRE_XMLTRANSFORM function

Inquire about an XMLTRANSFORM resource.

Input parameters

XMLTRANSFORM
The 32-byte name of the XMLTRANSFORM resource.

RESOURCE_SIGNATURE
Optional parameter

The resource signature of the XMLTRANSFORM resource.

XMLSCHEMA_FILENAME
Optional parameter

A buffer for the name of the XML schema file.

XSDBIND_FILENAME
Optional parameter

A buffer for the name of the XML binding file.

Output parameters

ATOMSERVICE
Optional parameter

The name of the ATOMSERVICE resource that is associated with the XMLTRANSFORM resource.

BUNDLE
Optional parameter

The name of the BUNDLE resource that created the XMLTRANSFORM resource.

CCSID
Optional parameter

The fullword binary CCSID value.

MAPPINGLEVEL
Optional parameter

The 8-byte character string of the mapping level that was used to generate the XML binding.

MAPPINGVNUM
Optional parameter

The fullword binary value of the version number for the mapping level that was used when generating the XML binding.

MAPPINGRNUM
The fullword binary value of the release number for the mapping level that was used when generating the XML binding.

MINRUNLEVEL
An 8-byte character string of the minimum runtime level that is required to install the XMLTRANSFORM resource in CICS.

MINRUNVNUM
The fullword binary value of the version number for the minimum runtime level that is required to install the XMLTRANSFORM resource in CICS.

MINRUNRNUM
The fullword binary value of the release number for the minimum runtime level that is required to install the XMLTRANSFORM resource in CICS.

STATUS
Optional parameter

The status of the XMLTRANSFORM resource.

TOTAL_USE_COUNT
The number of times the XMLTRANSFORM resource has been used by CICS.

VALIDATION
The status of validation for the XMLTRANSFORM resource.

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`INTERNAL_ERROR`
`LOOP`
`SEVERE_ERROR`

The following values are returned when RESPONSE is EXCEPTION:
`XMLTRANSFORM_NOT_FOUND`

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

MLXT gate, SET_XMLTRANSFORM function

Set the attributes on the XMLTRANSFORM resource.

Input parameters

XMLTRANSFORM
The 32-byte name of the XMLTRANSFORM resource.

RESOURCE_SIGNATURE
Optional parameter

The resource signature of the XMLTRANSFORM resource.

STATUS
Optional parameter

The status of the XMLTRANSFORM resource, either ENABLED or DISABLED.

VALIDATION
Optional parameter

The status of validation for the XMLTRANSFORM resource.

Output parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  - `ABEND`
  - `INTERNAL_ERROR`
  - `LOOP`
  - `SEVERE_ERROR`

  The following values are returned when RESPONSE is EXCEPTION:
  - `INVALID_STATE`
  - `XMLTRANSFORM_NOT_FOUND`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MLXT gate, START_BROWSE_XMLTRANSFORM function

Start the browse session for XMLTRANSFORM resources.

Input parameters

There are no input parameters.

Output parameters

BROWSE_TOKEN
: A token to browse XMLTRANSFORM resources.

MLXT gate, GET_NEXT_XMLTRANSFORM function

Get the next XMLTRANSFORM resource.

Input parameters

BROWSE_TOKEN
: The browse token that was returned by the START_BROWSE_XMLTRANSFORM function.

RESET
: Optional parameter

  A parameter that indicates whether the statistics for the XMLTRANSFORM are to be reset.

RESOURCE_SIGNATURE
: Optional parameter

  The resource signature of the XMLTRANSFORM resource.

XMLSCHEMA_FILENAME
: Optional parameter

  A buffer for the name of the XML schema file.

XSDBIND_FILENAME
: Optional parameter

  A buffer for the name of the XML binding file.

Output parameters

XMLTRANSFORM
: The 32-byte name of the XMLTRANSFORM resource.

ATOMSERVICE
: Optional parameter

The name of the ATOMSERVICE resource that is associated with the XMLTRANSFORM resource.

BUNDLE
Optional parameter

The name of the BUNDLE resource that created the XMLTRANSFORM resource.

CCSID
Optional parameter

The fullword binary CCSID value.

MAPPINGLEVEL
Optional parameter

The 8-byte character string of the mapping level that was used to generate the XML binding.

MAPPINGVNUM
Optional parameter

The fullword binary value of the version number for the mapping level that was used when generating the XML binding.

MAPPINGRNUM
The fullword binary value of the release number for the mapping level that was used when generating the XML binding.

MINRUNLEVEL
An 8-byte character string of the minimum runtime level that is required to install the XMLTRANSFORM resource in CICS.

MINRUNVNUM
The fullword binary value of the version number for the minimum runtime level that is required to install the XMLTRANSFORM resource in CICS.

MINRUNRNUM
The fullword binary value of the release number for the minimum runtime level that is required to install the XMLTRANSFORM resource in CICS.

STATUS
Optional parameter

The status of the XMLTRANSFORM resource.

TOTAL_USE_COUNT
The number of times the XMLTRANSFORM resource has been used by CICS.

VALIDATION
The status of validation for the XMLTRANSFORM resource.

REASON
The following values are returned when RESPONSE is EXCEPTION:
- BROWSE_END
- INVALID_BROWSE_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MLXT gate, END_BROWSE_XMLTRANSFORM function

End the browse session for XMLTRANSFORM resources.

Input parameters

BROWSE_TOKEN
The browse token that was returned by the START_BROWSE_XMLTRANSFORM function.

Output parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`INVALID_BROWSE_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Modules

Module	Function
DFHMLDM	Domain initialization and termination program
DFHMLDUF	ML domain dump formatting program
DFHMLPC	ML domain parse container program
DFHMLTF	Transformation engine for XML
DFHMLTRI	ML domain trace formatting program
DFHMLXT	XMLTRANSFORM resource manager

Chapter 91. Monitoring Domain (MN)

The monitoring domain is responsible for all monitoring functions within CICS. These functions enable the user to measure the amount of CPU, storage, temporary-storage requests, and so on used per task, and hence charge customers for computing services and help review the performance of a CICS system.

Monitoring Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the II domain.

MNMN gate, ACCUMULATE_RMI_TIME function

The ACCUMULATE_RMI_TIME function of the MNMN gate is used to accumulate all of the appropriate performance class DFHRMI timing fields.

Input Parameters

TRUE_NAME
is the name of the CICS resource manager being used by your transaction.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

```
ABEND
INVALID_MONITORING_TOKEN
LOOP
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MNMN gate, EXCEPTION_DATA_PUT function

The EXCEPTION_DATA_PUT function of the MNMN gate is used to produce an exception record at the completion of an EXCEPTION condition.

Input Parameters

EXCEPTION_START
is the start time of the exception in stored clock (STCK) format.

EXCEPTION_STOP
is the stop time of the exception in STCK format.

EXCEPTION_TYPE
is the type of exception to be recorded.

Values for the parameter are:

```
BUFFER_WAIT
STRING_WAIT
WAIT
```

RESOURCE_ID
is the identifier of the resource for which the exception data is to be recorded.

RESOURCE_TYPE
is the type of resource for which the exception data is to be recorded.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
    `ABEND`
    `INVALID_MONITORING_TOKEN`
    `LOOP`

  The following values are returned when RESPONSE is EXCEPTION:
    `INVALID_RESOURCE_ID_LENGTH`

RESPONSE
: Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

MNMN gate, INQUIRE_MONITORING_DATA function

The INQUIRE_MONITORING_DATA function of the MNMN gate is used to access a transaction's monitoring information.

Input Parameters

DATA_BUFFER
: specifies the address and length of a buffer for the monitoring data.

CURRENT_DATA_BUFFER
: Optional Parameter

  specifies the address and length of a buffer for the current monitoring data.

TRANSACTION_NUMBER
: Optional Parameter

  is the transaction number for which monitoring data is required.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
    `ABEND`
    `LOOP`

  The following values are returned when RESPONSE is EXCEPTION:
    `LENGTH_ERROR`
    `MONITOR_DATA_UNAVAILABLE`

RESPONSE
: Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

MNMN gate, INQUIRE_RESOURCE_DATA function

The INQUIRE_RESOURCE_DATA function of the MNMN gate is used to access a transaction's resource data when transaction resource monitoring is active.

Input Parameters

RESOURCE_DATA_BUFFER
: specifies the address and length of a buffer for the transaction resource data.

TRANSACTION_NUMBER
: Optional Parameter

  is the transaction number for which monitoring data is required.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:

`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`LENGTH_ERROR`
`MONITOR_DATA_UNAVAILABLE`
`RESOURCE_DATA_UNAVAILABLE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MNMN gate, MONITOR function

The MONITOR function of the MNMN gate is called to process a user event-monitoring point (EMP).

Input Parameters

POINT
is a value in the range 0 through 255 corresponding to a monitoring point identifier defined in the monitoring control table (MCT).

DATA1
Optional Parameter

supplies 4 bytes of data to be used in the operations performed by this user's EMP.

DATA2
Optional Parameter

supplies 4 bytes of data to be used in the operations performed by this user's EMP.

ENTRYNAME
Optional Parameter

is an ID qualifier, 1 through 8 bytes, corresponding to an entry name specified in the MCT.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`INVALID_MONITORING_TOKEN`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`DATA1_NOT_SPECIFIED`
`DATA2_NOT_SPECIFIED`
`INVALID_DATA1_VALUE`
`INVALID_DATA2_VALUE`
`POINT_NOT_DEFINED`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MNMN gate, PERFORMANCE_DATA_PUT function

The PERFORMANCE_DATA_PUT function of the MNMN gate is used to produce a performance record and reset task monitoring information for a conversational task or a syncpoint.

Input Parameters

RECORD_TYPE
: is the reason for the record to be output.

  Values for the parameter are:
  - CONVERSE
  - DELIVER
  - SYNCPOINT

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  - ABEND
  - INVALID_MONITORING_TOKEN
  - LOOP

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MNSR gate, INQ_MONITORING function

The INQ_MONITORING function of the MNSR gate is used to enquire on the monitoring classes and the monitoring options.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  - ABEND
  - LOOP

APPLICATION_NAMING
: Indicates whether application naming support is enabled in the CICS region.

  Values for the parameter are:
  - NO
  - YES

COMPRESSION
: Iindicates whether monitoring record compression is active.

  Values for the parameter are:
  - NO
  - YES

CONVERSE
: Indicates if a transaction performance class record is to be produced for conversational tasks for each pair of terminal control I/O requests.

  Values for the parameter are:
  - NO
  - YES

| **DPL_LIMIT**
: | Specifies the maximum number of distributed program links for which you
| want CICS to perform transaction resource monitoring. It can have a value in
| the range 0 - 64.

EXCEPTION_STATUS
: Indicates whether exception class monitoring is active.

  Values for the parameter are:
  - OFF
  - ON

FILE_LIMIT
Specifies the maximum number of files for which you want CICS to perform transaction resource monitoring. It can have a value in the range 0 - 64.

FREQUENCY
Is the interval for which monitoring automatically produces a transaction performance class record for any long-running transaction. Frequency times are 0, or in the range 000100 - 240000. The default frequency value is 0, which means that frequency monitoring is inactive.

MONITORING_STATUS
Indicates whether monitoring is active.

Values for the parameter are:
`OFF`
`ON`

PERFORMANCE_STATUS
Indicates whether performance class monitoring is active.

Values for the parameter are:
`OFF`
`ON`

RESOURCE_STATUS
Indicates whether transaction resource class monitoring is active.

Values for the parameter are:
`OFF`
`ON`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMI_STATUS
Indicates whether additional monitoring performance class data is required for the resource managers used by your transaction.

Values for the parameter are:
`NO`
`YES`

SYNCPOINT
Indicates if a transaction performance class record is to be produced when a transaction takes an explicit or implicit sync point (unit-of-work).

Values for the parameter are:
`NO`
`YES`

TIME
Indicates whether the monitoring time-stamp fields returned on the INQUIRE_MONITORING_DATA function are to be in GMT or local time.

Values for the parameter are:
`GMT`
`LOCAL`

TSQUEUE_LIMIT
Specifies the maximum number of temporary storage queues for which you want CICS to perform transaction resource monitoring. It can have a value in the range 0 - 64.

MNSR gate, SET_MCT_SUFFIX function

The SET_MCT_SUFFIX function of the MNSR gate is used to identify to the monitoring domain the suffix of the monitoring control table (MCT).

Input Parameters

SUFFIX
is the 2-character MCT suffix.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`MCT_NOT_FOUND`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MNSR gate, SET_MONITORING function

The SET_MONITORING function of the MNSR gate is used to set the monitoring classes on or off and to change the monitoring options.

Input Parameters

COMPRESSION
Optional Parameter

Alters the monitoring record compression setting.

Values for the parameter are:
`NO`
`YES`

CONVERSE
Optional Parameter

Indicates if a transaction performance class record is to be produced for conversational tasks for each pair of terminal control I/O requests.

Values for the parameter are:
`NO`
`YES`

| **DPL_LIMIT**
| Optional Parameter

| Indicates the number of distributed program links for which you want CICS to
| perform transaction resource monitoring. The value must be in the range 0 -
| 64.

EXCEPTION_STATUS
Optional Parameter

Indicates the exception class monitoring setting.

Values for the parameter are:
`OFF`
`ON`

| **FILE_LIMIT**
| Optional Parameter

| Indicates the number of files for which you want CICS to perform transaction
| resource monitoring. The value must be in the range 0 - 64.

FREQUENCY
Optional Parameter

Is the interval for which monitoring automatically produces a transaction performance class record for any long-running transaction. Frequency times are 0, or in the range 000100 - 240000. The default frequency value is 0, which means that frequency monitoring is inactive.

MONITORING_STATUS
Optional Parameter

Indicates the monitoring status setting.

Values for the parameter are:
`OFF`
`ON`

PERFORMANCE_STATUS
Optional Parameter

Indicates the performance class monitoring setting.

Values for the parameter are:
`OFF`
`ON`

RESOURCE_STATUS
Optional Parameter

Indicates the transaction resource class monitoring setting.

Values for the parameter are:
`OFF`
`ON`

SYNCPOINT
Optional Parameter

Indicates if a transaction performance class record is to be produced when a transaction takes an explicit or implicit sync point (unit-of-work).

Values for the parameter are:
`NO`
`YES`

TIME
Optional Parameter

Indicates whether the monitoring time-stamp fields returned on the INQUIRE_MONITORING_DATA function are to be in GMT or local time.

Values for the parameter are:
`GMT`
`LOCAL`

| **TSQUEUE_LIMIT**
| Optional Parameter

| Indicates the maximum number of temporary storage queues for which you
| want CICS to perform transaction resource monitoring. The value must be in
| the range 0 - 64.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following value is returned when RESPONSE is EXCEPTION:
`INVALID_FREQUENCY`
`FILE_LIMIT_OUT_OF_RANGE`

TSQUEUE_LIMIT_OUT_OF_RANGE
DPL_LIMIT_OUT_OF_RANGE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MNXM gate, TRANSACTION_INITIALISATION function

The TRANSACTION_INITIALISATION function of the MNXM gate is used to inform the monitoring domain of a transaction attach request so that the monitoring domain can allocate task monitoring storage.

Input Parameters

INITIAL_DISPATCH_TIME
is the time when this task was first dispatched after attach.

MXT_DELAY_TIME
is the time this task was delayed due to the maximum user task limit (MXT) being reached.

TASK_ATTACH_TIME
is the time when this task was attached.

TCLASS_DELAY_TIME
is the time this task was delayed due to the transaction class (if any) limit for this transaction being reached.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MNXM gate, TRANSACTION_TERMINATION function

The TRANSACTION_TERMINATION function of the MNXM gate is used to inform the monitoring domain of a transaction detach request, so that the monitoring domain can report on task monitoring information and then release the storage.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
INVALID_MONITORING_TOKEN
LOOP

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Monitoring domain's generic gates

Table 58 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 58. Monitoring domain's generic gates

Gate	Trace	Functions	Format
APUE	MN 0601 MN 0602	SET_EXIT_STATUS	APUE
DMDM	MN 0101 MN 0102	INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM
STST	MN 0401 MN 0402	COLLECT_STATISTICS COLLECT_RESOURCE_STATS	STST
TISR	MN 0801 MN 0802	NOTIFY	TISR
XMNT	MN 0901 MN 0902	MXT_CHANGE_NOTIFY	XMNT

In initialization processing, the monitoring domain sets the initial monitoring options:

- Monitoring control table suffix
- Initial monitoring status
- Initial exception class monitoring status
- Initial performance class monitoring status
- Initial transaction resource class monitoring status
- Initial converse option
- Initial syncpoint option
- Initial time option
- Initial frequency option
- Initial subsystem id.

For a cold start, the information comes from the system initialization parameters; for any other type of start, the information comes from the global catalog, but is then modified by any relevant system initialization parameters.

In addition:

- If necessary, the monitoring control table (MCT) is loaded and initialized.
- If performance class monitoring is active, CPU timing is started.
- The monitoring domain user exit gate is enabled.
- Messages are sent to the console to indicate whether monitoring is active, and what MCT suffix (if any) is being used.

In quiesce processing, the monitoring domain waits for all transactions that it is monitoring to terminate. Then the final data in the performance class buffer and the transaction resource class buffer, if any, is written to SMF.

The monitoring domain does no termination processing.

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Application Manager Domain's generic formats" on page 867

"Domain Manager domain's generic formats" on page 956

"Statistics domain's generic formats" on page 1777

"Timer domain's generic formats" on page 1790

"Transaction manager domain's generic formats" on page 1999

Modules

Module	Function
DFHMNDM	Handles the following requests: INITIALIZE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN
DFHMNDUF	Formats the MN domain control blocks in a CICS system dump
DFHMNMN	Handles the following requests: EXCEPTION_DATA_PUT PERFORMANCE_DATA_PUT INQUIRE_MONITORING_DATA MONITOR INQUIRE_RESOURCE_DATA ACCUMULATE_RMI_TIME
DFHMNNT	Handles the following request: MXT_CHANGE_NOTIFY
DFHMNSR	Handles the following requests: SET_MCT_SUFFIX SET_MONITORING INQ_MONITORING
DFHMNST	Handles the following requests: COLLECT_STATISTICS COLLECT_RESOURCE_STATS
DFHMNSU	Handles monitoring domain subroutine requests of format MNSU: UPDATE_CATALOGUE MONITORING_DATASET_PUT WLM_CONNECT WLM_DISCONNECT WLM_REPORT WLM_NOTIFY PB_ALLOCATE PB_DELETE
DFHMNSVC	Provides SMFEWTM, WLM_CONNECT, WLM_DISCONNECT, WLM_REPORT, WLM_NOTIFY, WLM_PB_CREATE, and WLM_PB_DELETE authorized services with GTF tracing (GTRACE)
DFHMNTI	Handles the following request: NOTIFY
DFHMNTRI	Provides a trace interpretation routine for CICS dumps and traces
DFHMNUE	Provides a SET_EXIT_STATUS (services user exit) routine to enable or disable an exit
DFHMNXM	Handles the following requests: TRANSACTION_INITIALIZATION TRANSACTION_TERMINATION

Exits

There is one global user exit point in the monitoring domain: XMNOUT. See the *CICS Customization Guide* for further details.

Chapter 92. Enqueue Domain (NQ)

The NQ domain provides UOW based locking services. This is provided to the local clients FC, TD and TS. It also services the **ENQ** and **DEQ** application programming commands.

Enqueue Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the NQ domain.

NQED gate, DEQUEUE function

This functions releases an active enqueue owned by the current UOW from the specified enqueue pool.

Input Parameters

ENQUEUE_NAME1
Optional Parameter

A block (addr,len) identifying the name of the enqueue being released. Or alternatively identifies the prefix of the enqueue name which when combined with the ENQUEUE_NAME2 parameter forms the name of the enqueue being released.

ENQUEUE_NAME2
Optional Parameter

A block (addr,len) identifying the second half of the enqueue name.

ENQUEUE_TOKEN
Token representing the enqueue that is to be released. Slightly better performance is achieved for callers that use the token method for releasing their enqueues.

MAX_LIFETIME
Optional Parameter

Indicates the maximum duration of the enqueue being released.

DISPATCHER_TASK
The enqueue will be released if it is held when a DEQUEUE_ALL request is issued by the owning dispatcher task. This is the only value permitted when POOL_TOKEN is not supplied on the call.

TRANSACTION
The enqueue was acquired with a duration of the last UOW of the current transaction.

UOW
The enqueue was acquired with a duration of the current UOW. This is the default value when not supplied on the call.

Values for the parameter are:

```
DISPATCHER_TASK
TRANSACTION
UOW
```

POOL_TOKEN
Optional Parameter

Token representing enqueue pool from which the enqueue is to be released.

Output Parameters

REASON
: The values for the parameter are:
  `ENQUEUE_LOCKED`
  `ENQUEUE_NOT_OWNED`
  `INVALID_POOL_TOKEN`

RESPONSE
: Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

NQED gate, ENQUEUE function

This functions obtains an enqueue from the specified enqueue pool in active state.

Input Parameters

ENQUEUE_NAME1
: Optional Parameter

  A block (addr,len) identifying the name of the enqueue being released. Or alternatively identifies the prefix of the enqueue name which when combined with the ENQUEUE_NAME2 parameter forms the name of the enqueue being released.

ENQUEUE_NAME2
: Optional Parameter

  A block (addr,len) identifying the second half of the enqueue name.

MAX_LIFETIME
: Optional Parameter

  Indicates the maximum duration of the enqueue.

  DISPATCHER_TASK
  : The enqueue will be released if it is held when a DEQUEUE_ALL request is issued by the owning dispatcher task. This is the only value permitted when POOL_TOKEN is not supplied on the call.

  TRANSACTION
  : The enqueue will be acquired with a duration of the last UOW of the current transaction.

  UOW
  : The enqueue will be acquired with a duration of the current UOW. This is the default value when not supplied on the call.

  Values for the parameter are:
  `DISPATCHER_TASK`
  `TRANSACTION`
  `UOW`

POOL_TOKEN
: Optional Parameter

  Token representing enqueue pool from which the enqueue is to be allocated.

PURGEABLE
: Optional Parameter

  Indicates if the task is purgeable.

  Values for the parameter are:
  `NO`
  `YES`

SHUNT_ACTION
: Optional Parameter

Indicates the action that is to be performed if this UOW is shunted whilst it owns the enqueue. This parameter acts as an override, if not supplied then the default shunt action specified when the pool was created is assumed for this enqueue request.
The shunt action is only applicable to UOW lifetime enqueues. An error is diagnosed if this parameter is supplied on a request for a transaction lifetime enqueue. The possible overrides are as follows:

RELEASE

The enqueue will be released if the UOW is shunted.

RETAIN
The enqueue will be retained if the UOW is shunted.

IGNORE
The shunt will be ignored. The enqueue will remain in the same state as it is currently held in.

Values for the parameter are:
```
IGNORE
RELEASE
RETAIN
```
WAIT
Optional Parameter

Indicates whether the caller wants to wait if the requested enqueue is currently held in the pool by a different UOW. The possible values are as follows:

NO The ENQUEUE_BUSY exception is returned to the caller if the enqueue is busy.

YES
The caller will be suspended if the enqueue is busy. This is the default value when not supplied on the call.

Note that callers specifying WAIT(NO) should still expect to suspend for the NQ domain lock.

Values for the parameter are:
```
NO
YES
```

Output Parameters

REASON
The values for the parameter are:
```
ENQUEUE_BUSY
ENQUEUE_DISABLED
ENQUEUE_LOCKED
INVALID_PHASE
INVALID_PHASE
INVALID_POOL_TOKEN
LIMIT_EXCEEDED
SHUNT_ACTION_NOT_EXPECTED
SYSENQ_FAILURE
TASK_CANCELLED
TIMED_OUT
```
RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUPLICATE_REQUEST
Optional Parameter

When RESPONSE(OK) is returned, indicates whether the caller already owned the enqueue or not:

Values for the parameter are:
NO
YES

ENQUEUE_TOKEN
Optional Parameter

A token returned to represent the enqueue that has been successfully returned. The token can then be used on the corresponding DEQUEUE request.

NQIB gate, END_BROWSE_ENQUEUE function

This functions terminates a browse of the enqueues.

Input Parameters

BROWSE_TOKEN
The token for the browse that is to be terminated.

Output Parameters

REASON
The values for the parameter are:
INVALID_BROWSE_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

NQIB gate, GET_NEXT_ENQUEUE function

This functions returns information about the next enqueue owner or waiter in a browse.

Input Parameters

BROWSE_TOKEN
The token for the current browse.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

REASON
Values for the parameter are:
ABEND
LOOP
BROWSE_END
INVALID_BROWSE_TOKEN

ENQUEUE_NAME_OUT
A buffer into which the enqueue name is returned. The caller specifies the address and maximum length of the data area into which the enqueue name will be returned. If the enqueue name is too big for the buffer then the data is truncated and an OK response is returned. The actual length of the name is returned in *enqueue_name_out_n*.

ENQUEUE_NAME2_LENGTH

The length of the second part of the enqueue name if the enqueue was originally specified in two parts (i.e. ENQUEUE_NAME1 and ENQUEUE_NAME2).

If the ENQUEUE_NAME2 parameter wasn't originally specified for this enqueue then zero will be returned.

ENQUEUE_TOKEN
Token returned only when the enqueue is owned by the caller. Parameter is set to zero for all other enqueues returned on the browse.

INTERPRETER_ADDRESS

The address of a routine which should be called with the INTERPRET_ENQUEUE function in order to interpret the enqueue for the EXEC CICS INQUIRE UOWENQ command.

If a zero address is returned then the enqueue isn't to be returned by the INQUIRE UOWENQ command.

RESOURCE_FILTER
The resource filter as specified in the RESOURCE option on the ENQUIRE UOWENQ command.

RESOURCE_FILTER_LEN
The length of the RESOURCE_FILTER parameter.

LOCAL_UOWID
The local UOWID of the UOW which owns or is waiting for the enqueue.

NUM_LOCKED_FAILURES
Returns the number of failed requests for this enqueue whilst it is held in retained state.

NUM_WAITERS
The number of transactions waiting for this enqueue.

POOL_NAME
The name of the pool containing the enqueue.

POOL_TOKEN
Token which identifies the pool which the enqueue owner or waiter belongs.

RELATION
Indicates whether the data being returned is associated with owner or a UOW waiting for the enqueue.

OWNER
The data is associated with the owner of the returned enqueue.

WAITER
The data is associated with a waiter of the returned enqueue.

SHUNT_ACTION
The action that would be performed to this enqueue should its owning UOW be shunted. The possible values are as follows:

RELEASE
The enqueue will be released.

RETAIN
The enqueue will be retained.

IGNORE
The shunt will be ignored and the enqueue will remain in the same state.

STATE
The state that the enqueue is held in.

ACTIVE
The enqueue is held in active state.

RETAINED
The enqueue is held in retained state.

TRANSACTION_LIFETIME

For an enqueue returned with RELATION(OWNER) the number of times it is held with TRANSACTION lifetime.

For an enqueue returned with RELATION(WAITER) a count of one indicates that the enqueue was requested with TRANSACTION lifetime.

UOW_LIFETIME

For an enqueue returned with RELATION(OWNER) the number of times it is held with UOW lifetime.

For an enqueue returned with RELATION(WAITER) a count of one indicates that the enqueue was requested with UOW lifetime.

NQIB gate, INQUIRE_ENQUEUE function

This functions returns information about a particular enqueue. Note that the pool containing the enqueue must be passed since it is a logical extension to the enqueue name.

Input Parameters

POOL_TOKEN
The token identifying the pool from which the enqueue being inquired about belongs.

ENQUEUE_TOKEN
Token representing the enqueue that is being inquired upon.

ENQUEUE_NAME1
A block (addr,len) identifying the name of the enqueue be inquired upon. Or alternatively identifies the prefix of the enqueue name which when combined with the ENQUEUE_NAME2 parameter forms the name of the enqueue being inquired upon.

ENQUEUE_NAME2
Optional Parameter

A block (addr,len) identifying the second half of the enqueue name.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

REASON
Values for the parameter are:

```
ABEND
LOOP
ENQUEUE_NOT_FOUND
INVALID_BROWSE_TOKEN
```

ENQUEUE_NAME_OUT

A buffer into which the enqueue name is returned. The caller specifies the address and maximum length of the data area into which the enqueue name will be returned. If the enqueue name is too big for the buffer then the data is truncated and an OK response is returned. The actual length of the name is returned in *enqueue_name_out_n*.

Typically this parameter will only be of interest to callers inquiring by enqueue token.

LOCAL_UOWID
The local UOWID of the UOW which owns or is waiting for the enqueue.

NUM_LOCKED_FAILURES
Returns the number of failed requests for this enqueue whilst it is held in retained state.

NUM_WAITERS
The number of transactions waiting for this enqueue.

POOL_NAME
The name of the pool containing the enqueue.

TRANSACTION_LIFETIME
The number of times the enqueue is held with TRANSACTION lifetime.

STATE
The state that the enqueue is held in.

ACTIVE
The enqueue is held in active state.

RETAINED
The enqueue is held in retained state.

UOW_LIFETIME
The number of times the enqueue is held with UOW lifetime.

NQIB gate, START_BROWSE_ENQUEUE function

This function initiates a browse of all enqueues currently in the system or currently associated with a given UOW.

The browse returns both enqueue owners and enqueue waiters. The RELATION output parameter on GET_NEXT_ENQUEUE indicates whether the data being returned is associated with the enqueue owner or a UOW waiting for that enqueue.

When a system wide browse is initiated the first enqueue in the system is returned with RELATION(OWNER). If the enqueue has any waiters then the same enqueue will be returned again for each of the waiters but this time with RELATION(WAITER). The data returned will be that associated with that particular waiter. After the last waiter has been returned the next owned enqueue will be returned.

If the browse is restricted to only a particular UOW then only the enqueues that UOW owns will be returned. If the UOW is waiting for an enqueue this will also be returned.

The order in which the enqueues are returned is undefined, however enqueue waiters are always returned consecutively after their enqueue owner.

As with other types of CICS browses the state isn't locked for the duration of the browse. Thus for example, there is no guarantee that the owner returned on a previous GET_NEXT_ENQUEUE is still the owner by the time each of its waiters are returned.

Input Parameters

ENQSCOPE
Optional Parameter

For sysplex scope enqueues, the 4-character scope name that qualifies all ENQUEUE requests issued by this CICS region.

ENQUEUE_NAME1
Optional Parameter

The first part of a two-part enqueue name.

LOCAL_UOWID
Optional Parameter

Identifies the unit of work if the browse is to be restricted to only those enqueues owned and being waited for by a particular UOW.
If omitted then browse will return all enqueue owners and waiters in the system.

STABLE_ENQUEUES
Optional Parameter

Specifies that the caller will complete the browse without issuing any further ENQ or DEQ requests. Applies only if LOCAL_UOWID is also specified and names the caller's own UOWID.

Output Parameters

REASON
The values for the parameter are:
`NO_UOW_ENVIRONMENT`

BROWSE_TOKEN
Token to be used by the caller on subsequent operations associated with this browse.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

NQNQ gate, CREATE_ENQUEUE_POOL function

This function creates a separate enqueue pool for the caller. A token is returned which the caller specifies on all requests associated with that pool.

Input Parameters

ERROR_LEVEL
Indicates the severity of the error response that is to be returned for the following errors made while using this pool:

- DEQUEUE
  - Enqueue_not_owned
  - Enqueue_locked
- REACQUIRE_ENQUEUE
  - Enqueue_locked
  - Enqueue_active
- DEACTIVATE
  - Enqueue_not_owned
  - Enqueue_not_active

The possible values for ERROR_LEVEL are as follows:

EXCEPTION_RESPONSE
The above errors are to be returned with an exception response.

INVALID_RESPONSE
The above errors are to be returned with an invalid response. (i.e. FFDC is to be performed).

Note: It is expected that only the EXEC and the KC enqueue pools will specify EXCEPTION_RESPONSE since the DFHKC service previously used by them allowed these sorts of error to go by undetected.

Values for the parameter are:
`EXCEPTION_RESPONSE`
`INVALID_RESPONSE`

EXEC_INTERPRETER
Indicates how enqueues belonging to the enqueue pool are to be interpreted by the **EXEC CICS INQUIRE UOWENQ** command. The possible values are as follows:

NONE
No interpreter has been supplied so enqueues belonging to this pool will be ignored by the INQUIRE UOWENQ command.

DEFAULT
Enqueues are to be returned by the INQUIRE UOWENQ command. The default NQ domain interpreter will be called to perform the interpretation. This will map the outputs of the INQUIRE UOWENQ command as follows:

TYPE
Will be the CVDA corresponding to the ENQUEUE_TYPE parameter supplied on this call.

RESOURCE
Will be ENQUEUE_NAME1 as supplied on the NQED_ENQUEUE function.

QUALIFIER
Will be ENQUEUE_NAME2 if supplied on the NQED_ENQUEUE function. If not then no QUALIFIER data will be returned.

OWN
Enqueues are to be returned by the INQUIRE UOWENQ command. A routine provided by the pool owner will perform the interpretation. In this case the entry point of the routine must be passed in the INTERPRETER_ADDR parameter.

Note: The routine will be called by a kernel subroutine call, not by a domain call. Consequently it will execute in the domain of the caller (i.e. AP domain).

Values for the parameter are:

```
DEFAULT
NONE
OWN
```

EXPECTED_NAME_LENGTH

The expected length for enqueue names in the pool.

- For pools with fixed length enqueue names this should be the length of the names that are going to be enqueued upon.
- For pools that are to contain variable length enqueue names this should be a length that would satisfy most of the requests to be made in the pool.

Note that there is no maximum length for enqueue names. However, requests will only be handled inline if the length of the enqueue name is less than or equal to the EXPECTED_NAME_LENGTH. The inline macro only copes with names of less than or equal to 256 characters. For this reason an error will be diagnosed if a value of greater than 256 is specified for this parameter.

POOL_NAME
The eight character name of the new enqueue pool.

SHUNT_ACTION

Indicates the default action that is to be performed to UOW lifetime enqueues in this pool if their owning UOW is shunted. Note that most enqueue pools will require the same action to be performed for all enqueues in that pool. However, the ENQUEUE function allows this default to be overridden for particular enqueue requests.

The possible values are as follows:

RELEASE
The enqueue(s) will be released if the owning UOW is shunted.

RETAIN
The enqueue(s) will be retained if the owning UOW is shunted.

IGNORE
The shunt will be ignored. The enqueue(s) will remain in the same state as currently held in.

Transaction lifetime enqueues are automatically released when a shunt occurs.

Values for the parameter are:
`IGNORE`
`RELEASE`
`RETAIN`

ENQUEUE_TYPE
Optional Parameter

The enqueue type that is to be returned by the default interpreter. Should only be supplied for pools which specify a value of DEFAULT for the EXEC_INTERPRETER parameter. The possible values map onto the CVDA values for the TYPE field as detailed under the **EXEC CICS INQUIRE UOWENQ** command.

Values for the parameter are:
`DATASET`
`DISPATCHER`
`EXECENQ`
`EXECENQADDR`
`EXECENQPLEX`
`FILE`
`TDQUEUE`
`TSQUEUE`

OWN_INTERPRETER_ADDRESS
Optional Parameter

Entry point of interpreter routine for this pool. Should only be supplied for pools which specify a value of OWN for the EXEC_INTERPRETER parameter.

Output Parameters

REASON
The values for the parameter are:
`DUPLICATE_POOL_NAME`
`ENQUEUE_TYPE_EXPECTED`
`INTERPRETER_ADDR_EXPECTED`
`INVALID_NAME_LENGTH`

POOL_TOKEN
Token returned which identifies the newly created enqueue pool.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

NQNQ gate, DEACTIVATE function

This function converts an active enqueue into retained state. The caller must already own the enqueue.

Input Parameters

POOL_TOKEN
Token representing enqueue pool from which the enqueue is to be deactivated.

ENQUEUE_TOKEN
Token representing the enqueue that is to be deactivated. Slightly better performance is achieved for callers that use the token method for this function.

ENQUEUE_NAME1
A block (addr,len) identifying the name of the enqueue to be deactivated. Or alternatively identifies the prefix of the enqueue name which when combined with the ENQUEUE_NAME2 parameter forms the name of the enqueue to be deactivated.

ENQUEUE_NAME2
Optional Parameter

A block (addr,len) identifying the second half of the enqueue name.

Output Parameters

REASON
The values for the parameter are:
`ENQUEUE_NOT_ACTIVE`
`ENQUEUE_NOT_OWNED`
`INVALID_POOL_TOKEN`
`TRANSACTION_ENQUEUE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

NQNQ gate, DEQUEUE_TASK function

Dequeue a task that was previously enqueued.

Input Parameters

ENQUEUE_TOKEN
The token that was returned on the corresponding ENQUEUE request.

Output Parameters

REASON
The values for the parameter are:
`ENQUEUE_NOT_OWNED`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

NQNQ gate, INTERPRET_ENQUEUE function

This function interprets the passed enqueue before it being returned by the EXEC CICS INQUIRE UOWENQ command. The function takes the enqueue to be interpreted as input and returns ENQUEUE_TYPE, RESOURCE and QUALIFIER to the caller (EXEC layer).

Each enqueue pool can either

- not have an interpreter and consequently not have its enqueues returned by the INQUIRE UOWENQ command
- rely upon a default interpreter supplied by NQ domain, (DFHNQIE)
- supply its own interpreter routine.

This is specified when the pool is created.

Input Parameters

ENQUEUE_NAME
A block (addr,len) identifying the full name of the enqueue to be interpreted.

ENQUEUE_NAME2_LENGTH
The length of the second part of the enqueue name if the enqueue was

originally specified in two parts (i.e. ENQUEUE_NAME1 and ENQUEUE_NAME2). If the ENQUEUE_NAME2 parameter wasn't originally specified for this enqueue then this will contain zero.

POOL_NAME
Name of the pool containing the enqueue to be interpreted. Note that an interpreter may interpret enqueues from more than one pool.

POOL_TOKEN
Token corresponding to the pool containing the enqueue to be interpreted

QUALIFIER_BUFFER

A buffer into which the data for the QUALIFIER field is returned. The caller specifies the address and maximum length of the data area into which the QUALIFIER data will be returned. If the data is too big for the buffer then the data is truncated and an OK response is returned. The actual length of the name is returned in *qualifer_buffer_n*.

If there is no QUALIFIER data then no data should be returned and the length of the data (*qualifier_buffer_n*) should be returned as zero.

RESOURCE_BUFFER
A buffer into which the data for the RESOURCE field is returned. The caller specifies the address and maximum length of the data area into which the RESOURCE data will be returned. If the data is too big for the buffer then the data is truncated and an OK response is returned. The actual length of the name is returned in *resource_buffer_n*.

Output Parameters

REASON
The values for the parameter are:
INVALID_ENQUEUE

ENQUEUE_TYPE
The TYPE of the enqueue being returned. The values map onto the CVDA values for the TYPE field as detailed under the EXEC CICS INQUIRE UOWENQ command.

Values for the parameter are:
DATASET
DISPATCHER
EXECENQ
EXECENQADDR
EXECENQPLEX
FILE
TDQUEUE
TSQUEUE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

NQNQ gate, REACQUIRE_ENQUEUE function

NQ domain doesn't recover enqueues over a CICS restart. Instead resource owners use this function to reacquire enqueues that were held by inflight and indoubt UOWs.

The enqueue can be reacquired in either active or retained state. The calling UOW must currently be shunted.

No MAX_LIFETIME input is provided since such enqueues are only ever associated with a single UOW.

The same rules as documented for the mainline ENQUEUE function apply to the shunt action that will be associated with the reacquired enqueue.

Input Parameters

POOL_TOKEN
: Token representing enqueue pool from which the enqueue is to be allocated.

STATE
: The state that the enqueue is to be reacquired in.

  Values for the parameter are:
  ACTIVE
  RETAINED

ENQUEUE_NAME2
: Optional Parameter

  A block (addr,len) identifying the second half of the enqueue name.

SHUNT_ACTION
: Optional Parameter

  Indicates the action that is to be performed if the UOW reacquiring the enqueue is shunted again. This parameter acts as an override, if not supplied then the default shunt action specified when the pool was created is assumed for this request.

  Values for the parameter are:

  RELEASE
  : The enqueue will be released if the UOW is shunted again.

  RETAIN
  : The enqueue will be retained if the UOW is shunted again.

  IGNORE
  : The shunt will be ignored. The enqueue will remain in the same state as it is currently held in.

Output Parameters

REASON
: The values for the parameter are:
  CALLER_NOT_SHUNTED
  ENQUEUE_ACTIVE
  ENQUEUE_LOCKED
  INVALID_POOL_TOKEN

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ENQUEUE_TOKEN
: Optional Parameter

  Token returned to represent the enqueue that has been successfully reacquired.

NQNQ gate, SET_NQRNAME_LIST function

This function is called from three places in DFHNQRN.

The function is called at the following points.

discard_enqmodel
: If nqrmodel delete is set, then the specified nqrmodel is removed from nqrname_list

add_replace_enqmodel
If nqrmodel add is set then the specified nqrmodel is added to nqrname_list.

set_nqrmodel
if neither delete or add is set then the specified nqrmodel is set disabled.

Input Parameters

MODEL_TOKEN
The address of the nqrmodel to be set or added to nqrname_list.

POOL_TOKEN
The pool to be searched for matching enqueues

POOL_TWO
Optional Parameter

An optional second pool to be searched for matching enqueues

Output Parameters

REASON
The values for the parameter are:
`FREE_NQRMODEL`
`NQRMODEL_NOT_FOUND`

FREE_TOKEN
Address of Model being removed.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

NQRN gate, ADD_REPLACE_ENQMODEL function

This function adds an enqmodel definition to both the NQRN directory (keyed by enqmodel name, and to the NQRNAME_LIST (keyed by the variable length NQRNAME).

If the enqmodel already exists the entry is replaced. The replace is a discard then add operation.

If an attempt is made to create a deep enqmodel nesting, or if another enqmodel with the same nqrname is already installed, then message NQ0106 is issued and a 'DUPLICATE_NQRNAME' exception is returned.

Input Parameters

CALLER
COLDINST, RDOINST or RESTART indicating A cold start, An online install or The input is in the MODEL_TOKEN respectively.

Values for the parameter are:
`COLDINST`
`RDOINST`
`RESTART`

CATALOG
indicates whether the record should be cataloged.

Values for the parameter are:
`NO`
`YES`

ENQMODEL
The 8-character identifier of the resource to be added.

MODEL_TOKEN
The address of the record obtained from the catalog to be restored.

NQRNAME
Optional Parameter

A buffer giving the 1 - 255 character name and length of the ENQ name or stem* to be added.

SCOPE
Optional Parameter

The 4-character scope identifier for the resource. If omitted or specified as blanks, matching ENQs will have LOCAL scope.

STATE
Optional Parameter

The state in which to install the enqmodel. If omitted, ENABLED is assumed.

Values for the parameter are:
- DISABLED
- ENABLED

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
- ACQUIRE_LOCK_FAILED
- CATALOG_WRITE_FAILED
- DIRECTORY_ADD_FAILED
- DIRECTORY_DELETE_FAILED
- GETMAIN_FAILED
- RELEASE_LOCK_FAILED

The following values are returned when RESPONSE is EXCEPTION:
- DUPLICATE_ENABLED
- DUPLICATE_NQRNAME

The following values are returned when RESPONSE is INVALID:
- INVALID_PARAMETERS

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ENQMODEL_OUT
Optional Parameter

The name of an existing resource that is already installed, and not disabled, that prevents the successful completion of this operation.

NQRN gate, COMMIT_ENQMODEL function

Commit the ENQMODEL to the catalog.

Input Parameters

COMMIT_TOKEN
Token for catalog writes.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
- CATALOG_WRITE_FAILED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

NQRN gate, DISCARD_ENQMODEL function

Remove an enqmodel definition from both the NQRN directory and from the NQRNAME_LIST.

If the enqmodel is not installed, an 'ENQMODEL_NOT_FOUND' exception is returned.

The ENQMODEL is put into the WAITING state until there are no enqueues in the local system which match the ENQNAME pattern. It is then removed from the local system.

Input Parameters

ENQMODEL
The 8-character identifier of the resource to be discarded.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ACQUIRE_LOCK_FAILED
CATALOG_DELETE_FAILED
RELEASE_LOCK_FAILED

The following values are returned when RESPONSE is EXCEPTION:
ENQMODEL_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

NQRN gate, END_BROWSE_ENQMODEL function

End a browse operation on a set of ENQMODEL resources.

Input Parameters

BROWSE_TOKEN
A token that identifies the browse operation. See "The **BROWSE_TOKEN** parameter on domain interfaces" on page 9.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
DIRECTORY_END_BROWSE_ERR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

NQRN gate, GET_NEXT_ENQMODEL function

In a browse operation, retrieve the next ENQMODEL

Input Parameters

BROWSE_TOKEN
Browse token returned by the START_BROWSE function.

NQRNAME
Optional Parameter

A buffer giving the 1 to 255 character name and length of the ENQ name or stem.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ACQUIRE_LOCK_FAILED`
`DIRECTORY_GET_NEXT_ERR`
`RELEASE_LOCK_FAILED`

The following values are returned when RESPONSE is EXCEPTION:
`NO_MORE_DATA`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ENQMODEL
Optional Parameter

The 4-character scope identifier for the resource.

SCOPE
Optional Parameter

The 4-character scope identifier for the resource.

STATE
Optional Parameter

The current state of the ENQMODEL.

NQRN gate, INQUIRE_ENQMODEL function

Uses directory DDLO_LOCATE to retrieve information about a specified enqmodel definition in the NQRN directory.

If found, it returns the 1 to 255 character NQRNAME, the 4-character SCOPE name, the enqmodel STATE and ann OK RESPONSE. Otherwise it returns an EXCEPTION REASON(ENQMODEL_NOT_FOUND).

Input Parameters

ENQMODEL
The 8-character identifier of the entry to be returned.

NQRNAME
Optional Parameter

A buffer returning the 1 to 255 character name and length of the ENQ name or generic stem*

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ACQUIRE_LOCK_FAILED`
`DIRECTORY_LOCATE_FAILED`
`RELEASE_LOCK_FAILED`

The following values are returned when RESPONSE is EXCEPTION:
`ENQMODEL_NOT_FOUND`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SCOPE
Optional Parameter

Returns the 4-character scope identifier for the resource. Four blanks indicates that the enqueue has local scope.

STATE
Optional Parameter

Values for the parameter are:

ENABLED
Matching ENQ/DEQ requests should be processed.

DISABLED
Matching ENQ/DEQ requests should be rejected, and the issuing task abended abcode ENQ_DISABLED.

WAITING
There are INSTALL, CREATE, or DISCARD requests waiting to be processed. Matching ENQ/DEQ requests should be rejected, and the issuing task abended abcode ENQ_DISABLED.

NQRN gate, INQUIRE_NQRNAME function

Determine if an enqueue name entry exists.

Input Parameters

MSG0105
A binary value that indicates whether message DFHNQ0105 is to be issued if the matching enqmodel is disabled or in the waiting state.

Values for the parameter are:
YES
NO

NQRNAME
The name of the enqueue name entry

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ACQUIRE_LOCK_FAILED
RELEASE_LOCK_FAILED

The following values are returned when RESPONSE is EXCEPTION:
NQRNAME_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SCOPE
The 4-character scope identifier for the resource.

STATE
The current state of the ENQMODEL

Values for the parameter are:
ENABLED
DISABLED

NQRN gate, REMOVE_ENQMODEL function

Remove an ENQMODEL object.

Input Parameters

MODEL_TOKEN
A token that represents the ENQMODEL to be removed.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

NQRN gate, RESTORE_DIRECTORY function

Restore the NQRN directory from the global catalog.

Input Parameters

COLD_START
A binary parameter indicating whether the request is made in cold start processing.

The values for the parameter are:
NO
YES

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
CATALOG_PURGE_FAILED
CATALOG_READ_FAILED
DIRECTORY_ADD_FAILED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

NQRN gate, SET_ENQMODEL function

This function uses directory DDLO_LOCATE to see if an enqmodel entry exists in the NQRN directory. If found, it calls SET_ENQMODEL to enable or disable the entry. Otherwise it returns an EXCEPTION REASON(ENQMODEL_NOT_FOUND).

Enqmodels forming nested generic nqrnames must be enabled in order, from the most to the least specific. I.e. A more specific enqmodel may not be enabled if a less specific enqmodel is enabled. If attempted, msg NQ0107 is issued and EXCEPTION 'DUPLICATE_ENABLED' is returned to the caller.

You cannot enable/disable an enqmodel which is in the waiting state. If attempted, EXCEPTION 'ENQMODEL_WAITING' is returned to the caller.

Input Parameters

ENQMODEL
The 8-character identifier of the entry to be enabled/disabled.

STATE
The desired state of the ENQMODEL.

Values for the parameter are:
DISABLED

`ENABLED`

Output Parameters

`REASON`
The following values are returned when RESPONSE is DISASTER:
`ACQUIRE_LOCK_FAILED`
`CATALOG_UPDATE_FAILED`
`DIRECTORY_LOCATE_FAILED`
`RELEASE_LOCK_FAILED`

The following values are returned when RESPONSE is EXCEPTION:
`DUPLICATE_ENABLED`
`ENQMODEL_NOT_FOUND`
`ENQMODEL_WAITING`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

NQRN gate, START_BROWSE_ENQMODEL function

Start a browse operation on a set of ENQMODEL objects.

Output Parameters

`REASON`
The following values are returned when RESPONSE is DISASTER:
`DIRECTORY_START_BROWSE_ERR`

`BROWSE_TOKEN`
See "The **`BROWSE_TOKEN`** parameter on domain interfaces" on page 9

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

Enqueue Domain's generic gates

Table 59 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 59. Enqueue Domain's generic gates

Gate	Trace	Function	Format
DMDM	NQ 0101 NQ 0102	PRE_INITIALISE INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM
STST	NQ 0501 NQ 0502	COLLECT_STATISTICS COLLECT_RESOURCE_STATS	STST

The Domain Manager gates perform normal internal state initialization and termination functions.

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

"Statistics domain's generic formats" on page 1777

Enqueue domain's call-back gates

Table 60 summarizes the domain's call-back gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 60. Enqueue domain's call-back gates

Gate	Trace	Function	Format
RMRO	NQ 0201 NQ 0202	PERFORM_PREPARE PERFORM_COMMIT PERFORM_SHUNT PERFORM_UNSHUNT	RMRO

PERFORM_PREPARE is a no-op. PERFORM_COMMIT releases enqueues. PERFORM_SHUNT make active enqueues retained. PERFORM_UNSHUNT makes retained enquires active.

For descriptions of these functions and their input and output parameters, refer to descriptions of the following call-back formats:

"Recovery manager domain call-back formats" on page 1599

Modules

Module	Function
DFHNQDM	Handles the following requests: INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN
DFHNQDUF	Formats the NQ domain control blocks in a CICS system.
DFHNQED	Handles the following requests: ENQUEUE DEQUEUE
DFHNQEDI	Inline version of DFHNQED
DFHNQIB	Handles the following requests: INQUIRE_ENQUEUE START_BROWSE_ENQUEUE GET_NEXT_ENQUEUE END_BROWSE_ENQUEUE
DFHNQIE	Handles the following requests: INTERPRET_ENQUEUE
DFHNQNQ	Handles the following requests: CREATE_ENQUEUE_POOL REACQUIRE_ENQUEUE DEACTIVATE SET_NQRNAME_LIST DEQUEUE_TASK

Module	Function
DFHNQRN	Handles the following requests: INQUIRE_NQRNAME ADD_REPLACE_ENQMODEL DISCARD_ENQMODEL REMOVE_ENQMODEL INQUIRE_ENQMODEL START_BROWSE_ENQMODEL GET_NEXT_ENQMODEL END_BROWSE_ENQMODEL SET_ENQMODEL COMMIT_ENQMODEL RESTORE_DIRECTORY
DFHNQST	Handles the following requests: COLLECT_STATISTICS COLLECT_RESOURCE_STATS
DFHNQTRI	Provides a trace interpretation routine for CICS dumps and traces.

Exits

The XNQEREQ and XNQEREQC global user exit points are invoked respectively before and after each EXEC ENQ or DEQ request to the NQ domain.

Chapter 93. Object transaction service domain (OT)

The object transaction service domain provides services to manage OTS transactions.

Object transaction service domain's specific gates

The specific gates provide access for other domains to functions that are provided by the OT domain.

OTCO gate, FORGET function

The FORGET function of the OTCO gate is used signal the fact that the obligation to the coordinator has been discharged.

Input Parameters

COORDINATOR_TOKEN
Token representing the coordinator OTS resource.

UOWID
identification of the local logical unit of work managing the OTS transaction.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`LINK_UNKNOWN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

OTCO gate, RESYNC function

Resynchronize an OTS transaction.

Input Parameters

DECISION
Specifies whether the transaction should be committed or rolled back.

Values for the parameter are:
`COMMIT`
`ROLLBACK`

UOWID
The unit-of-work ID of the transaction.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`COORDINATOR_NOT_FOUND`

HEURISTIC
A binary value indicating whether a heuristic decision has been taken for the transaction.

Values for the parameter are:
`NO`
`YES`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

OTCO gate, SET_COORDINATOR function

Designate a CORBA object as the coordinator of this part of an OTS transaction.

Input Parameters

HOST_BLOCK
Block containing the name of the TCPIP host where the coordinator OTS resource resides.

IOR_BLOCK
Block containing the CORBA IOR of the OTS Resource that is being added as a coordinator in the OTS transaction.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`HOST_TOO_LONG`
`IOR_TOO_LONG`

COORDINATOR_TOKEN
A token representing the coordinator.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

OTCO gate, SET_LAST_AGENT function

Designate a CORBA object as the last agent of this part of an OTS transaction.

Input Parameters

COORDINATOR_TOKEN
The token that represents the coordinator of the transaction.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`LINK_UNKNOWN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

OTCP gate, RESYNC_COORDINATOR function

Resynchronize with the coordinator in an OTS transaction.

Input Parameters

IOR_BLOCK
Block containing the CORBA IOR of the OTS resource

LOGICAL_SERVER
The logical server (CorbaServer)

PUBLIC_ID
The OTS public ID of the transaction

UOW_ID
The unit-of-work ID of the transaction.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `COMM_FAILURE`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

OTCP gate, RESYNC_SUBORDINATE function

Resynchronize with the subordinate in an OTS transaction.

Input Parameters

DECISION
: The commit or roll back decision for the transaction

  Values for the parameter are:
  `COMMIT`
  `ROLLBACK`

IOR_BLOCK
: Block containing the CORBA IOR of the OTS resource

LOGICAL_SERVER
: The logical server (CorbaServer) associated wit the request.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `COMM_FAILURE`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

OTRS gate, FORGET_TRANSACTION function

Initiate forget processing for an OTS resource.

Input Parameters

IOR_BLOCK
: Block containing the CORBA IOR of the OTS resource

Output Parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

OTRS gate, PERFORM_RESYNC function

Resynchronize all OTS resources.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `ALREADY_IN_RESYNC`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

OTRS gate, SET_REMOTE_STATUS function

Set the status of a remote OTS resource.

Input Parameters

IOR_BLOCK
Block containing the CORBA IOR of the OTS resource

STATUS
The desired status of the remote object.

Values for the parameter are:
`COMMIT`
`HEURISTIC_COMMIT`
`HEURISTIC_HAZARD`
`HEURISTIC_MIXED`
`HEURISTIC_ROLLBACK`
`ROLLBACK`

Output Parameters

ALREADY_HEURISTIC
Indicates whether the remote object has already subject to a heuristic decision to commit or roll back.

Values for the parameter are:
`COMMIT`
`NO`
`ROLLBACK`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

OTSU gate, ADD_SUBORDINATE function

The ADD_SUBORDINATE function of the OTSU gate is used add a subordinate participant to the OTS transaction.

Input Parameters

HOST_BLOCK
Block containing the name of the TCPIP host where the subordinate OTS resource resides.

IOR_BLOCK
Block containing the CORBA IOR of the OTS Resource that is being added as a subordinate participant in the OTS transaction.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ADD_LINK_FAILED`

The following values are returned when RESPONSE is EXCEPTION:
`HOST_TOO_LONG`
`IOR_TOO_LONG`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SUBORDINATE_TOKEN
token representing the added Resource.

OTSU gate, FORGET function

The FORGET function of the OTSU gate is used signal the fact that the obligation to the subordinate resource has been discharged.

Input Parameters

SUBORDINATE_TOKEN
Token representing the subordinate OTS resource.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`INBOUND_FLOW_FAILED`

The following values are returned when RESPONSE is EXCEPTION:
`UNKNOWN_SUBORDINATE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

OTSU gate, RESYNC function

The RESYNC function of the OTSU gate is used to initiate the resynchronisation protocol with the subordinate resource identified by the given IOR.

Input Parameters

IOR_BLOCK
Block containing the CORBA IOR of the OTS Resource that is being added as a subordinate participant in the OTS transaction.

UOWID
identification of the local logical unit of work managing the OTS transaction.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

UOW_STATUS
The status of the unit of work.

Values for the parameter are:
`COMMITTED`
`IN_DOUBT`
`IN_FLIGHT`
`ROLLED_BACK`

OTSU gate, SET_VOTE function

The SET_VOTE function of the OTSU gate is used record the vote that results from a PREPARE method being invoked on the OTS Resource represented by the given SUBORDINATE_TOKEN.

Input Parameters

SUBORDINATE_TOKEN
Token representing the subordinate OTS resource.

VOTE
The vote resulting from the first phase of syncpoint on the subordinate resource.

Values for the parameter are:

HEURISTIC_COMMIT
HEURISTIC_HAZARD
HEURISTIC_MIXED
HEURISTIC_ROLLBACK
NO
READ_ONLY
YES

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
RECORD_VOTE_FAILED

The following values are returned when RESPONSE is EXCEPTION:
INVALID_VOTE
UNKNOWN_SUBORDINATE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

OTTR gate, BEGIN_TRAN function

The BEGIN_TRAN function of the OTTR gate is used to create a new OTS transaction.

Input Parameters

LOGICAL_SERVER
The name of the logical server within which the transaction is executing.

PUBLIC_ID
The Request Stream public identifier associated with the transaction.

TID_BUFFER_OUT
The OTS transaction identifier (TID) of the transaction created.

TIMEOUT
Optional Parameter

The OTS transaction timeout value.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
TID_TOO_LONG
UOW_ROLLEDBACK

BQUAL_LEN
The batch qualifer length of the OTS transaction.

FORMAT_ID
The OTS transactions format identifier.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

UOW_ID
The identifier of the logical unit of work into which the OTS transaction was imported.

DEFAULT_TIMEOUT
Optional Parameter

The default OTS transaction timeout value.

OTTR gate, COMMIT function

The COMMIT function of the OTTR gate is used to perform the second phase of the syncpoint of an OTS transaction.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`UOW_ROLLEDBACK`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

OTTR gate, COMMIT_ONE_PHASE function

The COMMIT_ONE_PHASE function of the OTTR gate is used to attempt to commit the current OTS transaction.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STATUS
The outcome of the OTS transaction.

Values for the parameter are:
`COMMITTED`
`ROLLEDBACK`

OTTR gate, IMPORT_TRAN function

The IMPORT_TRAN function of the OTTR gate is used to import an OTS transaction to a task.

Input Parameters

BQUAL_LEN
The batch qualifer length of the OTS transaction.

FORMAT_ID
The OTS transactions format identifier.

LOGICAL_SERVER
The name of the logical server within which the transaction is executing.

PUBLIC_ID
The Request Stream public identifier associated with the transaction.

TID_BLOCK_IN
The OTS transaction identifier (TID) of the transaction being imported.

TIMEOUT
The OTS transaction timeout value.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`OTS_TRAN_ALREADY`
`TID_TOO_LONG`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

UOW_ID
The identifier of the logical unit of work into which the OTS transaction was imported.

OTTR gate, PREPARE function

The PREPARE function of the OTTR gate is used to perform the first phase of the syncpoint of an OTS transaction.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

VOTE
The vote from first phase of syncpoint.

Values for the parameter are:

```
HEURISTIC_MIXED
NO
READ_ONLY
YES
```

OTTR gate, ROLLBACK function

Roll back an OTS transaction.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
UOW_COMMITTED
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

OTTR gate, SET_ROLLBACK_ONLY function

The SET_ROLLBACK_ONLY function of the OTTR gate is used to ensure that the OTS transaction will rollback when it comes to syncpoint.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Modules

Module	Function
DFHOTCO	Handles requests on the OTCO gate.
DFHOTDM	Domain initialization and termination. PRE_INITIALIZE INITIALIZE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN
DFHOTDUF	OT domain offline dump formatting routine
DFHOTRM	Handles the following requests: ATTACH

Module	Function
DFHOTSU	Handles requests on the OTSU gate.
DFHOTTR	Handles requests on the OTTR gate.
DFHOTTRI	Interprets OT domain trace entries

Chapter 94. Parameter Manager Domain (PA)

The parameter manager domain informs CICS domains of system parameters during CICS initialization. These system initialization parameters are specified in the system initialization table (SIT), and as temporary override parameters read from the SYSIN data stream or specified interactively at the system console.

Parameter Manager Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the PA domain.

PAGP gate, FORCE_START function

The FORCE_START function of the PAGP gate is used to override the type of start requested by the START system initialization parameter. It is currently used to force START=AUTO if the MVS(TM) automatic restart manager indicates that CICS(R) is being automatically restarted with the original startup JCL (so that CICS does not get a COLD start that the original JCL might have asked for).

Input Parameters

START_TYPE
specifies the type of CICS start to be forced.

Values for the parameter are:
`AUTO`
`COLD`

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`NOT_POSSIBLE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PAGP gate, GET_PARAMETERS function

The GET_PARAMETERS function of the PAGP gate is used to get the initialization parameters for a requesting domain.

Input Parameters

FORCE_ALL
specifies whether all parameters are required, even on a non-cold start.

Values for the parameter are:
`NO`
`YES`

SKIP_EARLY_BOUND_PARMS
Optional Parameter

Indicates whether early-bound parameters (which cannot be changed beyond a certain stage of initialization) should be skipped.

Values for the parameter are:
`NO`

YES

Output Parameters

PARAMETERS_TRANSFERRED
: indicates to the calling domain whether any system parameters were transferred successfully by the parameter manager domain.

  Values for the parameter are:
  NO
  YES

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PAGP gate, INQUIRE_PARM function

The INQUIRE_PARM function of the PAGP gate is used to inquire on a parameter in the current system initialization table (SIT), or from a specified location.

Input Parameters

LOCATION
: Indicates one of the following parameter locations:

  LOAD_MODULE
  : The original version of the SIT with no overrides.

  JCL_PARMS
  : SIT overrides found in the CICS JCL

  SYSIN
  : SIT overrides found in the SYSIN data set.

  CONSOLE
  : SIT overrides specified from a console.

  If a location is not specified, the current SIT is examined. This table might have been modified with override parameters when it was built.

PARM_BUFFER
: A 255-byte buffer for the requested parameter values.

Output parameters

LOCATED
: Indicates one of the following parameter locations:

  LOAD_MODULE
  : The original version of the SIT with no overrides.

  JCL_PARMS
  : SIT overrides found in the CICS JCL

  SYSIN
  : SIT overrides found in the SYSIN data set.

  CONSOLE
  : SIT overrides specified from a console.

REASON
: The following values are returned when the RESPONSE is EXCEPTION:
  NOT_FOUND
  BUFFER_TOO_SMALL

  The following values are returned when the RESPONSE is INVALID:
  INVALID_FORMAT
  INVALID_FUNCTION
  INVALID_LOCATION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PAGP gate, INQUIRE_START function

The INQUIRE_START function of the PAGP gate is used to find out the type of start that CICS is to perform. This information is used to determine whether domains need to perform a cold or warm start.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

START
specifies the type of start CICS is to perform.

Values for the parameter are:
COLD
WARM

ALL
Optional Parameter

Indicates if the ALL option was specified on the START system initialization parameter.

Values for the parameter are:
NO
YES

INITIAL_START
Optional Parameter

Indicates if this is an INITIAL start.

Values for the parameter are:
NO
YES

Parameter manager domain's generic gates

Table 61 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 61. Parameter manager domain's generic gates

Gate	Trace	Functions	Format
DMDM	PA 0201 PA 0202	PRE_INITIALISE INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM

In preinitialization processing, the parameter manager domain reads system initialization (override) parameters from the startup job stream and, if requested, from the SYSIN data set and the console.

If a system initialization table (SIT) has been specified, that is loaded into storage. Otherwise, the default SIT is loaded. The override parameters are applied to the SIT, and related parameters are checked for consistency. Errors are reported, but no action is taken.

The parameter manager domain also provides services to other domains as they pre-initialize. It informs them of the type of start (cold or auto), and supplies information as required from the SIT.

In initialization processing, the parameter manager domain waits for all the other domains to complete their initialization, and then writes a warm start record to the catalog.

The parameter manager domain does no quiesce processing or termination processing.

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

Modules

Module	Function
DFHPADM	Parameter manager domain initialization and termination
DFHPADUF	An offline routine to format system dump information
DFHPAGP	Passes initialization parameters to domains requesting GET_PARAMETERS
DFHPAIO	Communicates with the SYSIN data set and operator console
DFHPASY	System initialization override parameter checker and syntax parser
DFHPATRI	An offline routine to format trace points

Chapter 95. Program Manager Domain (PG)

The program manager domain provides a variety of functions for managing programs in CICS.

The functions provided by the program manager domain include:

- Program control functions invoked by the following application programming commands:
  LINK
  XCTL
  LOAD
  RELEASE
  RETURN
- Transaction ABEND and condition handling functions invoked by the following commands:
  ABEND
  HANDLE ABEND
  HANDLE CONDITION
  HANDLE AID
- Management of user-replaceable programs, global user exits, and task-related user exits
- Autoinstall for programs, mapsets, and partitionsets.

Program Manager domain's specific gates

The specific gates provide access for other domains to functions that are provided by the PG domain.

PGAQ gate, INQUIRE_AUTOINSTALL function

The INQUIRE_AUTOINSTALL function of the PGAQ gate is used to inquire about attributes of the program autoinstall function.

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

AUTOINSTALL_CATALOG
Optional Parameter

identifies if program autoinstall events are cataloged.

Values for the parameter are:
ALL
MODIFY
NONE

AUTOINSTALL_EXIT_NAME
Optional Parameter

is the name of the program autoinstall exit program.

AUTOINSTALL_STATE
Optional Parameter

is the state of the program autoinstall function.

Values for the parameter are:
`ACTIVE`
`INACTIVE`

PGAQ gate, SET_AUTOINSTALL function

The SET_AUTOINSTALL function of the PGAQ gate is used to set attributes of the program autoinstall function.

Input Parameters

AUTOINSTALL_CATALOG
Optional Parameter

identifies if program autoinstall events are cataloged.

Values for the parameter are:
`ALL`
`MODIFY`
`NONE`

AUTOINSTALL_EXIT_NAME
Optional Parameter

is the name of the program autoinstall exit program.

AUTOINSTALL_STATE
Optional Parameter

is the state of the program autoinstall function.

Values for the parameter are:
`ACTIVE`
`INACTIVE`

LANGUAGES_AVAILABLE
Optional Parameter

Indicates if Language Environment is active.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGAQ gate, SET_SYSTEM function

Set system data values owned by the program manager domain.

Input Parameters

DEFAULT_CCSID
Optional Parameter

The coded character set identifer used by the program manager domain.

Output Parameters

REASON
: The following values are returned when RESPONSE is INVALID:
  `INVALID_FUNCTION`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGCH gate, BIND_CHANNEL function

The BIND_CHANNEL function of the PGCH gate is used to make the specified channel the channel used on the initial link.

Input Parameters

CHANNEL_TOKEN
: is a token referencing the channel to be used on the initial link.

Output Parameters

REASON
: The following values are returned when RESPONSE is INVALID:
  `INVALID_LINK_LEVEL`

  The following values are returned when RESPONSE is INVALID:
  `CHANNEL_ALREADY_SET`
  `INVALID_TOKEN`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGCH gate, COPY_CHANNEL function

The COPY_CHANNEL function of the PGCH gate is used to take a copy of a channel and all its containers. The copy has the same name as the original, but is not on any chain. This function is required by the START command.

Input Parameters

CHANNEL_TOKEN
: is a token referencing the channel to be used on the initial link.

Output Parameters

REASON
: The following values are returned when RESPONSE is INVALID:
  `INVALID_TOKEN`

COPIED_CHANNEL_TOKEN
: A token referencing a copy of the specified channel (used on START and RETURN commands).

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGCH gate, CREATE_CHANNEL function

The CREATE_CHANNEL function of the PGCH gate is used to create a channel.

Input Parameters

CHANNEL_NAME
: is the 16-character name of the channel to be created.

CCSID
Optional Parameter

is the default coded character set identifier (CCSID) for character data in this channel.

CURRENT_CHANNEL
Optional Parameter

whether or not the created channel is to be the current channel of the current link level.

Values for the parameter are:
- NO
- YES

LINK_LEVEL
Optional Parameter

whether the channel is to be created on the current chain, the previous link level's chain, or on no chain (NONE). NONE is used when creating a channel for transfer on a START or RETURN command.

Values for the parameter are:
- CURRENT
- NONE
- PREVIOUS

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
- CCSID_INVALID
- CHANNEL_ALREADY_EXISTS
- CHANNEL_ALREADY_SET
- INVALID_CHANNEL_NAME

The following values are returned when RESPONSE is INVALID:
- INVALID_LINK_LEVEL
- INVALID_PARAMETERS

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CHANNEL_TOKEN
Optional Parameter

is a token referencing the newly-created channel.

CONTAINER_POOL_TOKEN
Optional Parameter

is a token to access a pool of containers.

PGCH gate, DELETE_CHANNEL function

The DELETE_CHANNEL function of the PGCH gate is used to delete a channel. This command can be used to delete channels when they are bound to principal facilities, but not to PLCBs.

Input Parameters

CHANNEL_TOKEN
is a token referencing the channel to be used on the initial link.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `CHANNEL_ATTACHED`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_TOKEN`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGCH gate, DELETE_OWNED_CHANNELS function

The DELETE_OWNED_CHANNELS function of the PGCH gate is used to delete all channels from the channel chain. If the current channel is owned by this link level, it is deleted as well. The container pool associated with each channel is also deleted. This ends any browse in progress and deletes all containers.

Output Parameters

REASON
: The following values are returned when RESPONSE is INVALID:
  `INVALID_LINK_LEVEL`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGCH gate, DETACH_CHANNEL function

The DETACH_CHANNEL function of the PGCH gate is used to detach a channel. The channel may be the current channel, or on the PLCB chain. The channel's containers are only deleted if DELETE(YES) is specified. It is implied that a SET_CURRENT_CHANNEL will be done with this channel at some time.

Input Parameters

CHANNEL_TOKEN
: is a token referencing the channel to be used on the initial link.

DELETE
: Optional Parameter

  whether the channel's containers should be deleted.

  Values for the parameter are:
  `NO`
  `YES`

FREE_SET_STORAGE
: Optional Parameter

  whether the channel's storage should be freed.

  Values for the parameter are:
  `NO`
  `YES`

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `CHANNEL_NOT_FOUND`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_LINK_LEVEL`

The following values are returned when RESPONSE is INVALID:
`INVALID_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGCH gate, INQUIRE_BOUND_CHANNEL function

The INQUIRE_BOUND_CHANNEL function of the PGCH gate is used to get information about the channel that is bound to the current transaction. This may or may not be the current channel. This request may be issued outside a program manager environment.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`CHANNEL_NOT_FOUND`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CHANNEL_NAME
Optional Parameter

is the name of the bound channel.

CHANNEL_TOKEN
Optional Parameter

is a token referencing the newly-created channel.

CONTAINER_POOL_TOKEN
Optional Parameter

is a token to access a pool of containers.

PGCH gate, INQUIRE_CHANNEL function

The INQUIRE_CHANNEL function of the PGCH gate is used to retrieve the properties of a named channel, including its address (returned as a token). To find the named channel, CICS scans the channels accessible from the specified link level.

Input Parameters

CHANNEL_NAME
is the 16-character name of the channel to be created.

LINK_LEVEL
Optional Parameter

whether the channel is to be created on the current chain, the previous link level's chain, or on no chain (NONE). NONE is used when creating a channel for transfer on a START or RETURN command.

Values for the parameter are:
`CURRENT`
`PREVIOUS`

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`CHANNEL_NOT_FOUND`

The following values are returned when RESPONSE is INVALID:

`INVALID_LINK_LEVEL`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CCSID
: Optional Parameter

  is the default coded character set identifier (CCSID) for character data in the named channel.

CHANNEL_TOKEN
: Optional Parameter

  is a token referencing the newly-created channel.

CONTAINER_POOL_TOKEN
: Optional Parameter

  is a token to access a pool of containers.

CURRENT_CHANNEL
: Optional Parameter

  whether the named channel is the current channel.

  Values for the parameter are:
  `NO`
  `YES`

OWNER
: Optional Parameter

  whether the named channel is owned by the specified link level.

  Values for the parameter are:
  `NO`
  `YES`

PGCH gate, INQUIRE_CHANNEL_BY_TOKEN function

The INQUIRE_CHANNEL_BY_TOKEN function is used to retrieve the properties of a channel (which is specified by token).

Input Parameters

CHANNEL_TOKEN
: is a token referencing the channel to be used on the initial link.

Output Parameters

REASON
: The following values are returned when RESPONSE is INVALID:
  `INVALID_LINK_LEVEL`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_TOKEN`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CCSID
: Optional Parameter

  is the default coded character set identifier (CCSID) for character data in the named channel.

CHANNEL_NAME
: Optional Parameter

is the name of the bound channel.

CONTAINER_POOL_TOKEN

Optional Parameter

is a token to access a pool of containers.

CURRENT_CHANNEL

Optional Parameter

whether the named channel is the current channel.

Values for the parameter are:

```
NO
YES
```

OWNER

Optional Parameter

whether the named channel is owned by the specified link level.

Values for the parameter are:

```
NO
YES
```

PGCH gate, INQUIRE_CURRENT_CHANNEL function

The INQUIRE_CURRENT_CHANNEL function of the PGCH gate is used to retrieve the properties of the current channel.

Output Parameters

REASON

The following values are returned when RESPONSE is EXCEPTION:

```
CHANNEL_NOT_FOUND
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_LINK_LEVEL
```

RESPONSE

Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

CCSID

Optional Parameter

is the default coded character set identifier (CCSID) for character data in the named channel.

CHANNEL_NAME

Optional Parameter

is the name of the bound channel.

CHANNEL_TOKEN

Optional Parameter

is a token referencing the newly-created channel.

CONTAINER_POOL_TOKEN

Optional Parameter

is a token to access a pool of containers.

OWNER

Optional Parameter

whether the named channel is owned by the specified link level.

Values for the parameter are:

```
NO
YES
```

PGCH gate, RENAME_CHANNEL function

The RENAME_CHANNEL function of the PGCH gate is used to rename a channel.

Input Parameters

CHANNEL_NAME
: is the 16-character name of the channel to be created.

CHANNEL_TOKEN
: is a token referencing the channel to be used on the initial link.

Output Parameters

REASON
: The following values are returned when RESPONSE is INVALID:
  `CHANNEL_ALREADY_EXISTS`
  `INVALID_CHANNEL_NAME`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_TOKEN`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGCH gate, SET_CURRENT_CHANNEL function

The SET_CURRENT_CHANNEL function of the PGCH gate is used to make the specified channel the current channel for the current link level.

Input Parameters

CHANNEL_TOKEN
: is a token referencing the channel to be used on the initial link.

OWNER
: Optional Parameter

  whether the specified channel is owned by the current link level. If OWNER(YES) is specified, the channel is added to the current link level's chain.

  Values for the parameter are:
  `NO`
  `YES`

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `CHANNEL_ALREADY_EXISTS`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_LINK_LEVEL`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_TOKEN`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGCP gate, COPY_CONTAINER_POOL function

The COPY_CONTAINER_POOL function of the PGCP gate is used to copy all the containers in a container pool to another container pool.

Input Parameters

POOL_TOKEN
: is a token (returned on a CREATE_CONTAINER_POOL request) that identifies the container pool to be copied.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  INVALID_POOL_TOKEN

COPIED_POOL_TOKEN
: is a token that maps to the pool to which all containers have been copied from the pool referenced by POOL_TOKEN.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGCP gate, CREATE_CONTAINER_POOL function

The CREATE_CONTAINER_POOL function of the PGCP gate is used to create a container pool.

Input Parameters

CCSID
: Optional Parameter

  is the default coded character set identifier (CCSID) for character data in this channel.

Output Parameters

POOL_TOKEN
: is a token that references the container pool that has been created.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGCP gate, DELETE_CONTAINER_POOL function

The DELETE_CONTAINER_POOL function of the PGCP gate is used to delete a container pool.

Input Parameters

POOL_TOKEN
: is a token (returned on a CREATE_CONTAINER_POOL request) that identifies the container pool to be copied.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  INVALID_POOL_TOKEN

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGCP gate, INQUIRE_CONTAINER_POOL function

The INQUIRE_CONTAINER_POOL function of the PGCP gate is used to inquire about the attributes of a container pool.

Input Parameters

POOL_TOKEN
is a token (returned on a CREATE_CONTAINER_POOL request) that identifies the container pool to be copied.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`INVALID_POOL_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

CCSID
Optional Parameter

is the default coded character set identifier (CCSID) for character data in the named channel.

NUMBER_OF_CONTAINERS
Optional Parameter

is the number of containers that the pool contains.

POOL_SIZE
Optional Parameter

is the size, in bytes, of the data in the pool.

PGCR gate, COPY_CONTAINER function

The COPY_CONTAINER function of the PGCR gate is used to copy a container from one container pool to another. Both pools must already have been created.

Input Parameters

AS_CONTAINER_NAME
Optional Parameter

is the name by which the copied container is to be known in the target container pool.

CONTAINER_NAME
Optional Parameter

is the name of the container to be copied.

CONTAINER_TOKEN
Optional Parameter

is a token referencing the container to be copied.

POOL_TOKEN
Optional Parameter

is a token (returned on a CREATE_CONTAINER_POOL request) that identifies the container pool to be copied.

TO_POOL_TOKEN
Optional Parameter

is a token referencing the target container pool (that is, the pool to which the container is to be copied).

TYPE
Optional Parameter

whether the container is visible only to CICS, or to user programs as well.

Values for the parameter are:

CICS
USER

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
CONTAINER_NOT_FOUND
INVALID_AS_CONTAINER_NAME

The following values are returned when RESPONSE is INVALID:
INVALID_CONTAINER_TOKEN
INVALID_PARAMETERS
INVALID_POOL_TOKEN
INVALID_TO_POOL_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CONTAINER_TOKEN_OUT
Optional Parameter

is a token representing the new copy of the container.

GENERATION_NUMBER
Optional Parameter

Every time a container in a container pool is changed or created the pool generation number is incremented. This number is the number for the container when the container was last changed.

INITIAL_GENERATION
Optional Parameter

Every time a container in a container pool is changed or created the pool generation number is incremented. This number is the number for the container when the container was created.

PGCR gate, DELETE_CONTAINER function

The DELETE_CONTAINER function of the PGCR gate is used to delete a container and its data. The container is identified using its name, the container pool to which it belongs, and its type.

Input Parameters

CALLER
Optional Parameter

is the call part of an API call.

Values for the parameter are:
EXEC
SYSTEM

CONTAINER_NAME
Optional Parameter

is the name of the container to be copied.

CONTAINER_TOKEN
Optional Parameter

is a token referencing the container to be copied.

POOL_TOKEN
Optional Parameter

is a token (returned on a CREATE_CONTAINER_POOL request) that identifies the container pool to be copied.

TYPE
Optional Parameter

whether the container is visible only to CICS, or to user programs as well.

Values for the parameter are:
`CICS`
`USER`

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`CONTAINER_NOT_FOUND`
`READONLY_CONTAINER`

The following values are returned when RESPONSE is INVALID:
`INVALID_CONTAINER_TOKEN`
`INVALID_PARAMETERS`
`INVALID_POOL_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGCR gate, ENDBR_CONTAINER function

The ENDBR_CONTAINER function of the PGCR gate is used to end a browse of containers.

Input Parameters

BROWSE_TOKEN
is a browse token referencing the next container in the container pool being browsed.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`INVALID_BROWSE_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGCR gate, GET_CONTAINER_INTO function

The GET_CONTAINER function of the PGCR gate is used to get the data from a container into an area provided by the caller. The container is identified using a pool token, together with the container's name and type. Note that LENGTH_ERROR indicates that as much data as possible has been copied.

Input Parameters

ITEM_BUFFER
On input, ITEM_BUFFER_P is a pointer to a receiving area of length ITEM_BUFFER_M. On output, the value ITEM_BUFFER_N is set to the actual length returned.

CALLER
Optional Parameter

is the call part of an API call.

Values for the parameter are:
`EXEC`
`SYSTEM`

CCSID
Optional Parameter

is the default coded character set identifier (CCSID) for character data in this channel.

CONTAINER_NAME
Optional Parameter

is the name of the container to be copied.

CONTAINER_TOKEN
Optional Parameter

is a token referencing the container to be copied.

CONVERT
Optional Parameter

whether the data in the container should be converted.

Values for the parameter are:
`NO`
`YES`

DATA_TOKEN_IN
Optional Parameter

A token referencing the data in the container. The value returned in DATA_TOKEN_OUT on one GET_CONTAINER_INTO call must be specified on the next call as DATA_TOKEN_IN. (The first GET_CONTAINER_INTO call for this container doesn't have a DATA_TOKEN_IN.)

POOL_TOKEN
Optional Parameter

A token (returned on a CREATE_CONTAINER_POOL request) that identifies the container pool to be copied.

TYPE
Optional Parameter

whether the container is visible only to CICS, or to user programs as well.

Values for the parameter are:
`CICS`
`USER`

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`CCSID_CONVERSION_ERROR`
`CCSID_IGNORED`
`CCSID_INVALID`
`CCSID_PAIR_UNSUPPORTED`
`CCSID_PARTIAL_CONVERSION`
`CONTAINER_NOT_FOUND`
`INVALID_DATA_TOKEN_IN`
`LENGTH_ERROR`
`MORE_DATA`

The following values are returned when RESPONSE is INVALID:
`INVALID_CONTAINER_TOKEN`
`INVALID_PARAMETERS`

INVALID_POOL_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CONTAINER_CCSID
Optional Parameter

is the coded character set identifier of the extracted data.

DATA_TOKEN_OUT
Optional Parameter

A token referencing the data in the container.
The value returned in DATA_TOKEN_OUT on one GET_CONTAINER_INTO call must be specified on the next call as DATA_TOKEN_IN. (The first GET_CONTAINER_INTO call for this container doesn't have a DATA_TOKEN_IN.)

DATATYPE
Optional Parameter

is the format of the data.

Values for the parameter are:
BIT
CHAR

GENERATION_NUMBER
Optional Parameter

Every time a container in a container pool is changed or created the pool generation number is incremented. This number is the number for the container when the container was last changed.

INITIAL_GENERATION
Optional Parameter

Every time a container in a container pool is changed or created the pool generation number is incremented. This number is the number for the container when the container was created.

USERACCESS
Optional Parameter

whether USER containers can be updated by API commands.

Values for the parameter are:
ANY
READONLY

PGCR gate, GET_CONTAINER_LENGTH function

The GET_CONTAINER_LENGTH function of the PGCR gate is used to discover the length, in bytes, of the data in a container.

Input Parameters

CALLER
Optional Parameter

is the call part of an API call.

Values for the parameter are:
EXEC
SYSTEM

CCSID
Optional Parameter

is the default coded character set identifier (CCSID) for character data in this channel.

CONTAINER_NAME
Optional Parameter

is the name of the container to be copied.

CONTAINER_TOKEN
Optional Parameter

is a token referencing the container to be copied.

POOL_TOKEN
Optional Parameter

is a token (returned on a CREATE_CONTAINER_POOL request) that identifies the container pool to be copied.

TYPE
Optional Parameter

whether the container is visible only to CICS, or to user programs as well.

Values for the parameter are:
- CICS
- USER

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- CCSID_CONVERSION_ERROR
- CCSID_IGNORED
- CCSID_INVALID
- CCSID_PAIR_UNSUPPORTED
- CCSID_PARTIAL_CONVERSION
- CONTAINER_NOT_FOUND

The following values are returned when RESPONSE is INVALID:
- INVALID_CONTAINER_TOKEN
- INVALID_PARAMETERS
- INVALID_POOL_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CONTAINER_CCSID
Optional Parameter

is the coded character set identifier of the extracted data.

DATA_LENGTH
Optional Parameter

is the length, in bytes, of the data in the container. If the container holds character data that has been converted from one CCSID to another, this is the length of the converted data.

DATATYPE
Optional Parameter

is the format of the data.

Values for the parameter are:
- BIT
- CHAR

GENERATION_NUMBER
Optional Parameter

Every time a container in a container pool is changed or created the pool generation number is incremented. This number is the number for the container when the container was last changed.

INITIAL_GENERATION
Optional Parameter

Every time a container in a container pool is changed or created the pool generation number is incremented. This number is the number for the container when the container was created.

USERACCESS
Optional Parameter

whether USER containers can be updated by API commands.

Values for the parameter are:
```
ANY
READONLY
```

PGCR gate, GET_CONTAINER_SET function

The GET_CONTAINER_SET function of the PGCR gate is used to get the data from a container and copy it into an area provided by the CICS program domain. The container is identified using a pool token, together with its name and type.

Input Parameters

CALLER
Optional Parameter

is the call part of an API call.

Values for the parameter are:
```
EXEC
SYSTEM
```

CCSID
Optional Parameter

is the default coded character set identifier (CCSID) for character data in this channel.

CONTAINER_NAME
Optional Parameter

is the name of the container to be copied.

CONTAINER_TOKEN
Optional Parameter

is a token referencing the container to be copied.

CONVERT
Optional Parameter

whether the data in the container should be converted.

Values for the parameter are:
```
NO
YES
```

POOL_TOKEN
Optional Parameter

is a token (returned on a CREATE_CONTAINER_POOL request) that identifies the container pool to be copied.

TYPE
Optional Parameter

whether the container is visible only to CICS, or to user programs as well.

Values for the parameter are:
`CICS`
`USER`

Output Parameters

`REASON`
The following values are returned when RESPONSE is EXCEPTION:
`CCSID_CONVERSION_ERROR`
`CCSID_IGNORED`
`CCSID_INVALID`
`CCSID_PAIR_UNSUPPORTED`
`CCSID_PARTIAL_CONVERSION`
`CONTAINER_NOT_FOUND`

The following values are returned when RESPONSE is INVALID:
`INVALID_CONTAINER_TOKEN`
`INVALID_PARAMETERS`
`INVALID_POOL_TOKEN`

`ITEM_DATA`
The address and length of the SET storage returned.

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

`CONTAINER_CCSID`
Optional Parameter

is the coded character set identifier of the extracted data.

`DATATYPE`
Optional Parameter

is the format of the data.

Values for the parameter are:
`BIT`
`CHAR`

`GENERATION_NUMBER`
Optional Parameter

Every time a container in a container pool is changed or created the pool generation number is incremented. This number is the number for the container when the container was last changed.

`INITIAL_GENERATION`
Optional Parameter

Every time a container in a container pool is changed or created the pool generation number is incremented. This number is the number for the container when the container was created.

`USERACCESS`
Optional Parameter

whether USER containers can be updated by API commands.

Values for the parameter are:
`ANY`
`READONLY`

PGCR gate, GETNEXT_CONTAINER function

The GETNEXT_CONTAINER function of the PGCR gate is used to get the next container in a browse of containers.

Input Parameters

BROWSE_TOKEN
is a browse token referencing the next container in the container pool being browsed.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- BROWSE_END
- INVALID_BROWSE_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CCSID
Optional Parameter

is the default coded character set identifier (CCSID) for character data in the named channel.

CONTAINER_NAME
Optional Parameter

is the name of the container.

CONTAINER_TOKEN
Optional Parameter

is a token referencing the container.

DATA_LENGTH
Optional Parameter

is the length, in bytes, of the data in the container. If the container holds character data that has been converted from one CCSID to another, this is the length of the converted data.

DATATYPE
Optional Parameter

is the format of the data.

Values for the parameter are:
- BIT
- CHAR

GENERATION_NUMBER
Optional Parameter

Every time a container in a container pool is changed or created the pool generation number is incremented. This number is the number for the container when the container was last changed.

INITIAL_GENERATION
Optional Parameter

Every time a container in a container pool is changed or created the pool generation number is incremented. This number is the number for the container when the container was created.

TYPE
Optional Parameter

whether the container is visible only to CICS, or to user programs as well.

Values for the parameter are:
- `CICS`
- `USER`

USERACCESS
Optional Parameter

whether USER containers can be updated by API commands.

Values for the parameter are:
- `ANY`
- `READONLY`

PGCR gate, INQUIRE_BROWSE_CONTEXT function

The INQUIRE_BROWSE__CONTEXT function of the PGCR gate is used to

Input Parameters

BROWSE_TOKEN
is a browse token referencing the next container in the container pool being browsed.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- `INVALID_BROWSE_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGCR gate, INQUIRE_CONTAINER function

The INQUIRE_CONTAINER function of the PGCR gate is used to retrieve the attributes of a container.

Input Parameters

CONTAINER_NAME
is the name of the container to be copied.

POOL_TOKEN
is a token (returned on a CREATE_CONTAINER_POOL request) that identifies the container pool to be copied.

CALLER
Optional Parameter

is the call part of an API call.

Values for the parameter are:
- `EXEC`
- `SYSTEM`

TYPE
Optional Parameter

whether the container is visible only to CICS, or to user programs as well.

Values for the parameter are:
- `CICS`
- `USER`

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

`CONTAINER_NOT_FOUND`

The following values are returned when RESPONSE is INVALID:
`INVALID_CONTAINER_TOKEN`
`INVALID_PARAMETERS`
`INVALID_POOL_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CCSID
Optional Parameter

is the default coded character set identifier (CCSID) for character data in the named channel.

CONTAINER_TOKEN
Optional Parameter

is a token referencing the container.

DATA_LENGTH
Optional Parameter

is the length, in bytes, of the data in the container. If the container holds character data that has been converted from one CCSID to another, this is the length of the converted data.

DATATYPE
Optional Parameter

is the format of the data.

Values for the parameter are:
`BIT`
`CHAR`

GENERATION_NUMBER
Optional Parameter

Every time a container in a container pool is changed or created the pool generation number is incremented. This number is the number for the container when the container was last changed.

INITIAL_GENERATION
Optional Parameter

Every time a container in a container pool is changed or created the pool generation number is incremented. This number is the number for the container when the container was created.

USERACCESS
Optional Parameter

whether USER containers can be updated by API commands.

Values for the parameter are:
`ANY`
`READONLY`

PGCR gate, INQUIRE_CONTAINER_BY_TOKEN function

The INQIRE_CONTAINER_BY_TOKEN function of the PGCR gate is used to retrieve the attributes of a container by means of a token.

Input Parameters

CONTAINER_TOKEN
is a token referencing the container to be copied.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`CONTAINER_NOT_FOUND`

The following values are returned when RESPONSE is INVALID:
`INVALID_CONTAINER_TOKEN`
`INVALID_PARAMETERS`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CCSID
Optional Parameter

is the default coded character set identifier (CCSID) for character data in the named channel.

CONTAINER_NAME
Optional Parameter

is the name of the container.

DATA_LENGTH
Optional Parameter

is the length, in bytes, of the data in the container. If the container holds character data that has been converted from one CCSID to another, this is the length of the converted data.

DATATYPE
Optional Parameter

is the format of the data.

Values for the parameter are:
`BIT`
`CHAR`

GENERATION_NUMBER
Optional Parameter

Every time a container in a container pool is changed or created the pool generation number is incremented. This number is the number for the container when the container was last changed.

INITIAL_GENERATION
Optional Parameter

Every time a container in a container pool is changed or created the pool generation number is incremented. This number is the number for the container when the container was created.

TYPE
Optional Parameter

whether the container is visible only to CICS, or to user programs as well.

Values for the parameter are:
`CICS`
`USER`

USERACCESS
Optional Parameter

whether USER containers can be updated by API commands.

Values for the parameter are:
`ANY`
`READONLY`

PGCR gate, MOVE_CONTAINER function

The MOVE_CONTAINER function of the PGCR gate is used to move a container from one container pool to another. Both pools must already have been created. If the TO_POOL_TOKEN is not specified, the container is not moved to a different pool but is renamed to the value of AS_CONTAINER_NAME.

Input Parameters

AS_CONTAINER_NAME
Optional Parameter

is the name by which the copied container is to be known in the target container pool.

CALLER
Optional Parameter

is the call part of an API call.

Values for the parameter are:
`EXEC`
`SYSTEM`

CONTAINER_NAME
Optional Parameter

is the name of the container to be copied.

CONTAINER_TOKEN
Optional Parameter

is a token referencing the container to be copied.

POOL_TOKEN
Optional Parameter

is a token (returned on a CREATE_CONTAINER_POOL request) that identifies the container pool to be copied.

TO_POOL_TOKEN
Optional Parameter

is a token referencing the target container pool (that is, the pool to which the container is to be copied).

TYPE
Optional Parameter

whether the container is visible only to CICS, or to user programs as well.

Values for the parameter are:
`CICS`
`USER`

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`CONTAINER_NOT_FOUND`
`INVALID_AS_CONTAINER_NAME`
`READONLY_AS_CONTAINER`
`READONLY_CONTAINER`

The following values are returned when RESPONSE is INVALID:
`INVALID_CONTAINER_TOKEN`
`INVALID_PARAMETERS`
`INVALID_POOL_TOKEN`
`INVALID_TO_POOL_TOKEN`

RESPONSE
: Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

CONTAINER_TOKEN_OUT
: Optional Parameter

  is a token representing the new copy of the container.

GENERATION_NUMBER
: Optional Parameter

  Every time a container in a container pool is changed or created the pool generation number is incremented. This number is the number for the container when the container was last changed.

INITIAL_GENERATION
: Optional Parameter

  Every time a container in a container pool is changed or created the pool generation number is incremented. This number is the number for the container when the container was created.

PGCR gate, PUT_CONTAINER function

The PUT_CONTAINER function of the PGCR gate is used to put data into a container from an area provided by the caller.

Input Parameters

ITEM_DATA
: The address and length of the put data.

CALLER
: Optional Parameter

  is the call part of an API call.

  Values for the parameter are:
  - EXEC
  - SYSTEM

CCSID
: Optional Parameter

  is the default coded character set identifier (CCSID) for character data in this channel.

CONTAINER_NAME
: Optional Parameter

  is the name of the container to be copied.

CONTAINER_TOKEN
: Optional Parameter

  is a token referencing the container to be copied.

CONVERT
: Optional Parameter

  whether the data in the container should be converted.

  Values for the parameter are:
  - NO
  - YES (default)

DATATYPE
: Optional Parameter

  is the format of the data.

Values for the parameter are:
`BIT`
`CHAR`

POOL_TOKEN
Optional Parameter

is a token (returned on a CREATE_CONTAINER_POOL request) that identifies the container pool to be copied.

PUT_TYPE
Optional Parameter

whether the PUT data should be appended to the current contents of the container or replace the current contents.

Values for the parameter are:
`APPEND`
`REPLACE`

TYPE
Optional Parameter

whether the container is visible only to CICS, or to user programs as well.

Values for the parameter are:
`CICS`
`USER`

USERACCESS
Optional Parameter

whether USER containers can be updated by API commands.

Values for the parameter are:
`ANY`
`READONLY`

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`CCSID_INVALID`
`DATATYPE_CHANGE`
`INVALID_CONTAINER_NAME`
`LENGTH_ERROR`
`READONLY_CONTAINER`

The following values are returned when RESPONSE is INVALID:
`INVALID_CONTAINER_TOKEN`
`INVALID_PARAMETERS`
`INVALID_POOL_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CONTAINER_TOKEN_OUT
Optional Parameter

is a token representing the new copy of the container.

GENERATION_NUMBER
Optional Parameter

Every time a container in a container pool is changed or created the pool generation number is incremented. This number is the number for the container when the container was last changed.

INITIAL_GENERATION
Optional Parameter

Every time a container in a container pool is changed or created the pool generation number is incremented. This number is the number for the container when the container was created.

PGCR gate, SET_CONTAINER function

The SET_CONTAINER function of the PGCR gate is used to change the attributes of a container.

Input Parameters

CONTAINER_NAME
Optional Parameter

is the name of the container to be copied.

CONTAINER_TOKEN
Optional Parameter

is a token referencing the container to be copied.

POOL_TOKEN
Optional Parameter

is a token (returned on a CREATE_CONTAINER_POOL request) that identifies the container pool to be copied.

TYPE
Optional Parameter

whether the container is visible only to CICS, or to user programs as well.

Values for the parameter are:
- CICS
- USER

USERACCESS
Optional Parameter

whether USER containers can be updated by API commands.

Values for the parameter are:
- ANY
- READONLY

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- CONTAINER_NOT_FOUND

The following values are returned when RESPONSE is INVALID:
- INVALID_CONTAINER_TOKEN
- INVALID_PARAMETERS
- INVALID_POOL_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

PGCR gate, STARTBR_CONTAINER function

The STARTBR_CONTAINER function of the PGCR gate is used to initiate a browse of the containers in a specified container pool.

Input Parameters

POOL_TOKEN
: is a token (returned on a CREATE_CONTAINER_POOL request) that identifies the container pool to be copied.

CALLER
: Optional Parameter

  is the call part of an API call.

  Values for the parameter are:
  `EXEC`
  `SYSTEM`

Output Parameters

REASON
: The following values are returned when RESPONSE is INVALID:
  `INVALID_POOL_TOKEN`

BROWSE_TOKEN
: is a browse token referencing a container in the container pool. This container is the first in the browse list.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGCR gate, TRACE_CONTAINERS function

The TRACE_CONTAINER function of the PGCR gate is used to initiate a trace of the containers in a specified channel.

Input Parameters

CHANNEL_TOKEN
: is a token referencing the channel to be used on the initial link.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `INVALID_CHANNEL_TOKEN`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGDD gate, DEFINE_PROGRAM function

The DEFINE_PROGRAM function of the PGDD gate is used to define a program resource.

Input Parameters

CATALOG_ADDRESS
: is the token identifying the program resource to be defined.

INSTALL_TYPE
: indicates how the program resource is defined and installed.

  Values for the parameter are:
  `AUTO`
  `CATALOG`
  `GROUPLIST`
  `MANUAL`
  `RDO`

`SYSAUTO`

`PROGRAM_NAME`
is the name of the program resource to be defined.

`AVAIL_STATUS`
Optional Parameter

defines whether (ENABLED) or not (DISABLED) the program can be used.

Values for the parameter are:
`DISABLED`
`ENABLED`

`CEDF_STATUS`
Optional Parameter

indicates whether or not the EDF diagnostic screens are displayed when the program is running under the control of the execution diagnostic facility (EDF).

Values for the parameter are:
`CEDF`
`NOCEDF`

`CONCURRENCY`
Optional Parameter

indicates whether the program is threadsafe or only quasi-reentrant.

Values for the parameter are:
`QUASIRENT`
`THREADSAFE`

`DATA_LOCATION`
Optional Parameter

defines whether the program can handle only 24-bit addresses (data located below the 16MB line) can handle 31-bit addresses (data located above or below the 16MB line). The DATALOCATION options are independent from the addressing mode of the link-edited program.

Values for the parameter are:
`ANY`
`BELOW`

`DYNAMIC_STATUS`
Optional Parameter

indicates whether or not a request to LINK to the program may be dynamically routed.

Values for the parameter are:
`DYNAMIC`
`NOTDYNAMIC`

`EXECUTION_KEY`
Optional Parameter

is the key in which CICS gives control to the program, and determines whether the program can modify CICS-key storage. If the program is link-edited with the RENT attribute and the RMODE(ANY) mode statement, CICS loads the program into extended the read-only DSA(ERDSA), regardless of the EXECKEY option. The ERDSA is allocated from read-only extended storage only if RENTPGM=PROTECT is specified as a system initialization parameter.

Values for the parameter are:
`CICS`
`USER`

EXECUTION_SET
Optional Parameter

indicates whether you want CICS to link to and run the program as if it were running in a remote CICS region (with or without the API restrictions of a DPL program).

Values for the parameter are:
`DPLSUBSET`
`FULLAPI`

HOTPOOL
Optional Parameter

indicates whether or not the Java program object is to be run in a preinitialized Language Environment enclave reused by multiple invocations of the program, under control of an H8 TCB. This parameter is obsolete and is ignored.

Values for the parameter are:
`NO`
`YES`

JVM
Optional Parameter

indicates whether or not the program is to be executed under the control of a JVM (Java Virtual Machine).

Values for the parameter are:
`NO`
`YES`

JVM_CLASS
Optional Parameter

is the name of the main class in a Java program to be run under the control of a JVM.

JVM_PROFILE
Optional Parameter

specifies the name of the data set member that contains the JVM profile.. The named profile provides the attributes of the JVM that is needed to execute the program.

LANGUAGE_DEFINED
Optional Parameter

is the language to be defined for the program.

Values for the parameter are:
`ASSEMBLER`
`COBOL`
`C370`
`LE370`
`NOT_DEFINED`
`PLI`

MODULE_TYPE
Optional Parameter

is the type of program resource to be defined.

Values for the parameter are:
`MAPSET`
`PARTITIONSET`
`PROGRAM`

MULTITCB
Optional Parameter

is reserved for future use

Values for the parameter are:
`NO`
`YES`

OPENAPI
Optional Parameter

is reserved for future use

Values for the parameter are:
`NO`
`YES`

PROGRAM_ATTRIBUTE
Optional Parameter

defines the residence status of the program, and when the storage for this program is released.

Values for the parameter are:
`RELOAD`
`RESIDENT`
`REUSABLE`
`TEST`
`TRANSIENT`

PROGRAM_TYPE
Optional Parameter

is the type of program.

Values for the parameter are:
`PRIVATE`
`SHARED`
`TYPE_ANY`

PROGRAM_USAGE
Optional Parameter

defines whether the program is to be used as a CICS nucleus program or as a user application program.

Values for the parameter are:
`APPLICATION`
`NUCLEUS`

REMOTE_PROGID
Optional Parameter

is the name by which the program is known in the remote CICS region. If you specify REMOTE_SYSID and omit REMOTE_PROGID, the REMOTE_PROGID parameter defaults to the same name as the local name (that is, the PROGRAM_NAME value).

REMOTE_SYSID
Optional Parameter

is the name of a remote CICS region if you want CICS to ship a distributed program link (DPL) request to another CICS region.

REMOTE_TRANID
Optional Parameter

is the name of the transaction you want the remote CICS to attach, and under which it is to run the remote program.

REQUIRED_AMODE
Optional Parameter

is the addressing mode of the program.

Values for the parameter are:
AMODE_ANY
24
31

REQUIRED_RMODE
Optional Parameter

is the residence mode of the program.

Values for the parameter are:
RMODE_ANY
24

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
CATALOG_ERROR
CATALOG_NOT_OPERATIONAL
INSUFFICIENT_STORAGE
LOCK_ERROR

The following values are returned when RESPONSE is EXCEPTION:
PROGRAM_ALREADY_DEFINED
PROGRAM_HAS_HOTPOOL
PROGRAM_IN_USE

The following values are returned when RESPONSE is INVALID:
INVALID_CATALOG_ADDRESS
INVALID_MODE_COMBINATION
INVALID_PROGRAM_NAME
INVALID_TYPE_ATTRIB_COMBIN

The values for the parameter are:
NO_REASON

NEW_PROGRAM_TOKEN
is the token assigned to program.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGDD gate, DELETE_PROGRAM function

The DELETE_PROGRAM function of the PGDD gate is used to delete a program resource.

Input Parameters

PROGRAM_NAME
is the name of the program resource to be defined.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

ABEND
LOCK_ERROR

The following values are returned when RESPONSE is EXCEPTION:
PROGRAM_IN_USE
PROGRAM_IS_URM
PROGRAM_NAME_STARTS_DFH
PROGRAM_NOT_DEFINED

The values for the parameter are:
NO_REASON

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGEX gate, INITIALIZE_EXIT function

The INITIALIZE_EXIT function of the PGEX gate is used to initialize an exit program.

Input Parameters

LOAD_PROGRAM
defines whether or not the program is to be loaded when initialized.

Values for the parameter are:
NO
YES

PROGRAM_NAME
is the name of the program resource to be defined.

SYSTEM_AUTOINSTALL
defines whether CICS is to autoinstall the program if there is no associated PROGRAM resource definition.

Values for the parameter are:
NO
YES

LPA_ELIGIBLE
Optional Parameter

defines whether or not the program can be loaded into the link pack area (LPA).

Values for the parameter are:
NO
YES

Output Parameters

REASON
The values for the parameter are:
ABEND
AUTOINSTALL_FAILED
AUTOINSTALL_INVALID_DATA
AUTOINSTALL_MODEL_NOT_DEF
AUTOINSTALL_URM_FAILED
INVALID_FUNCTION
INVALID_INITIALIZE_REQUEST
JVM_PROGRAM
LOOP
PROGRAM_NOT_AUTHORIZED

PROGRAM_NOT_DEFINED
PROGRAM_NOT_ENABLED
PROGRAM_NOT_LOADABLE
REMOTE_PROGRAM

PROGRAM_TOKEN
is the token assigned to program.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ENTRY_POINT
Optional Parameter

is the token defining the entry point of the program.

PGEX gate, TERMINATE_EXIT function

The TERMINATE_EXIT function of the PGEX gate is used to terminate an exit program.

Input Parameters

PROGRAM_TOKEN
is the token identifying the program to be terminated.

RELEASE_PROGRAM
defines whether or not the program is to be released when terminated.

Values for the parameter are:
NO
YES

Output Parameters

REASON
The values for the parameter are:
ABEND
INVALID_FUNCTION
INVALID_PROGRAM_TOKEN
LOOP
PROGRAM_NOT_AUTHORIZED
PROGRAM_NOT_DEFINED
PROGRAM_NOT_ENABLED
PROGRAM_NOT_IN_USE
PROGRAM_NOT_LOADED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGHM gate, CLEAR_LABELS function

The CLEAR_LABELS function of the PGHM gate is invoked by CICS during XCTL processing and frees all storage relating to the Handle State for that program (except for the initial default state) and removes all user-defined label handles.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is INVALID:

`INVALID_FUNCTION`
`MISSING_PARAMETER`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FASTPATH_FLAGS
Optional Parameter

identifies the fastpath flag settings for the following conditions handled by the user: RDATT, WRBRK, EOF, NOSPACE, QBUSY, NOSTG, ENQBUSY, NOJBUFSP, SIGNAL, OVERFLOW, SYSBUSY, SESSBUSY.

PGHM gate, FREE_HANDLE_TABLES function

The FREE_HANDLE_TABLES function of the PGHM gate is invoked by CICS during program termination processing and frees all storage relating to the Handle State for that program level.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`
`MISSING_PARAMETER`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGHM gate, IGNORE_CONDITIONS function

The IGNORE_CONDITIONS function of the PGHM gate is used to ignore the conditions for user EXEC CICS IGNORE CONDITION commands.

Input Parameters

IDENTIFIERS
is the token identifying the conditions to be handled.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`
`MISSING_PARAMETER`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FASTPATH_FLAGS
Optional Parameter

identifies the fastpath flag settings for the following conditions handled by the user: RDATT, WRBRK, EOF, NOSPACE, QBUSY, NOSTG, ENQBUSY, NOJBUFSP, SIGNAL, OVERFLOW, SYSBUSY, SESSBUSY.

PGHM gate, INQ_ABEND function

The INQ_ABEND function of the PGHM gate is invoked when an abend has occurred, and returns to the caller details of the handle abend for user EXEC CICS HANDLE AID commands.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`
`MISSING_PARAMETER`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STATUS
identifies the status of the condition.

Values for the parameter are:
`HANDLED`
`SYSTEM_DEFAULT`

CURRENT_EXECUTION_KEY
Optional Parameter

is an 8-bit value indicating the current program execution key (at the time the EXEC CICS HANDLE CONDITION command was issued).

GOTOL
Optional Parameter

is the token identifying the condition label within the program to be branched to if the condition is ignored.

HANDLE_COUNT
Optional Parameter

is the number of times that this abend code has been handled.

HANDLE_TYPE
Optional Parameter

indicates whether control should be passed to a label or a program when the abend occurs.

Values for the parameter are:
`LBL`
`PGM`

LABEL
Optional Parameter

is the token identifying the condition label within the program to be branched to if the condition occurs.

LANGUAGE
Optional Parameter

is the program language.

Values for the parameter are:
`ASSEMBLER`
`COBOL`
`CPP`

`C370`
`PLI`

PROGRAM
Optional Parameter

is the name of the program to which control was passed when the abend occurred.

PROGRAM_MASK
Optional Parameter

identifies the program mask at the time the HANDLE CONDITION command was executed.

USERS_RSA_POINTER
Optional Parameter

is the address of the user program Register Save Area into which the program's registers are saved at each EXEC CICS command execution.

PGHM gate, INQ_AID function

The INQ_AID function of the PGHM gate is invoked when an aid has occurred, and returns to the caller details of the handle aid for user EXEC CICS HANDLE AID commands.

Input Parameters

AID
is an 8-bit value identifying the aid.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`
`MISSING_PARAMETER`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STATUS
identifies the status of the condition.

Values for the parameter are:
`HANDLED`
`SYSTEM_DEFAULT`

CURRENT_EXECUTION_KEY
Optional Parameter

is an 8-bit value indicating the current program execution key (at the time the EXEC CICS HANDLE CONDITION command was issued).

GOTOL
Optional Parameter

is the token identifying the condition label within the program to be branched to if the condition is ignored.

LABEL
Optional Parameter

is the token identifying the condition label within the program to be branched to if the condition occurs.

LANGUAGE
Optional Parameter

is the program language.

Values for the parameter are:
ASSEMBLER
COBOL
CPP
C370
PLI

PROGRAM_MASK
Optional Parameter

identifies the program mask at the time the HANDLE CONDITION command was executed.

USERS_RSA_POINTER
Optional Parameter

is the address of the user program Register Save Area into which the program's registers are saved at each EXEC CICS command execution.

PGHM gate, INQ_CONDITION function

The INQ_CONDITION function of the PGHM gate is invoked when a condition has occurred, and returns to the caller about details of the condition for user EXEC CICS HANDLE CONDITION commands.

Input Parameters

CONDITION
is an 8-bit value identifying the condition.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is INVALID:
INVALID_FUNCTION
MISSING_PARAMETER

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

STATUS
identifies the status of the condition.

Values for the parameter are:
HANDLED
IGNORED
SYSTEM_DEFAULT

ABEND_CODE
Optional Parameter

is the four-character abend code to be issued if CICS drives the system default, which is to abend the transaction.

CURRENT_EXECUTION_KEY
Optional Parameter

is an 8-bit value indicating the current program execution key (at the time the EXEC CICS HANDLE CONDITION command was issued).

GOTOL
Optional Parameter

is the token identifying the condition label within the program to be branched to if the condition is ignored.

LABEL
Optional Parameter

is the token identifying the condition label within the program to be branched to if the condition occurs.

LANGUAGE
Optional Parameter

is the program language.

Values for the parameter are:

```
ASSEMBLER
COBOL
CPP
C370
PLI
```

PROGRAM_MASK
Optional Parameter

identifies the program mask at the time the HANDLE CONDITION command was executed.

USERS_RSA_POINTER
Optional Parameter

is the address of the user program Register Save Area into which the program's registers are saved at each EXEC CICS command execution.

PGHM gate, POP_HANDLE function

The POP_HANDLE function of the PGHM gate is invoked for a user EXEC CICS POP command.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

```
ABEND
LOOP
```

The following values are returned when RESPONSE is EXCEPTION:

```
NO_PREVIOUS_PUSH
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FUNCTION
MISSING_PARAMETER
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FASTPATH_FLAGS
Optional Parameter

identifies the fastpath flag settings for the following conditions handled by the user: RDATT, WRBRK, EOF, NOSPACE, QBUSY, NOSTG, ENQBUSY, NOJBUFSP, SIGNAL, OVERFLOW, SYSBUSY, SESSBUSY.

PGHM gate, PUSH_HANDLE function

The PUSH_HANDLE function of the PGHM gate is invoked for a user EXEC CICS PUSH command.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`
`MISSING_PARAMETER`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FASTPATH_FLAGS
Optional Parameter

identifies the fastpath flag settings for the following conditions handled by the user: RDATT, WRBRK, EOF, NOSPACE, QBUSY, NOSTG, ENQBUSY, NOJBUFSP, SIGNAL, OVERFLOW, SYSBUSY, SESSBUSY.

PGHM gate, SET_ABEND function

The SET_ABEND function of the PGHM gate is invoked in response to a user EXEC CICS HANDLE ABEND command, and saves the details of the handle into the current abend Handle Table.

Input Parameters

OPERATION
identifies what is to be done if the abend occurs.

Values for the parameter are:
`CANCEL`
`HANDLE`
`RESET`

AMODE
Optional Parameter

is the addressing mode (24-bit or 31-bit) of the program at the time the handle command was driven.

Values for the parameter are:
`AMODE24`
`AMODE31`

CURRENT_EXECUTION_KEY
Optional Parameter

is an 8-bit value indicating the current program execution key (at the time the EXEC CICS HANDLE CONDITION command was issued).

LABEL
Optional Parameter

is the token identifying the condition label within the program to be branched to if the abend occurs. Specify either the LABEL parameter or the PROGRAM parameter, not both.

LANGUAGE
Optional Parameter

is the program language.

Values for the parameter are:
`ASSEMBLER`
`COBOL`
`CPP`
`C370`
`PLI`

PROGRAM
Optional Parameter

is the name of the program to which control will be passed if the abend occurs. Specify either the LABEL parameter or the PROGRAM parameter, not both.

USERS_RSA_POINTER
Optional Parameter

is the address of the user program Register Save Area into which the program's registers are saved at each EXEC CICS command execution.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`
`MISSING_PARAMETER`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGHM gate, SET_AIDS function

The SET_AIDS function of the PGHM gate is invoked in response to a user EXEC CICS HANDLE AID command, and saves the details of the handle into the current aid Handle Table.

Input Parameters

IDENTIFIERS
is the token identifying the conditions to be handled.

LABELS_FLAGS
is the token identifying the number of conditions in this command that have associated labels.

AMODE
Optional Parameter

is the addressing mode (24-bit or 31-bit) of the program at the time the handle command was driven.

Values for the parameter are:
`AMODE24`
`AMODE31`

CURRENT_EXECUTION_KEY
Optional Parameter

is an 8-bit value indicating the current program execution key (at the time the EXEC CICS HANDLE CONDITION command was issued).

LABELS
Optional Parameter

is the token identifying the condition labels (the locations within the program to be branched to if the condition occurs).

LANGUAGE
Optional Parameter

is the program language.

Values for the parameter are:
`ASSEMBLER`
`COBOL`
`CPP`
`C370`
`PLI`

USERS_RSA_POINTER
Optional Parameter

is the address of the user program Register Save Area into which the program's registers are saved at each EXEC CICS command execution.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`
`MISSING_PARAMETER`

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

PGHM gate, SET_CONDITIONS function

The SET_CONDITIONS function of the PGHM gate is used to process for user EXEC CICS HANDLE CONDITION commands, and to save the details of the condition into the current condition handle table.

Input Parameters

IDENTIFIERS
is the token identifying the conditions to be handled.

LABELS_FLAGS
is the token identifying the number of conditions in this command that have associated labels.

AMODE
Optional Parameter

is the addressing mode (24-bit or 31-bit) of the program at the time the handle command was driven.

Values for the parameter are:
`AMODE24`
`AMODE31`

CURRENT_EXECUTION_KEY
Optional Parameter

is an 8-bit value indicating the current program execution key (at the time the EXEC CICS HANDLE CONDITION command was issued).

LABELS
Optional Parameter

is the token identifying the condition labels (the locations within the program to be branched to if the condition occurs).

LANGUAGE
Optional Parameter

is the program language.

Values for the parameter are:
`ASSEMBLER`
`COBOL`
`CPP`
`C370`
`PLI`

USERS_RSA_POINTER
Optional Parameter

is the address of the user program Register Save Area into which the program's registers are saved at each EXEC CICS command execution.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`
`MISSING_PARAMETER`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FASTPATH_FLAGS
Optional Parameter

identifies the fastpath flag settings for the following conditions handled by the user: RDATT, WRBRK, EOF, NOSPACE, QBUSY, NOSTG, ENQBUSY, NOJBUFSP, SIGNAL, OVERFLOW, SYSBUSY, SESSBUSY.

PGIS gate, END_BROWSE_PROGRAM function

The END_BROWSE_PROGRAM function of the PGIS gate is used to end browsing through program definitions.

Input Parameters

BROWSE_TOKEN
is a browse token referencing the next container in the container pool being browsed.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOCK_ERROR`

The following values are returned when RESPONSE is EXCEPTION:
`INVALID_BROWSE_TOKEN`

The values for the parameter are:
`NO_REASON`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGIS gate, GET_NEXT_PROGRAM function

The GET_NEXT_PROGRAM function of the PGIS gate is used to get the next program definition to be browse.

Input Parameters

BROWSE_TOKEN
: is a browse token referencing the next container in the container pool being browsed.

JVM_CLASS
: Optional Parameter

  is the name of the main class in a Java program to be run under the control of a JVM.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  ```
  ABEND
  LOCK_ERROR
  ```
  The following values are returned when RESPONSE is EXCEPTION:
  ```
  END_LIST
  INVALID_BROWSE_TOKEN
  PROGRAM_NOT_DEFINED_TO_LD
  ```
  The values for the parameter are:
  ```
  NO_REASON
  ```

PROGRAM_NAME
: is the name of the program.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACCESS
: Optional Parameter

  is the type of access for the program.

  Values for the parameter are:
  ```
  CICS
  NONE
  READ_ONLY
  USER
  ```

APIST
: Optional Parameter

  Indicates if the program is restricted to use of the CICS permitted application programming interfaces only.

  Values for the parameter are:
  ```
  CICSAPI
  OPENAPI
  ```

AVAIL_STATUS
: Optional Parameter

  defines whether (ENABLED) or not (DISABLED) the program can be used.

Values for the parameter are:
`DISABLED`
`ENABLED`

`CEDF_STATUS`
Optional Parameter

indicates whether or not the EDF diagnostic screens are displayed when the program is running under the control of the execution diagnostic facility (EDF).

Values for the parameter are:
`CEDF`
`NOCEDF`
`NOT_APPLIC`

`CONCURRENCY`
Optional Parameter

indicates whether the program is threadsafe or only quasi-reentrant.

Values for the parameter are:
`QUASIRENT`
`THREADSAFE`

`DATA_LOCATION`
Optional Parameter

defines whether the program can handle only 24-bit addresses (data located below the 16MB line) can handle 31-bit addresses (data located above or below the 16MB line). The DATALOCATION options are independent from the addressing mode of the link-edited program.

Values for the parameter are:
`ANY`
`BELOW`
`NOT_APPLIC`

`DYNAMIC_STATUS`
Optional Parameter

indicates whether or not a request to LINK to the program may be dynamically routed.

Values for the parameter are:
`DYNAMIC`
`NOTDYNAMIC`

`ENTRY_POINT`
Optional Parameter

is the token defining the entry point of the program.

`EXECUTION_KEY`
Optional Parameter

is the key in which CICS gives control to the program, and determines whether the program can modify CICS-key storage. If the program is link-edited with the RENT attribute and the RMODE(ANY) mode statement, CICS loads the program into extended the read-only DSA(ERDSA), regardless of the EXECKEY option. The ERDSA is allocated from read-only extended storage only if RENTPGM=PROTECT is specified as a system initialization parameter.

Values for the parameter are:
`CICS`
`NOT_APPLIC`
`USER`

EXECUTION_SET
Optional Parameter

indicates whether you want CICS to link to and run the program as if it were running in a remote CICS region (with or without the API restrictions of a DPL program).

Values for the parameter are:
`DPLSUBSET`
`FULLAPI`
`NOT_APPLIC`

HOLD_STATUS
Optional Parameter

is the hold status of the program (that is, for how long the program is to be loaded).

Values for the parameter are:
`CICS_LIFE`
`NOT_APPLIC`
`TASK_LIFE`

INSTALL_TYPE
Optional Parameter

is the method used to install the PROGRAM resource definition.

Values for the parameter are:
`AUTO`
`CATALOG`
`GROUPLIST`
`MANUAL`
`RDO`
`SYSAUTO`

JVM
Optional Parameter

indicates whether or not the program is to be executed under the control of a JVM (Java Virtual Machine).

Values for the parameter are:
`NO`
`YES`

JVM_PROFILE
Optional Parameter

specifies the name of the JVM profile. The named profile provides the attributes of the JVM that is needed to execute the program.

JVMPROGRAM_USE_COUNT
Optional Parameter

For Java programs to be run under the control of a JVM, the number of times the program has been used.

LANGUAGE_DEDUCED
Optional Parameter

is the language deduced by CICS for the program.

Values for the parameter are:
`ASSEMBLER`
`COBOL`
`COBOL2`
`C370`

JAVA
LE370
NOT_APPLIC
NOT_DEDUCED
PLI

LANGUAGE_DEFINED
Optional Parameter

is the language defined for the program.

Values for the parameter are:
ASSEMBLER
COBOL
C370
LE370
NOT_APPLIC
NOT_DEFINED
PLI

LANGUAGE_TOKEN
Optional Parameter

is a token representing the AP domain language block for the program.

LIBRARY
Optional Parameter

is the name of the LIBRARY concatenation from which the program was loaded.

LIBRARYDSN
Optional Parameter

is the name of the data set within the LIBRARY concatenation from which the program was loaded.

LOAD_POINT
Optional Parameter

is the load point address of the program returned by the loader domain on the ACQUIRE_PROGRAM call.

LOAD_STATUS
Optional Parameter

is the load status of the program (that is, whether or not the program can be loaded).

Values for the parameter are:
LOADABLE
NOT_APPLIC
NOT_LOADABLE
NOT_LOADED

LOCATION
Optional Parameter

defines where the program resides.

Values for the parameter are:
CDSA
ECDSA
ELPA
ERDSA
ESDSA
LPA
NONE

```
RDSA
SDSA
```

`MODULE_TYPE`
Optional Parameter

is the type of program resource to be defined.

Values for the parameter are:
```
MAPSET
PARTITIONSET
PROGRAM
```

`NEW_PROGRAM_TOKEN`
Optional Parameter

is the token assigned to program.

`PROGRAM_ATTRIBUTE`
Optional Parameter

defines the residence status of the program, and when the storage for this program is released.

Values for the parameter are:
```
RELOAD
RESIDENT
REUSABLE
TEST
TRANSIENT
```

`PROGRAM_LENGTH`
Optional Parameter

is the length of the program. returned by the loader domain on the ACQUIRE_PROGRAM call.

`PROGRAM_TYPE`
Optional Parameter

is the type of program.

Values for the parameter are:
```
NOT_APPLIC
PRIVATE
SHARED
TYPE_ANY
```

`PROGRAM_USAGE`
Optional Parameter

defines whether the program is to be used as a CICS nucleus program or as a user application program.

Values for the parameter are:
```
APPLICATION
NUCLEUS
```

`PROGRAM_USE_COUNT`
Optional Parameter

is the number of times that the program has been used.

`PROGRAM_USER_COUNT`
Optional Parameter

is the number of different users that have invoked the program.

`REMOTE_DEFINITION`
Optional Parameter

indicates whether the program is defined as remote or local.

Values for the parameter are:
- LOCAL
- REMOTE

REMOTE_PROGID
Optional Parameter

is the name by which the program is known in the remote CICS region. If you specify REMOTE_SYSID and omit REMOTE_PROGID, the REMOTE_PROGID parameter defaults to the same name as the local name (that is, the PROGRAM_NAME value.

REMOTE_SYSID
Optional Parameter

is the name of a remote CICS region if you want CICS to ship a distributed program link (DPL) request to another CICS region.

REMOTE_TRANID
Optional Parameter

is the name of the transaction you want the remote CICS to attach, and under which it is to run the remote program.

RUNTIME_ENVIRONMENT
Optional Parameter

indicates the runtime environment used for the execution of this program.

Values for the parameter are:
- JVM_RUNTIME
- LE370_RUNTIME
- NON_LE370_RUNTIME
- NOT_APPLIC
- UNKNOWN_RUNTIME
- XPLINK_RUNTIME

SPECIFIED_AMODE
Optional Parameter

is the addressing mode of the program.

Values for the parameter are:
- AMODE_ANY
- AMODE_NOT_SPECIFIED
- 24
- 31

SPECIFIED_RMODE
Optional Parameter

is the residence mode of the program.

Values for the parameter are:
- RMODE_ANY
- RMODE_NOT_SPECIFIED
- 24

PGIS gate, INQUIRE_CURRENT_PROGRAM function

The INQUIRE_CURRENT_PROGRAM function of the PGIS gate is used to inquire about the current attributes of a program (for the current invocation of the program).

Input Parameters

PROGRAM_TOKEN
Optional parameter

A token identifying the program to be terminated.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOCK_ERROR`

The following values are returned when RESPONSE is EXCEPTION:
`NO_CURRENT_PROGRAM`

The values for the parameter are:
`NO_REASON`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

AVAIL_STATUS
Optional parameter

Indicates whether or not the program can be used.

Values for the parameter are:
`DISABLED`
`ENABLED`

CEDF_STATUS
Optional parameter

Indicates whether or not the EDF diagnostic screens are displayed when the program is running under the control of the execution diagnostic facility (EDF)

Values for the parameter are:
`CEDF`
`NOCEDF`
`NOT_APPLIC`

CURRENT_AMODE
Optional parameter

The addressing mode of the program.

Values for the parameter are:
`24`
`31`

CURRENT_CEDF_STATUS
Optional parameter

Indicates whether or not the EDF diagnostic screens are displayed when the program is running under the control of the execution diagnostic facility (EDF).

Values for the parameter are:
`CEDF`
`NOCEDF`

CURRENT_ENTRY_POINT
Optional parameter

The current entry point address of the program returned by the loader domain on the ACQUIRE_PROGRAM call.

CURRENT_ENVIRONMENT
Optional parameter

Indicates the current environment in which the program is running.

Values for the parameter are:
`EXEC`
`GLUE`
`PLT`
`SYSTEM`
`TRUE`
`URM`

CURRENT_EXECUTION_SET
Optional parameter

Indicates whether the program is running with or without the API restrictions of a DPL program.

Values for the parameter are:
`DPLSUBSET`
`FULLAPI`

CURRENT_LOAD_POINT
Optional parameter

The current load point address of the program returned by the loader domain on the ACQUIRE_PROGRAM call.

CURRENT_PROGRAM_LENGTH
Optional parameter

The length of the current program in bytes, as returned by the Loader Domain on the AQUIRE_PROGRAM call.

CURRENT_PROGRAM_NAME
Optional parameter

The current name of the program.

DATA_LOCATION
Optional parameter

Indicates whether the program can handle only 24-bit addresses (data located below the 16MB line) can handle 31-bit addresses (data located above or below the 16MB line). The DATALOCATION options are independent from the addressing mode of the link-edited program.

Values for the parameter are:
`ANY`
`BELOW`
`NOT_APPLIC`

DYNAMIC_STATUS
Optional parameter

Indicates whether or not a request to LINK to the program may be dynamically routed.

Values for the parameter are:
`DYNAMIC`
`NOTDYNAMIC`

EXECUTION_KEY
Optional parameter

The key in which CICS gives control to the program, and determines whether the program can modify CICS-key storage. If the program is link-edited with the RENT attribute and the RMODE(ANY) mode statement, CICS loads the program into extended the read-only DSA(ERDSA), regardless of the

EXECKEY option. The ERDSA is allocated from read-only extended storage only if RENTPGM=PROTECT is specified as a system initialization parameter.

Values for the parameter are:
`CICS`
`NOT_APPLIC`
`USER`

`EXECUTION_SET`
Optional parameter

Indicates whether you want CICS to link to and run the program as if it were running in a remote CICS region (with or without the API restrictions of a DPL program).

Values for the parameter are:
`DPLSUBSET`
`FULLAPI`
`NOT_APPLIC`

`HOLD_STATUS`
Optional parameter

The hold status of the program (that is, for how long the program is to be loaded).

Values for the parameter are:
`CICS_LIFE`
`NOT_APPLIC`
`TASK_LIFE`

`IGNORE_EXITS`
Optional parameter

Indicates whether global user exit programs and task-related user exit programs are ignored when returning information about the program invoking this program and to which control will be returned.

Values for the parameter are:
`YES`
`NO`

`INSTALL_TYPE`
Optional parameter

The method used to install the PROGRAM resource definition.

Values for the parameter are:
`AUTO`
`CATALOG`
`GROUPLIST`
`MANUAL`
`RDO`
`SYSAUTO`

`INVOKING_ENVIRONMENT`
Optional parameter

The environment in which the program invoking this program was executing.

Values for the parameter are:
`EXEC`
`GLUE`
`PLT`
`SYSTEM`
`TRUE`

URM

INVOKING_PROGRAM_NAME

Optional parameter

The name of the program invoking this program.

LANGUAGE_DEDUCED

Optional parameter

The language deduced by CICS for the program.

Values for the parameter are:

ASSEMBLER
COBOL
COBOL2
C370
JAVA
LE370
NOT_APPLIC
NOT_DEDUCED
PLI

LANGUAGE_DEFINED

Optional parameter

The language defined for the program.

Values for the parameter are:

ASSEMBLER
COBOL
C370
LE370
NOT_APPLIC
NOT_DEFINED
PLI

LIBRARY

Optional parameter

The name of the LIBRARY concatenation from which the program was loaded.

LIBRARYDSN

Optional parameter

The name of the data set within the LIBRARY concatenation from which the program was loaded.

LOAD_STATUS

Optional parameter

The load status of the program (that is, whether or not the program can be loaded).

Values for the parameter are:

LOADABLE
NOT_APPLIC
NOT_LOADABLE
NOT_LOADED

MODULE_TYPE

Optional parameter

The type of program resource to be defined.

Values for the parameter are:

MAPSET
PARTITIONSET

`PROGRAM`

`NEW_PROGRAM_TOKEN`

Optional parameter

The token assigned to program.

`REMOTE_DEFINITION`

Optional parameter

Indicates whether the program is defined as remote or local.

Values for the parameter are:

`LOCAL`
`REMOTE`

`REMOTE_PROGID`

Optional parameter

The name by which the program is known in the remote CICS region. If you specify REMOTE_SYSID and omit REMOTE_PROGID, the REMOTE_PROGID parameter defaults to the same name as the local name (that is, the PROGRAM_NAME value).

`REMOTE_SYSID`

Optional parameter

The name of a remote CICS region if you want CICS to ship a distributed program link (DPL) request to another CICS region.

`REMOTE_TRANID`

Optional parameter

The name of the transaction you want the remote CICS to attach, and under which it is to run the remote program.

`RETURN_PROGRAM_NAME`

Optional parameter

The name of the program to which control will be returned when this program has ended.

PGIS gate, INQUIRE_PROGRAM function

The INQUIRE_PROGRAM function of the PGIS gate is used to inquire about attributes of a program.

Input Parameters

`PROGRAM_NAME`

is the name of the program resource to be defined.

`PROGRAM_TOKEN`

is the token identifying the program to be terminated.

`JVM_CLASS`

Optional Parameter

is the name of the main class in a Java program to be run under the control of a JVM.

Output Parameters

`REASON`

The following values are returned when RESPONSE is DISASTER:

`ABEND`
`LOCK_ERROR`

The following values are returned when RESPONSE is EXCEPTION:

`PROGRAM_NOT_DEFINED_TO_LD`
`PROGRAM_NOT_DEFINED_TO_PG`

The following values are returned when RESPONSE is INVALID:
`INVALID_PROGRAM_TOKEN`

The values for the parameter are:
`NO_REASON`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACCESS
Optional Parameter

is the type of access for the program.

Values for the parameter are:
`CICS`
`NONE`
`READ_ONLY`
`USER`

APIST
Optional Parameter

Indicates if the program is restricted to use of the CICS permitted application programming interfaces only.

Values for the parameter are:
`CICSAPI`
`OPENAPI`

AVAIL_STATUS
Optional Parameter

defines whether (ENABLED) or not (DISABLED) the program can be used.

Values for the parameter are:
`DISABLED`
`ENABLED`

CEDF_STATUS
Optional Parameter

indicates whether or not the EDF diagnostic screens are displayed when the program is running under the control of the execution diagnostic facility (EDF).

Values for the parameter are:
`CEDF`
`NOCEDF`
`NOT_APPLIC`

CONCURRENCY
Optional Parameter

indicates whether the program is threadsafe or only quasi-reentrant.

Values for the parameter are:
`QUASIRENT`
`THREADSAFE`

DATA_LOCATION
Optional Parameter

defines whether the program can handle only 24-bit addresses (data located below the 16MB line) can handle 31-bit addresses (data located above or below the 16MB line). The DATALOCATION options are independent from the addressing mode of the link-edited program.

Values for the parameter are:

`ANY`
`BELOW`
`NOT_APPLIC`

DYNAMIC_STATUS
Optional Parameter

indicates whether or not a request to LINK to the program may be dynamically routed.

Values for the parameter are:
`DYNAMIC`
`NOTDYNAMIC`

ENTRY_POINT
Optional Parameter

is the token defining the entry point of the program.

EXECUTION_KEY
Optional Parameter

is the key in which CICS gives control to the program, and determines whether the program can modify CICS-key storage. If the program is link-edited with the RENT attribute and the RMODE(ANY) mode statement, CICS loads the program into extended the read-only DSA(ERDSA), regardless of the EXECKEY option. The ERDSA is allocated from read-only extended storage only if RENTPGM=PROTECT is specified as a system initialization parameter.

Values for the parameter are:
`CICS`
`NOT_APPLIC`
`USER`

EXECUTION_SET
Optional Parameter

indicates whether you want CICS to link to and run the program as if it were running in a remote CICS region (with or without the API restrictions of a DPL program).

Values for the parameter are:
`DPLSUBSET`
`FULLAPI`
`NOT_APPLIC`

HOLD_STATUS
Optional Parameter

is the hold status of the program (that is, for how long the program is to be loaded).

Values for the parameter are:
`CICS_LIFE`
`NOT_APPLIC`
`TASK_LIFE`

INSTALL_TYPE
Optional Parameter

is the method used to install the PROGRAM resource definition.

Values for the parameter are:
`AUTO`
`CATALOG`
`GROUPLIST`

MANUAL
RDO
SYSAUTO

JVM
Optional Parameter

indicates whether or not the program is to be executed under the control of a JVM (Java Virtual Machine).

Values for the parameter are:
NO
YES

JVM_PROFILE
Optional Parameter

specifies the name of the JVM profile. The named profile provides the attributes of the JVM that is needed to execute the program.

JVMPROGRAM_USE_COUNT
Optional Parameter

For Java programs to be run under the control of a JVM, the number of times the program has been used.

LANGUAGE_DEDUCED
Optional Parameter

is the language deduced by CICS for the program.

Values for the parameter are:
ASSEMBLER
COBOL
COBOL2
C370
JAVA
LE370
NOT_APPLIC
NOT_DEDUCED
PLI

LANGUAGE_DEFINED
Optional Parameter

is the language defined for the program.

Values for the parameter are:
ASSEMBLER
COBOL
C370
LE370
NOT_APPLIC
NOT_DEFINED
PLI

LANGUAGE_TOKEN
Optional Parameter

is a token representing the AP domain language block for the program.

LIBRARY
Optional Parameter

is the name of the LIBRARY concatenation from which the program was loaded.

LIBRARYDSN
Optional Parameter

is the name of the data set within the LIBRARY concatenation from which the program was loaded.

LOAD_POINT
Optional Parameter

is the load point address of the program returned by the loader domain on the ACQUIRE_PROGRAM call.

LOAD_STATUS
Optional Parameter

is the load status of the program (that is, whether or not the program can be loaded).

Values for the parameter are:
```
LOADABLE
NOT_APPLIC
NOT_LOADABLE
NOT_LOADED
```

LOADER_TOKEN
Optional Parameter

The token that the loader domain uses to identify the program.

LOCATION
Optional Parameter

defines where the program resides.

Values for the parameter are:
```
CDSA
ECDSA
ELPA
ERDSA
ESDSA
LPA
NONE
RDSA
SDSA
```

MODULE_TYPE
Optional Parameter

is the type of program resource to be defined.

Values for the parameter are:
```
MAPSET
PARTITIONSET
PROGRAM
```

NEW_PROGRAM_TOKEN
Optional Parameter

is the token assigned to program.

PROGRAM_ATTRIBUTE
Optional Parameter

defines the residence status of the program, and when the storage for this program is released.

Values for the parameter are:
```
RELOAD
RESIDENT
REUSABLE
TEST
```

TRANSIENT

PROGRAM_LENGTH
Optional Parameter

is the length of the program. returned by the loader domain on the ACQUIRE_PROGRAM call.

PROGRAM_TYPE
Optional Parameter

is the type of program.

Values for the parameter are:
NOT_APPLIC
PRIVATE
SHARED
TYPE_ANY

PROGRAM_USAGE
Optional Parameter

defines whether the program is to be used as a CICS nucleus program or as a user application program.

Values for the parameter are:
APPLICATION
NUCLEUS

PROGRAM_USE_COUNT
Optional Parameter

is the number of times that the program has been used.

PROGRAM_USER_COUNT
Optional Parameter

is the number of different users that have invoked the program.

REMOTE_DEFINITION
Optional Parameter

indicates whether the program is defined as remote or local.

Values for the parameter are:
LOCAL
REMOTE

REMOTE_PROGID
Optional Parameter

is the name by which the program is known in the remote CICS region. If you specify REMOTE_SYSID and omit REMOTE_PROGID, the REMOTE_PROGID parameter defaults to the same name as the local name (that is, the PROGRAM_NAME value.

REMOTE_SYSID
Optional Parameter

is the name of a remote CICS region if you want CICS to ship a distributed program link (DPL) request to another CICS region.

REMOTE_TRANID
Optional Parameter

is the name of the transaction you want the remote CICS to attach, and under which it is to run the remote program.

RUNTIME_ENVIRONMENT
Optional Parameter

indicates the runtime environment used for the execution of this program.

Values for the parameter are:
    JVM_RUNTIME
    LE370_RUNTIME
    NON_LE370_RUNTIME
    NOT_APPLIC
    UNKNOWN_RUNTIME
    XPLINK_RUNTIME

SPECIFIED_AMODE
Optional Parameter

is the addressing mode of the program.

Values for the parameter are:
    AMODE_ANY
    AMODE_NOT_SPECIFIED
    24
    31

SPECIFIED_RMODE
Optional Parameter

is the residence mode of the program.

Values for the parameter are:
    RMODE_ANY
    RMODE_NOT_SPECIFIED
    24

PGIS gate, REFRESH_PROGRAM function

The REFRESH_PROGRAM function of the PGIS gate is used to inform the loader domain that a new copy of a named program is now available for use in the relocatable program library.

Input Parameters

COPY
indicates whether a NEWCOPY or PHASEIN function is required.

Values for the parameter are:
    NEWCOPY
    PHASEIN

PROGRAM_NAME
is the name of the program resource to be defined.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
    ABEND
    LOCK_ERROR

The following values are returned when RESPONSE is EXCEPTION:
    PROGRAM_IN_USE
    PROGRAM_LOADED_CICS_LIFE
    PROGRAM_NOT_DEFINED_TO_LD
    PROGRAM_NOT_DEFINED_TO_PG
    PROGRAM_NOT_FOUND
    REMOTE_PROGRAM

The values for the parameter are:
    NO_REASON

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

VERSION
Optional Parameter

is the version of the program after the REFRESH_PROGRAM function call.

Values for the parameter are:
`NEW`
`OLD`

PGIS gate, SET_PROGRAM function

The SET_PROGRAM function of the PGIS gate is used to set the characteristics of a program when it is loaded.

Input Parameters

PROGRAM_NAME
is the name of the program resource to be defined.

PROGRAM_TOKEN
is the token identifying the program to be terminated.

AVAIL_STATUS
Optional Parameter

defines whether (ENABLED) or not (DISABLED) the program can be used.

Values for the parameter are:
`DISABLED`
`ENABLED`

CEDF_STATUS
Optional Parameter

indicates whether or not the EDF diagnostic screens are displayed when the program is running under the control of the execution diagnostic facility (EDF).

Values for the parameter are:
`CEDF`
`NOCEDF`

EXECUTION_KEY
Optional Parameter

is the key in which CICS gives control to the program, and determines whether the program can modify CICS-key storage. If the program is link-edited with the RENT attribute and the RMODE(ANY) mode statement, CICS loads the program into extended the read-only DSA(ERDSA), regardless of the EXECKEY option. The ERDSA is allocated from read-only extended storage only if RENTPGM=PROTECT is specified as a system initialization parameter.

Values for the parameter are:
`CICS`
`USER`

EXECUTION_SET
Optional Parameter

indicates whether you want CICS to link to and run the program as if it were running in a remote CICS region (with or without the API restrictions of a DPL program).

Values for the parameter are:

DPLSUBSET
FULLAPI

JVM
Optional Parameter

indicates whether or not the program is to be executed under the control of a JVM (Java Virtual Machine).

Values for the parameter are:
NO
YES

JVM_CLASS
Optional Parameter

is the name of the main class in a Java program to be run under the control of a JVM.

JVM_PROFILE
Optional Parameter

specifies the name of the data set member that contains the JVM profile.. The named profile provides the attributes of the JVM that is needed to execute the program.

PROGRAM_ATTRIBUTE
Optional Parameter

defines the residence status of the program, and when the storage for this program is released.

Values for the parameter are:
RELOAD
RESIDENT
REUSABLE
TEST
TRANSIENT

PROGRAM_TYPE
Optional Parameter

is the type of program.

Values for the parameter are:
PRIVATE
SHARED
TYPE_ANY

PROGRAM_USAGE
Optional Parameter

defines whether the program is to be used as a CICS nucleus program or as a user application program.

Values for the parameter are:
APPLICATION
NUCLEUS

REQUIRED_AMODE
Optional Parameter

is the addressing mode of the program.

Values for the parameter are:
AMODE_ANY
24
31

REQUIRED_RMODE

Optional Parameter

is the residence mode of the program.

Values for the parameter are:

RMODE_ANY
24

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

ABEND
CATALOG_ERROR
CATALOG_NOT_OPERATIONAL
INSUFFICIENT_STORAGE
LOCK_ERROR

The following values are returned when RESPONSE is EXCEPTION:

CEDF_STATUS_NOT_FOR_MAPSET
CEDF_STATUS_NOT_FOR_PTNSET
CEDF_STATUS_NOT_FOR_REMOTE
DEBUG_BUT_NO_JVM
EXEC_KEY_NOT_FOR_MAPSET
EXEC_KEY_NOT_FOR_PTNSET
EXEC_KEY_NOT_FOR_REMOTE
EXEC_SET_NOT_FOR_MAPSET
EXEC_SET_NOT_FOR_PTNSET
EXEC_SET_NOT_FOR_REMOTE
JVM_BUT_NO_JVMCLASS
PROG_TYPE_NOT_FOR_REMOTE
PROGRAM_NOT_DEFINED_TO_LD
PROGRAM_NOT_DEFINED_TO_PG
PROGRAM_NOT_FOUND

The following values are returned when RESPONSE is INVALID:

INVALID_MODE_COMBINATION
INVALID_PROGRAM_NAME
INVALID_PROGRAM_TOKEN
INVALID_TYPE_ATTRIB_COMBIN

The values for the parameter are:

NO_REASON

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGIS gate, START_BROWSE_PROGRAM function

The START_BROWSE_PROGRAM function of the PGIS gate is used to start browsing through program definitions, optionally starting at the given program definition.

Input Parameters

PROGRAM_NAME

Optional Parameter

is the name of the program resource to be defined.

TASK_RELATED
Optional Parameter

indicates whether or not the browse is task-related. If it is task-related, storage will be obtained from the CICS storage class rather than the directory browse subpool. The default is YES.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`INVALID_DIRECTORY`
`LOCK_ERROR`

The values for the parameter are:
`NO_REASON`

BROWSE_TOKEN
is a browse token referencing a container in the container pool. This container is the first in the browse list.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGLD gate, LOAD function

The LOAD function of the PGLD gate is used to load a program in response to a CICS internal load request.

Input Parameters

HOLD_LIFETIME
determines for how long the program is to be loaded; that is, for the life-time of CICS (or until explicitly deleted) or for the lifetime of the task (unless explicitly deleted by the task).

Values for the parameter are:
`CALLER_MANAGED`
`CICS_LIFE`
`TASK_LIFE`

MODULE_TYPE
is the type of program resource to be defined.

Values for the parameter are:
`MAPSET`
`PARTITIONSET`
`PROGRAM`

PROGRAM_NAME
is the name of the program resource to be defined.

SYSTEM_AUTOINSTALL
defines whether CICS is to autoinstall the program if there is no associated PROGRAM resource definition.

Values for the parameter are:
`NO`
`YES`

LPA_ELIGIBLE
Optional Parameter

defines whether or not the program can be loaded into the MVS link pack area (LPA).

Values for the parameter are:
NO
YES

SUSPEND
Optional Parameter

This option is passed to the LDLD call, and thence to SMGF. It specifies the action in the event of a storage shortage.YES, the default value, means that the task will be suspended until storage is available. NO means that the task will be abended.

Values for the parameter are:
NO
YES

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
AUTOINSTALL_FAILED
AUTOINSTALL_INVALID_DATA
AUTOINSTALL_MODEL_NOT_DEF
AUTOINSTALL_URM_FAILED
JVM_PROGRAM
PROGRAM_NOT_DEFINED
PROGRAM_NOT_ENABLED
PROGRAM_NOT_LOADABLE
REMOTE_PROGRAM

The following values are returned when RESPONSE is INVALID:
INVALID_FUNCTION

ENTRY_POINT
is the token defining the entry point of the program.

LOAD_POINT
is the load point address of the program returned by the loader domain on the ACQUIRE_PROGRAM call.

PROGRAM_LENGTH
is the length of the program. returned by the loader domain on the ACQUIRE_PROGRAM call.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGLD gate, LOAD_EXEC function

The LOAD_EXEC function of the PGLD gate is used to load a program in response to an EXEC CICS LOAD command.

Input Parameters

HOLD_LIFETIME
determines for how long the program is to be loaded; that is, for the life-time of CICS (or until explicitly deleted) or for the lifetime of the task (unless explicitly deleted by the task).

Values for the parameter are:
`CALLER_MANAGED`
`CICS_LIFE`
`TASK_LIFE`

PROGRAM_NAME
is the name of the program resource to be defined.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`AUTOINSTALL_FAILED`
`AUTOINSTALL_INVALID_DATA`
`AUTOINSTALL_MODEL_NOT_DEF`
`AUTOINSTALL_URM_FAILED`
`JVM_PROGRAM`
`NOT_AUTHORIZED`
`NOT_INITIALIZED`
`PROGRAM_NOT_DEFINED`
`PROGRAM_NOT_ENABLED`
`PROGRAM_NOT_LOADABLE`
`REMOTE_PROGRAM`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`

ENTRY_POINT
is the token defining the entry point of the program.

LOAD_POINT
is the load point address of the program returned by the loader domain on the ACQUIRE_PROGRAM call.

PROGRAM_LENGTH
is the length of the program. returned by the loader domain on the ACQUIRE_PROGRAM call.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LANGUAGE_TOKEN
Optional Parameter

is a token representing the AP domain language block for the program.

PGLD gate, RELEASE function

The RELEASE function of the PGLD gate is used by CICS internal modules to release a program in response previously loaded by a PGLD LOAD request.

Input Parameters

PROGRAM_NAME
is the name of the program resource to be defined.

ENTRY_POINT
Optional Parameter

must be provided on RELEASE_EXEC by the caller for a program loaded with caller-managed lifetime.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`JVM_PROGRAM`

PROGRAM_NOT_DEFINED
PROGRAM_NOT_ENABLED
PROGRAM_NOT_IN_USE
PROGRAM_NOT_LOADED
PROGRAM_RELOAD_YES
REMOTE_PROGRAM

The following values are returned when RESPONSE is INVALID:
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGLD gate, RELEASE_EXEC function

The RELEASE_EXEC function of the PGLD gate is used to release a program in response to an EXEC CICS RELEASE command.

Input Parameters

PROGRAM_NAME
is the name of the program resource to be defined.

ENTRY_POINT
Optional Parameter

must be provided on RELEASE_EXEC by the caller for a program loaded with caller-managed lifetime.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
JVM_PROGRAM
NOT_AUTHORIZED
NOT_INITIALIZED
PROGRAM_NOT_DEFINED
PROGRAM_NOT_ENABLED
PROGRAM_NOT_IN_USE
PROGRAM_NOT_LOADED
PROGRAM_RELOAD_YES
RELEASE_ISSUING_PROGRAM
REMOTE_PROGRAM

The following values are returned when RESPONSE is INVALID:
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGLE gate, LINK_EXEC function

The LINK_EXEC function of the PGLE gate is used to link to a program in response to a user EXEC CICS LINK command.

Input Parameters

PROGRAM_NAME
is the name of the program resource to be defined.

CHANNEL
Optional Parameter

is the optional channel to be made available to the linked program.

COMMAREA
Optional Parameter

is the optional communications area to be made available to the linked program.

FORCE_LOCAL
Optional Parameter

indicates whether the program must execute locally.

Values for the parameter are:
NO
YES

HANDLE_ABEND_PGM
Optional Parameter

defines whether or not the program is to run as an abend handler program.

Values for the parameter are:
NO
YES

INPUTMSG
Optional Parameter

is a data area to be supplied to the linked program on its first execution of an EXEC CICS RECEIVE command.

SYNCONRETURN
Optional Parameter

defines whether or not a syncpoint is to be taken on return from the linked program.

Values for the parameter are:
NO
YES

SYSEIB_REQUEST
Optional Parameter

Specifies whether the EXEC CICS LINK had the SYSEIB translator option specified.

Values for the parameter are:
NO
YES

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
AUTOINSTALL_FAILED
AUTOINSTALL_INVALID_DATA
AUTOINSTALL_MODEL_NOT_DEF
AUTOINSTALL_URM_FAILED
AUTOSTART_DISABLED
DESTRUCTIVE_OVERLAP
DYNAMIC_PGM
INVALID_CHANNEL_NAME
INVALID_COMMAREA_ADDR
INVALID_COMMAREA_LEN
INVALID_INPUTMSG_LEN
INVALID_KEYWORDS
INVALID_TERMINAL_TYPE

JVM_PROFILE_NOT_FOUND
JVM_PROFILE_NOT_VALID
JVMPOOL_DISABLED
NO_TERMINAL
NOT_INITIALIZED
PROGRAM_NOT_AUTHORISED
PROGRAM_NOT_DEFINED
PROGRAM_NOT_ENABLED
PROGRAM_NOT_LOADABLE
REMOTE_PROGRAM
SECOND_H8_PROGRAM
SECOND_JVM_PROGRAM
SYSTEM_PROPERTIES_NOT_FND
TRANSACTION_ABEND
USER_CLASS_NOT_FOUND

ABEND_CODE
is the four-character abend code to be issued if CICS drives the system default, which is to abend the transaction.

REMOTE_PROGRAM_NAME
is the name by which the program is known in the remote CICS region. If you specify REMOTE_SYSID and omit REMOTE_PROGID, the REMOTE_PROGID parameter defaults to the same name as the local name (that is, the PROGRAM_NAME value).

REMOTE_SYSID
is the name of a remote CICS region if you want CICS to ship a distributed program link (DPL) request to another CICS region.

REMOTE_TRANID
is the name of the transaction you want the remote CICS to attach, and under which it is to run the remote program.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGLK gate, LINK function

The LINK function of the PGLK gate is used by CICS internal modules to link to a program.

Input Parameters

PROGRAM_NAME
is the name of the program resource to be defined.

SYSTEM_AUTOINSTALL
defines whether CICS is to autoinstall the program if there is no associated PROGRAM resource definition.

Values for the parameter are:
NO
YES

LPA_ELIGIBLE
Optional Parameter

defines whether or not the program can be loaded into the link pack area (LPA).

Values for the parameter are:
NO
YES

PARMLIST_PTR
Optional Parameter

is the address of a parameter list passed by the CICS program initiating the PGLK link to the new program.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
AUTOINSTALL_FAILED
AUTOINSTALL_INVALID_DATA
AUTOINSTALL_MODEL_NOT_DEF
AUTOINSTALL_URM_FAILED
AUTOSTART_DISABLED
JVM_PROFILE_NOT_FOUND
JVM_PROFILE_NOT_VALID
JVMPOOL_DISABLED
PROGRAM_NOT_DEFINED
PROGRAM_NOT_ENABLED
PROGRAM_NOT_LOADABLE
REMOTE_PROGRAM
SECOND_H8_PROGRAM
SECOND_JVM_PROGRAM
SYSTEM_PROPERTIES_NOT_FND
TRANSACTION_ABEND
USER_CLASS_NOT_FOUND

The following values are returned when RESPONSE is INVALID:
INVALID_FUNCTION

ABEND_CODE
is the four-character abend code to be issued if CICS drives the system default, which is to abend the transaction.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGLK gate, LINK_PLT function

The LINK_PLT function of the PGLK gate is used by CICS internal modules to link to a program in the program list table.

Input Parameters

PROGRAM_NAME
is the name of the program resource to be defined.

SYSTEM_AUTOINSTALL
defines whether CICS is to autoinstall the program if there is no associated PROGRAM resource definition.

Values for the parameter are:
NO
YES

LPA_ELIGIBLE
Optional Parameter

defines whether or not the program can be loaded into the link pack area (LPA).

Values for the parameter are:
NO

YES

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
AUTOINSTALL_FAILED
AUTOINSTALL_INVALID_DATA
AUTOINSTALL_MODEL_NOT_DEF
AUTOINSTALL_URM_FAILED
AUTOSTART_DISABLED
JVM_PROFILE_NOT_FOUND
JVM_PROFILE_NOT_VALID
JVMPOOL_DISABLED
PROGRAM_NOT_DEFINED
PROGRAM_NOT_ENABLED
PROGRAM_NOT_LOADABLE
REMOTE_PROGRAM
SECOND_H8_PROGRAM
SECOND_JVM_PROGRAM
SYSTEM_PROPERTIES_NOT_FND
TRANSACTION_ABEND
USER_CLASS_NOT_FOUND

The following values are returned when RESPONSE is INVALID:
INVALID_FUNCTION

ABEND_CODE
is the four-character abend code to be issued if CICS drives the system default, which is to abend the transaction.

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

PGLU gate, LINK_URM function

The LINK_URM function of the PGLU gate is used by CICS internal modules to link to a user-replaceable program.

Input Parameters

PROGRAM_NAME
is the name of the program resource to be defined.

SYSTEM_AUTOINSTALL
defines whether CICS is to autoinstall the program if there is no associated PROGRAM resource definition.

Values for the parameter are:
NO
YES

CALLER_THREADSAFE
Optional Parameter

indicates that the caller of the user-replaceable program is threadsafe, and so execution can continue on any TCB on return from the program: there is no need for PGLU to issue change_mode.

Values for the parameter are:
NO
YES

COMMAREA
Optional Parameter

is the optional communications area to be made available to the linked program.

LPA_ELIGIBLE
Optional Parameter

defines whether or not the program can be loaded into the link pack area (LPA).

Values for the parameter are:
```
NO
YES
```

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
```
AMODE_ERROR
AUTOINSTALL_FAILED
AUTOINSTALL_INVALID_DATA
AUTOINSTALL_MODEL_NOT_DEF
AUTOINSTALL_URM_FAILED
AUTOSTART_DISABLED
DESTRUCTIVE_OVERLAP
INVALID_COMMAREA_ADDR
INVALID_COMMAREA_LEN
JVM_PROFILE_NOT_FOUND
JVM_PROFILE_NOT_VALID
JVMPOOL_DISABLED
PROGRAM_NOT_DEFINED
PROGRAM_NOT_ENABLED
PROGRAM_NOT_LOADABLE
REMOTE_PROGRAM
SECOND_H8_PROGRAM
SECOND_JVM_PROGRAM
SYSTEM_PROPERTIES_NOT_FND
URM_ABEND
USER_CLASS_NOT_FOUND
```

The following values are returned when RESPONSE is INVALID:
```
INVALID_FUNCTION
```

ABEND_CODE
is the four-character abend code to be issued if CICS drives the system default, which is to abend the transaction.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGPG gate, INITIAL_LINK function

The INITIAL_LINK function of the PGPG gate is used to link to the first program of a transaction.

Input Parameters

PROGRAM_NAME
is the name of the program resource to be defined.

Output Parameters

REASON

The following values are returned when RESPONSE is EXCEPTION:

AUTOINSTALL_FAILED
AUTOINSTALL_INVALID_DATA
AUTOINSTALL_MODEL_NOT_DEF
AUTOINSTALL_URM_FAILED
AUTOSTART_DISABLED
JVM_PROFILE_NOT_FOUND
JVM_PROFILE_NOT_VALID
JVMPOOL_DISABLED
PROGRAM_NOT_DEFINED
PROGRAM_NOT_ENABLED
PROGRAM_NOT_LOADABLE
REMOTE_PROGRAM
SECOND_H8_PROGRAM
SECOND_JVM_PROGRAM
SYSTEM_PROPERTIES_NOT_FND
TRANSACTION_ABEND
USER_CLASS_NOT_FOUND

ABEND_CODE

is the four-character abend code to be issued if CICS drives the system default, which is to abend the transaction.

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGRE gate, PREPARE_RETURN_EXEC function

The PREPARE_RETURN_EXEC function of the PGRE gate is used to process the communications area, inputmsg data, and transaction identifier from a user EXEC CICS RETURN command.

Input Parameters

CHANNEL

Optional Parameter

is the optional channel to be made available to the linked program.

COMMAREA

Optional Parameter

is the optional communications area to be made available to the linked program.

ENDACTIVITY

Optional Parameter

indicates that a BTS activity is to be ended.

Values for the parameter are:

YES

IMMEDIATE

Optional Parameter

Indicates whether or not the transaction specified in TRANSID is to be attached as the next transaction regardless of any other transactions enqueued by ATI for this terminal.

Values for the parameter are:

YES

INPUTMSG

Optional Parameter

is a data area to be supplied to the linked program on its first execution of an EXEC CICS RECEIVE command.

TRANSID

Optional Parameter

is the four-character transaction identifier.

Output Parameters

REASON

The following values are returned when RESPONSE is EXCEPTION:

```
INVALID_CHANNEL_NAME
INVALID_COMMAREA_ADDR
INVALID_COMMAREA_LEN
INVALID_INPUTMSG_LEN
INVALID_KEYWORDS
INVALID_REQUEST_FROM_EXIT
INVALID_RETURN_REQUEST
INVALID_TERMINAL_TYPE
NO_TERMINAL
NOT_INITIALIZED
TRANSID_NO_TERMINAL
```

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PGXE gate, PREPARE_XCTL_EXEC function

The PREPARE_XCTL_EXEC function of the PGXE gate processes the communications area, inputmsg data, and transaction identifier from a user **EXEC CICS XCTL** command.

Input Parameters

PROGRAM_NAME

The name of the program resource to be defined.

CHANNEL

Optional Parameter

The optional channel to be made available to the linked program.

COMMAREA

Optional Parameter

The optional communications area to be made available to the linked program.

INPUTMSG

Optional Parameter

A data area to be supplied to the linked program on its first execution of an **EXEC CICS RECEIVE** command.

SECURITY

Optional Parameter

Indicates whether Program Manager must check security authorization for the target program

Values for the parameter are:

```
NO
YES
```

SYSEIB_REQUEST

Optional Parameter

Specifies whether the **EXEC CICS LINK** had the SYSEIB translator option specified.

Values for the parameter are:

```
NO
YES
```

Output Parameters

REASON

The following values are returned when RESPONSE is EXCEPTION:

```
AUTOINSTALL_FAILED
AUTOINSTALL_INVALID_DATA
AUTOINSTALL_MODEL_NOT_DEF
AUTOINSTALL_URM_FAILED
DESTRUCTIVE_OVERLAP
INVALID_CHANNEL_NAME
INVALID_COMMAREA_ADDR
INVALID_COMMAREA_LEN
INVALID_INPUTMSG_LEN
INVALID_KEYWORDS
INVALID_REQUEST_FROM_EXIT
INVALID_TERMINAL_TYPE
NO_TERMINAL
NOT_INITIALIZED
PROGRAM_NOT_AUTHORISED
PROGRAM_NOT_DEFINED
PROGRAM_NOT_ENABLED
PROGRAM_NOT_LOADABLE
REMOTE_PROGRAM
TRANSACTION_ABEND
```

ABEND_CODE

The four-character abend code to be issued if CICS drives the system default, which is to abend the transaction.

RESPONSE

Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

PGXM gate, INITIALIZE_TRANSACTION function

The INITIALIZE_TRANSACTION function of the PGXM gate is used to initialize a transaction, and set up storage for the transaction.

Output Parameters

REASON

The values for the parameter are:

```
INVALID_FUNCTION
```

RESPONSE

Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

PGXM gate, TERMINATE_TRANSACTION function

The TERMINATE_TRANSACTION function of the PGXM gate is used to terminate a transaction, and clean up the transaction-related storage at task termination.

Output Parameters

REASON
: The values for the parameter are:
  `INVALID_FUNCTION`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Program manager domain's generic gates

Table 62 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 62. Program manager domain's generic gates

Gate	Trace	Functions	Format
PGDM	PG 0101 PG 0102	INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM
PGST	PG 0F01 PG 0F02	COLLECT_STATISTICS COLLECT_RESOURCE_STATS	STST
PGUE	PG 1001 PG 1002	SET_EXIT_STATUS	APUE

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

"Statistics domain's generic formats" on page 1777

"Application Manager Domain's generic formats" on page 867

INITIALISE_DOMAIN

There are two phases to initialization of the program manager domain:

1. The DFHPGDM module creates the PG domain anchor block, the PPT directory, and the PG Lock. It also adds subpools and gates, determines whether a cold, warm, or emergency start is needed, and waits for the global catalog to be available.
2. For a warm or emergency start, the DFHPGDM module rebuilds the PPT and restores the program autoinstall system initialization parameters from the global catalog entries. (It calls the parameter manager to obtain other system initialization parameter values.)

   For a cold start, the DFHPGDM module purges all the PPT entries from the global catalog.

QUIESCE_DOMAIN

In quiesce processing, the program manager domain:

1. Sets the PG state to quiescing.
2. Ensures that the statistics domain has gathered the PG statistics by issuing a WAIT_PHASE for STATISTICS_UNAVAILABLE. This also ensures synchronization with the AP domain quiesce activity.
3. Sets the PG state to quiesced.

During quiesce porcessing, the program manager does not:

- Delete the PG gates. PG functions remain available, but the use of programs after this point does not appear in statistics (DFHSTP issues a PC LINK/ PGLK LINK to DFHWKP after AP domain waits for STATISTICS_UNAVAILABLE).
- Write PPT entries to the global catalog. PPT entries are written to the catalog only when they are installed or changed.

TERMINATE_DOMAIN

In terminate processing, the program manager domain sets the PG state to terminated, and makes the program manager domain unavailable to EXEC CICS commands.

Modules

Module	Function
DFHPGAI	A kernel subroutine called internally from the Program Manager to support the autoinstall for programs function.
DFHPGAQ	Handles the following requests: INQUIRE_AUTOINSTALL SET_AUTOINSTALL
DFHPGDD	Handles the following requests: DEFINE_PROGRAM DELETE_PROGRAM
DFHPGDM	Handles the following requests: INITIALIZE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN
DFHPGDUF	PG domain offline dump formatting routine
DFHPGEX	Handles the following requests: INITIALIZE_EXIT TERMINATE_EXIT
DFHPGHM	Handles the following requests: SET_CONDITIONS IGNORE_CONDITIONS INQ_CONDITION SET_AIDS INQ_AID SET_ABEND INQ_ABEND PUSH_HANDLE POP_HANDLE FREE_HANDLE_TABLES CLEAR_LABELS
DFHPGIS	Handles the following requests: INQUIRE_PROGRAM INQUIRE_CURRENT_PROGRAM SET_PROGRAM START_BROWSE_PROGRAM GET_NEXT_PROGRAM END_BROWSE_PROGRAM REFRESH_PROGRAM

Module	Function
DFHPGLD	Handles the following requests: LOAD_EXEC LOAD RELEASE_EXEC RELEASE
DFHPGLE	Handles the following requests: LINK_EXEC
DFHPGLK	Handles the following requests: LINK LINK_PLT
DFHPGLU	Handles the following requests: LINK_URM
DFHPGPG	Handles the following requests: INITIAL_LINK
DFHPGRE	Handles the following requests: PREPARE_RETURN_EXEC
DFHPGRP	Program manager domain recovery program, responsible for recovering program definitions from the global catalog.
DFHPGST	Handles the following requests: COLLECT_STATISTICS COLLECT_RESOURCE_STATS
DFHPGTRI	Interprets PG domain trace entries
DFHPGUE	Handles program manager domain service requests.
DFHPGXE	Handles the following requests: PREPARE_XCTL_EXEC
DFHPGXM	Handles the following requests: INITIALIZE_TRANSACTION TERMINATE_TRANSACTION

Chapter 96. Pipeline Manager Domain (PI)

The Pipeline Manager domain manages the processing of SOAP messages in a CICS pipeline.

Pipeline Manager Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the PI domain.

PIAT gate, CREATE_CONTEXT function

Creates a WSAT coordination context SOAP header.

Input Parameters

POOL_TOKEN
A token to the current container pool, which holds data used to build the header, and where the populated DFHHEADER container is placed.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
ABEND
INVALID_FORMAT
INVALID_FUNCTION
LOOP
NO_CHANNEL
PGCR_GET_ERROR
PGCR_PUT_ERROR
SMGF_ERROR
TASK_CANCELLED
TIMED_OUT
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIAT gate, CREATE_CONTEXT_RESP function

Create a null context response, which is returned when a WSAT participant send back its output.

Input Parameters

POOL_TOKEN
A token to the current container pool, which holds data used to build the header, and where the populated dfhheader container is placed.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
ABEND
INVALID_FORMAT
INVALID_FUNCTION
LOOP
NO_CHANNEL
```

PGCR_GET_ERROR
PGCR_PUT_ERROR
SMGF_ERROR
TASK_CANCELLED
TIMED_OUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIAT gate, CREATE_NON_TERMINAL_MSG function

Create a non-terminal SOAP message used in WS-AtomicTransaction two-phase commit protocol processing. Non-terminal messages anticipate a response. They are used to convey the following function requests: Prepare, Commit, Rollback, and Replay.

Input Parameters

NOTIFICATION_TYPE
Values for the parameter are:
COMMIT
PREPARE
ROLLBACK

POOL_TOKEN
A token to the current container pool, which holds data used to build the header, and where the populated DFHHEADER container is placed.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
ABEND
INVALID_FORMAT
INVALID_FUNCTION
LOOP
NO_CHANNEL
PGCR_GET_ERROR
PGCR_PUT_ERROR
SMGF_ERROR
TASK_CANCELLED
TIMED_OUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIAT gate, CREATE_REGISTER_REQUEST function

Create a WSAT registration request SOAP message.

Input Parameters

POOL_TOKEN
A token to the current container pool, which holds data used to build the header, and where the populated DFHHEADER container is placed.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
ABEND
INVALID_FORMAT

INVALID_FUNCTION
LOOP
NO_CHANNEL
PGCR_GET_ERROR
PGCR_PUT_ERROR
SMGF_ERROR
TASK_CANCELLED
TIMED_OUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIAT gate, CREATE_REGISTER_RESP function

Create a WSAT registration response SOAP message.

Input Parameters

POOL_TOKEN
A token to the current container pool, which holds data used to build the header, and where the populated DFHHEADER container is placed.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
ABEND
INVALID_FORMAT
INVALID_FUNCTION
LOOP
NO_CHANNEL
PGCR_GET_ERROR
PGCR_PUT_ERROR
SMGF_ERROR
TASK_CANCELLED
TIMED_OUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIAT gate, CREATE_TERMINAL_MSG function

Create a terminal SOAP message used in WS-AtomicTransaction two-phase commit protocol processing. Terminal messages do not anticipate a response. They are used to convey the following function requests: Prepared, Committed, Aborted, and Readonly.

Input Parameters

NOTIFICATION_TYPE
Values for the parameter are:
ABORTED
COMMITTED
PREPARED
READONLY

POOL_TOKEN
A token to the current container pool, which holds data used to build the header, and where the populated DFHHEADER container is placed.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
ABEND
INVALID_FORMAT
INVALID_FUNCTION
LOOP
NO_CHANNEL
PGCR_GET_ERROR
PGCR_PUT_ERROR
SMGF_ERROR
TASK_CANCELLED
TIMED_OUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIAT gate, PROCESS_CONTEXT function

Process a WS-AtomicTransaction coordination context header.

Input Parameters

POOL_TOKEN
A token to the current container pool, which holds data used to build the header, and where the populated DFHHEADER container is placed.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
ABEND
INVALID_FORMAT
INVALID_FUNCTION
LOOP
NO_CHANNEL
PGCR_GET_ERROR
PGCR_PUT_ERROR
SMGF_ERROR
TASK_CANCELLED
TIMED_OUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIAT gate, PROCESS_CONTEXT_RESP function

Process a context coordination response.

Input Parameters

POOL_TOKEN
A token to the current container pool

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
ABEND
INVALID_FORMAT
INVALID_FUNCTION

LOOP
NO_CHANNEL
PGCR_GET_ERROR
PGCR_PUT_ERROR
SMGF_ERROR
TASK_CANCELLED
TIMED_OUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIAT gate, PROCESS_MSG function

Process a WS-AtomicTransaction message. This can be a Register Request, a Register Response, a Non Terminal message, or a Terminal Message.

Input Parameters

POOL_TOKEN
A token to the current container pool, which holds data used to build the header, and where the populated DFHHEADER container is placed.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
ABEND
INVALID_FORMAT
INVALID_FUNCTION
LOOP
NO_CHANNEL
PGCR_GET_ERROR
PGCR_PUT_ERROR
SMGF_ERROR
TASK_CANCELLED
TIMED_OUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PICC gate, FIND_SIGNATURE function

Determine an operation from its signature

Input Parameters

OUTPUT_DATA
A pointer to the operation in the internal COMMAREA or container model (ICM)

XML_BODY_STRING
The incoming SOAP message

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
HEAP_INIT_FAILURE
INSUFFICIENT_STORAGE
INTERNAL_FAILURE
INVALID_PARSE_STATE
SAXHANDLER_LINK_FAILURE

The following values are returned when RESPONSE is EXCEPTION:

`FIXED_ELEMENT_COUNT`
`HEAP_ALLOCATE_FAILURE`
`HEAP_RELEASE_FAILURE`
`ICM_ENTRY_NOT_FOUND`
`INQUIRE_CHANNEL_FAILED`
`OUTPUT_BUFFER_OVERFLOW`
`PUT_CONTAINER_FAILED`
`SOAP_FAULT`

The following values are returned when RESPONSE is EXCEPTION:

`COMMAREA_LENGTH`
`INVALID_FUNCTION`
`INVALID_ICM_TYPE`
`INVALID_INPUT`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PICC gate, HANDLE_PARSE_EVENT function

Handle an XML parse event when located by the PL/I SAX parser

Input Parameters

EVENT_TOKEN
A pointer to the event token provided by the XML parser.

EVENT_TOKEN_LENGTH
The length of the event token.

EVENT_TYPE
A BIN(31) value indicating what event has been signaled by the parser.

HANDLER_WORK_TOKEN
A pointer to the DFHPICC work area.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

`HEAP_INIT_FAILURE`
`INSUFFICIENT_STORAGE`
`INTERNAL_FAILURE`
`INVALID_PARSE_STATE`
`SAXHANDLER_LINK_FAILURE`

The following values are returned when RESPONSE is EXCEPTION:

`FIXED_ELEMENT_COUNT`
`HEAP_ALLOCATE_FAILURE`
`HEAP_RELEASE_FAILURE`
`ICM_ENTRY_NOT_FOUND`
`INQUIRE_CHANNEL_FAILED`
`OUTPUT_BUFFER_OVERFLOW`
`PUT_CONTAINER_FAILED`
`SOAP_FAULT`

The following values are returned when RESPONSE is INVALID:

`COMMAREA_LENGTH`
`INVALID_FUNCTION`
`INVALID_INPUT`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PICC gate, PERFORM_XML_PARSE function

Parse a SOAP body and convert the data elements into a COMMAREA format.

Input Parameters

ICM_ADDRESS
The address of the internal COMMAREA or container model (ICM) which is to be used for the SOAP to COMMAREA conversion.

OUTPUT_DATA
A pointer to, and length of, the COMMAREA into which the SOAP body has been mapped.

XML_BODY_STRING
A pointer to the incoming SOAP body.

CHANNEL_NAME
The name of the channel which contains the SOAP body.

XML_HEADER_NS
Optional Parameter

A pointer to the XML namespace information for the SOAP body.

XML_OPERATION
Optional Parameter

The operation name for which the SOAP body is intended.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
HEAP_INIT_FAILURE
INSUFFICIENT_STORAGE
INTERNAL_FAILURE
INVALID_PARSE_STATE
SAXHANDLER_LINK_FAILURE

The following values are returned when RESPONSE is EXCEPTION:
FIXED_ELEMENT_COUNT
HEAP_ALLOCATE_FAILURE
HEAP_RELEASE_FAILURE
ICM_ENTRY_NOT_FOUND
INQUIRE_CHANNEL_FAILED
OUTPUT_BUFFER_OVERFLOW
PUT_CONTAINER_FAILED
SOAP_FAULT

The following values are returned when RESPONSE is INVALID:
COMMAREA_LENGTH
INVALID_FUNCTION
INVALID_INPUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIII gate, PARSE_ICM function

Convert an outbound COMMAREA or container into a SOAP body.

Input Parameters

`CHANNEL_NAME`
Optional parameter

The name of the channel which holds the container with the SOAP body.

`INPUT_COMMAREA`
The address and length of the COMMAREA or container to convert.

`OUTPUT_ICM_ADDRESS`
The address of the internal COMMAREA or container model (ICM) that defines how to map the COMMAREA or container to a SOAP body.

`OUTPUT_XML`
The address of the SOAP body.

Output Parameters

`REASON`
Values for the parameter are:

```
ABEND
BUFFER_OVERFLOW
CONTAINER_GET_FAILURE
FREEMAIN_FAILURE
GETMAIN_FAILURE
HEAP_INIT_FAILURE
ICM_NOT_FOUND
INPUT_ERROR
INSUFFICIENT_STORAGE
INVALID_FORMAT
INVALID_FUNCTION
INVALID_ICM_DATATYPE
MALLOC_FAILURE
NOT_AUTHORIZED
RELEASE_FAILURE
SEVERE_ERROR
```

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

PIIW gate, INVOKE_WEBSERVICE function

This function supports the INVOKE WEBSERVICE API where CICS is acting as Web Service Requester. Depending upon the attributes specified in the WEBSERVICE resource, it calls the Pipeline Manager (DFHPIPM) to start the pipeline, or it links directly to an application program directly.

Input Parameters

`CHANNEL`
The name of a channel which holds the container in which data is passed to the target WEBSERVICE.

`OPERATION`
The name of the operation which is to be invoked.

`WEBSERVICE`
The name of the WEBSERVICE resource.

`URI`
Optional Parameter

The URI of the target Web service. If this parameter is omitted, the WEBSERVICE resource must specify an endpoint or a program.

Output Parameters

REASON

Values for the parameter are:

CHANNEL_NOT_FOUND
CHANNEL_ERROR
CONTAINER_DATATYPE_ERR
CONTAINER_NOT_FOUND
ENDPOINT_NOT_PROVIDED
INVALID_CHANNEL_NAME
INVALID_FUNCTION
INVALID_OPERATION
INVALID_URI
INVALID_WSBIND_FORMAT
OPERATION_NOT_FOUND
PARSE_CONVERSION_ERROR
PARSE_INPUT_ERROR
PIPELINE_MODE_MISMATCH
PIPELINE_NOT_ACTIVE
PIPELINE_NOT_FOUND
PROGRAM_LINK_FAILED
SOAP_FAULT_BUILT
UNHANDLED_PIPELINE_ERROR
VENDOR_LINK_FAILED
WEBSERVICE_NOT_FOUND
WEBSERVICE_NOT_INSERVICE

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOAP_FAULT_RESP1

The response that was returned from the SOAP message handler's fault processing in the DFHWS-RESPCODES container.

SOAP_FAULT_RESP2

The reason that was returned from the SOAP message handler's fault processing in the DFHWS-RESPCODES container.

PIMM gate, BUILD_CONTENT_TYPE function

Builds a Content-Type header value from the media type and selected parameter values.

Input Parameters

ACTION

Optional parameter

A buffer for the value of the **action** parameter for the Content-Type header in the specified CCSID. This value always includes the surrounding quotes.

BOUNDARY

Optional parameter

A buffer for the value of the **boundary** parameter on the Content-Type header in the specified CCSID. This value does not have surrounding quotes.

CCSID

The fullword binary CCSID value. This is used for header value input and output parameters such as CONTENT_ID.

CHARSET

Optional parameter

A buffer for the value of the **charset** parameter on the Content-Type header in the specified CCSID. This value does not have surrounding quotes.

CONTENT_TYPE
A buffer for the Content-Type header value in the specified CCSID.

MEDIA_TYPE
Optional parameter

A buffer for the value of the media-type field for the Content-Type header in the specified CCSID. For example, `multipart/related`.

START
Optional parameter

A buffer for the value of the **start** parameter on the Content-Type header in the specified CCSID. This value does not have surrounding quotes.

START_INFO
Optional parameter

A buffer for the value of the **start-info** parameter on the Content-Type header in the specified CCSID. This value does not have surrounding quotes.

TYPE
Optional parameter

A buffer for the value of the **type** parameter in the Content-Type header in the specified CCSID. This value does not have surrounding quotes.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- OUTPUT_BUFFER_OVERFLOW
- CCSID_NOT_SUPPORTED
- MIME_HEADER_ERROR
- INVALID_CHARACTER

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIMM gate, BUILD_MIME_HEADERS function

Creates MIME headers from selected header values and stored them in a specific headers container.

Input Parameters

CCSID
The fullword binary CCSID value. This is used for header value input and output parameters such as CONTENT_ID.

CHANNEL_NAME
Optional parameter

The 16-byte name of the channel for all referenced containers. If this parameter is omitted, then the current channel is assumed.

CONTENT_DESCRIPTION
Optional parameter

A buffer for the Content-Description header value in the specified CCSID.

CONTENT_ID
Optional parameter

A buffer for the Content-ID value in the specified CCSID.

CONTENT_TRAN_ENCODING
Optional parameter

A buffer for the Content-Transfer-Encoding header value in the specified CCSID. This is the value specified on the header, without any white space or comments.

CONTENT_TYPE
Optional parameter

A buffer for the Content-Type header value in the specified CCSID.

HEADERS_CONTAINER
The 16-byte name of the headers container in the specified channel. This should be a container of DATATYPE(CHAR) that contains the MIME headers.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
CCSID_NOT_SUPPORTED
CHANNEL_NOT_FOUND
CONTAINER_NOT_FOUND
CONTAINER_CCSID_ERROR
CONTAINER_WRONG_TYPE
CONTAINER_NAME_INVALID
INVALID_CHARACTER

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIMM gate, BUILD_MIME_MESSAGE function

Combines the contents of the headers container and the body container to create a message container.

Input Parameters

The headers container and the message container are accessed using the CCSID 819. The body container is accessed using the CCSID determined from the **charset** parameter on the Content-type header.

BODY_CONTAINER
The 16-byte name of the body container in the specified channel that contains XOP or XML data. This is a container of DATATYPE(CHAR), unless it contains a binary attachment.

CHANNEL_NAME
Optional parameter

The 16-byte name of the channel for all referenced containers. If this parameter is omitted, then the current channel is assumed.

HEADERS_CONTAINER
The 16-byte name of the headers container in the specified channel. This is a container of DATATYPE(CHAR) that contains the MIME headers.

MESSAGE_CONTAINER
The 16-byte name of the message container in the specified channel. This is a container of DATATYPE(CHAR) that contains the MIME headers and the body of the message.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
CHANNEL_NOT_FOUND
CONTAINER_NOT_FOUND

CONTAINER_CCSID_ERROR
CONTAINER_WRONG_TYPE
CONTAINER_NAME_INVALID
HEADER_SYNTAX_ERROR
MIME_HEADER_ERROR
ENCODING_NOT_SUPPORTED
CHARSET_NOT_SUPPORTED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIMM gate, BUILD_MULTIPART_RELATED function

Builds a MIME Multipart/Related message from the headers and body of the root document, and the list of binary attachments. The MIME message headers and body replace the root document and headers in the specified containers.

Input Parameters

ATTACHMENTS_CONTAINER
The 16-byte name of the container in the specified channel that contains the binary attachments list.

BODY_CONTAINER
The 16-byte name of the body container in the specified channel that contains XOP or XML data. This should be a container of DATATYPE(CHAR).

CHANNEL_NAME
Optional parameter

The 16-byte name of the channel for all referenced containers. If this parameter is omitted, then the current channel is assumed.

HEADERS_CONTAINER
The 16-byte name of the headers container in the specified channel. This should be a container of DATATYPE(CHAR) that contains the MIME headers.

Output Parameters

ATTACHMENTS_COUNT
Optional parameter

The number of `<xop:Include>` elements that were processed. If the number is 0, the original body container does not include any XOP elements and has not been modified.

REASON
The following values are returned when RESPONSE is EXCEPTION:

CHANNEL_NOT_FOUND
CONTAINER_NOT_FOUND
CONTAINER_CCSID_ERROR
CONTAINER_WRONG_TYPE
HEADER_SYNTAX_ERROR
MIME_HEADER_ERROR
ENCODING_NOT_SUPPORTED
CHARSET_NOT_SUPPORTED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIMM gate, CONVERT_CID_TO_CONTENT_ID function

Converts a content-ID in the CID URI format `cid:addr-spec` to the MIME format `<addr-spec>`.

Input Parameters

CCSID
The fullword binary CCSID value. This is used for header value input and output parameters such as CONTENT_ID.

CID
A buffer for the CID URI in the specified CCSID. This should be in the format `cid:addr-spec`.

CONTENT_ID
A buffer for the Content-ID in the specified CCSID. The value should be in the format `<addr-spec>`.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
OUTPUT_BUFFER_OVERFLOW
CCSID_NOT_SUPPORTED
INVALID_CHARACTER
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIMM gate, CONVERT_CONTENT_ID_TO_CID function

Converts a content-ID in the MIME format `<addr-spec>` to the CID URI format `cid:addr-spec`.

Input Parameters

CCSID
The fullword binary CCSID value. This is used for header value input and output parameters such as CONTENT_ID.

CID
A buffer for the CID URI in the specified CCSID. This should be in the format `cid:addr-spec`.

CONTENT_ID
A buffer for the Content-ID in the specified CCSID. The value should be in the format `<addr-spec>`.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
OUTPUT_BUFFER_OVERFLOW
CCSID_NOT_SUPPORTED
INVALID_CHARACTER
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIMM gate, DELETE_ATTACHMENTS function

Deletes any header and body containers for binary attachments that are listed in the attachments container, and then deletes the attachments container itself.

Input Parameters

ATTACHMENTS_CONTAINER
The 16-byte name of the container in the specified channel that contains the binary attachments list.

CHANNEL_NAME
Optional parameter

The 16-byte name of the channel for all referenced containers. If this parameter is omitted, then the current channel is assumed.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`CHANNEL_NOT_FOUND`
`CONTAINER_WRONG_TYPE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIMM gate, GENERATE_CONTENT_ID function

Generates a unique content ID value, consisting of a locally unique value based on a timestamp and a supplied domain. The result can be obtained in both content-ID format, `<addr-spec>`, and in CID format, `cid:addr-spec`.

Input Parameters

CCSID
The fullword binary CCSID value. This is used for header value input and output parameters such as CONTENT_ID.

CHANNEL_NAME
Optional parameter

The 16-byte name of the channel for all referenced containers. If this parameter is omitted, then the current channel is assumed.

CID
Optional parameter

A buffer for the CID URI in the specified CCSID. This should be in the format `cid:addr-spec`.

CID_DOMAIN_CHARACTER
The 16-byte name of the container in the specified channel that contains the domain name. This string is used as the last part of a content-ID to identify the sysplex within which the locally unique value applies.

CONTENT_ID
Optional parameter

A buffer for the Content-ID in the specified CCSID. The value should be in the format `<addr-spec>`.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`OUTPUT_BUFFER_OVERFLOW`
`CCSID_NOT_SUPPORTED`
`INVALID_CHARACTER`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIMM gate, GET_ATTACHMENT function

Retrieves the container names for the headers and body of the binary attachment with the specified Content-ID or CID.

Input Parameters

ATTACHMENTS_CONTAINER
The 16-byte name of the container in the specified channel that contains the binary attachments list.

CCSID
The fullword binary CCSID value. This is used for header value input and output parameters such as CONTENT_ID.

CHANNEL_NAME
Optional parameter

The 16-byte name of the channel for all referenced containers. If this parameter is omitted, then the current channel is assumed.

CID
A buffer for the CID URI in the specified CCSID. This should be in the format `cid:addr-spec`. Either CID or CONTENT_ID can be used as input.

CONTENT_ID
A buffer for the Content-ID in the specified CCSID. The value should be in the format `<addr-spec>`. Either CID or CONTENT_ID can be used as input.

Output Parameters

BODY_CONTAINER
The 16-byte name of the body container in the specified channel. This is a container of DATATYPE(BIT), as it contains a binary attachment.

HEADERS_CONTAINER
The 16-byte name of the headers container in the specified channel. This is a container of DATATYPE(CHAR) that contains the MIME headers.

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
CHANNEL_NOT_FOUND
CCSID_NOT_SUPPORTED
CONTAINER_NOT_FOUND
CONTAINER_CCSID_ERROR
CONTAINER_WRONG_TYPE
ATTACHMENT_NOT_FOUND
INVALID_CHARACTER
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIMM gate, PARSE_CONTENT_TYPE function

Parses the Content-Type header and picks out selected fields as requested, including the media type and specific parameters. The media type field and **charset** parameter are converted to lower case if necessary.

Input Parameters

ACTION
Optional parameter

A buffer for the value of the **action** parameter for the Content-Type header in the specified CCSID. This value always includes the surrounding quotes.

BOUNDARY
Optional parameter

A buffer for the value of the **boundary** parameter on the Content-Type header in the specified CCSID. This value does not have surrounding quotes.

CCSID
The fullword binary CCSID value. This is used for header value input and output parameters such as CONTENT_ID.

CHARSET
Optional parameter

A buffer for the value of the **charset** parameter on the Content-Type header in the specified CCSID. This value does not have surrounding quotes.

CONTENT_TYPE
A buffer for the Content-Type header value in the specified CCSID.

MEDIA_TYPE
Optional parameter

A buffer for the value of the media type field for the Content-Type header in the specified CCSID. For example, `multipart/related`.

START
Optional parameter

A buffer for the value of the **start** parameter on the Content-Type header in the specified CCSID. This value does not have surrounding quotes.

START_INFO
Optional parameter

A buffer for the value of the **start-info** parameter on the Content-Type header in the specified CCSID. This value does not have surrounding quotes.

TYPE
Optional parameter

A buffer for the value of the **type** parameter in the Content-Type header in the specified CCSID. This value does not have surrounding quotes.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
```
OUTPUT_BUFFER_OVERFLOW
CCSID_NOT_SUPPORTED
MIME_HEADER_ERROR
INVALID_CHARACTER
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIMM gate, PARSE_MIME_HEADERS function

Retrieves selected MIME header values from a MIME headers container or a MIME message container. The results are edited into a standard format, removing excess white space and comments, and converting case-insensitive keywords to lower case.

Input Parameters

CCSID
The fullword binary CCSID value. This is used for header value input and output parameters such as CONTENT_ID.

CHANNEL_NAME
Optional parameter

The 16-byte name of the channel for all referenced containers. If this parameter is omitted, then the current channel is assumed.

CONTENT_DESCRIPTION
Optional parameter

A buffer for the Content-Description header value in the specified CCSID.

CONTENT_ID
Optional parameter

A buffer for the Content-ID header value in the specified CCSID.

CONTENT_TRAN_ENCODING
Optional parameter

A buffer for the Content-Transfer-Encoding header value in the specified CCSID. This is the value specified on the header, without any white space or comments.

CONTENT_TYPE
Optional parameter

A buffer for the Content-Type header value in the specified CCSID.

HEADERS_CONTAINER
The 16-byte name of the headers container in the specified channel. This should be a container of DATATYPE(CHAR) that contains the MIME headers.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
OUTPUT_BUFFER_OVERFLOW
CCSID_NOT_SUPPORTED
CHANNEL_NOT_FOUND
CONTAINER_NOT_FOUND
CONTAINER_CCSID_ERROR
CONTAINER_WRONG_TYPE
HEADER_SYNTAX_ERROR
MIME_HEADER_ERROR
INVALID_CHARACTER
ENCODING_NOT_SUPPORTED
CHARSET_NOT_SUPPORTED
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIMM gate, PARSE_MIME_MESSAGE function

Splits the message into headers, which are stored in a headers container, and a body which is stored in a body container.

Input Parameters

The message container and headers container are accessed using CCSID 819. The body container is accessed using the CCSID determined from the **charset** parameter on the Content-type header.

BODY_CONTAINER
The 16-byte name of the body container in the specified channel that is created to contain XOP or XML data. This is a container of DATATYPE(CHAR).

CHANNEL_NAME
Optional parameter

The 16-byte name of the channel for all referenced containers. If this parameter is omitted, then the current channel is assumed.

HEADERS_CONTAINER
: The 16-byte name of the headers container in the specified channel that is created to contain the MIME headers. This is a container of DATATYPE(CHAR).

MESSAGE_CONTAINER
: The 16-byte name of the message container in the specified channel. This should be a container of DATATYPE(CHAR) that contains the MIME headers and the body of the message.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:

  CHANNEL_NOT_FOUND
  CONTAINER_NOT_FOUND
  CONTAINER_CCSID_ERROR
  CONTAINER_WRONG_TYPE
  CONTAINER_NAME_INVALID
  HEADER_SYNTAX_ERROR
  MIME_HEADER_ERROR
  ENCODING_NOT_SUPPORTED
  CHARSET_NOT_SUPPORTED

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIMM gate, PARSE_MULTIPART_RELATED function

Parses a MIME MultipartRrelated message, splitting out the root document and the binary attachments. The root document and headers replace the contents of the original message in the container, and any binary attachments are stored in separate containers. The list of attachments is stored in the attachments list container.

Input Parameters

ATTACHMENTS_CONTAINER
: The 16-byte name of the container in the specified channel that contains the binary attachments list.

BODY_CONTAINER
: The 16-byte name of the body container in the specified channel that contains XOP or XML data. This should be a container of DATATYPE(CHAR).

CHANNEL_NAME
: Optional parameter

  The 16-byte name of the channel for all referenced containers. If this parameter is omitted, then the current channel is assumed.

HEADERS_CONTAINER
: The 16-byte name of the headers container in the specified channel. This should be a container of DATATYPE(CHAR) that contains the MIME headers.

Output Parameters

ATTACHMENTS_COUNT
: Optional parameter

The number of `<xop:Include>` elements that were processed. If the number is 0, the original body container does not include any XOP elements and has not been modified.

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
NOT_MULTIPART_RELATED
CHANNEL_NOT_FOUND
CONTAINER_NOT_FOUND
CONTAINER_CCSID_ERROR
CONTAINER_WRONG_TYPE
CONTAINER_NAME_INVALID
HEADER_SYNTAX_ERROR
MIME_HEADER_ERROR
MIME_BOUNDARY_ERROR
ROOT_PART_NOT_FOUND
ENCODING_NOT_SUPPORTED
CHARSET_NOT_SUPPORTED
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIMM gate, PUT_ATTACHMENT function

Adds the names of the headers and body containers for the binary attachment with the given content-ID or CID to the attachments container.

Input Parameters

ATTACHMENTS_CONTAINER
The 16-byte name of the container in the specified channel that contains the binary attachments list.

BODY_CONTAINER
The 16-byte name of the body container in the specified channel. This is a container of DATATYPE(BIT), as it always contains a binary attachment.

CCSID
The fullword binary CCSID value. This is used for header value input and output parameters such as CONTENT_ID.

CHANNEL_NAME
Optional parameter

The 16-byte name of the channel for all referenced containers. If this parameter is omitted, then the current channel is assumed.

CID
A buffer for the CID URI in the specified CCSID. This should be in the format `cid:addr-spec`. Either CID or CONTENT_ID can be used as input.

CONTENT_ID
A buffer for the Content-ID in the specified CCSID. The value should be in the format `<addr-spec>`. Either CID or CONTENT_ID can be used as input.

HEADERS_CONTAINER
The 16-byte name of the headers container in the specified channel. This should be a container of DATATYPE(CHAR) that contains the MIME headers.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
CHANNEL_NOT_FOUND
CCSID_NOT_SUPPORTED
CONTAINER_NAME_INVALID
```

DUPLICATE_ATTACHMENT
INVALID_CHARACTER

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIPL gate, ADD_PIPELINE function

Add a PIPELINE definition to the system.

Input Parameters

CONFIGFILE
The fully qualified name of the XML pipeline configuration file on z/OS UNIX.

PIPELINE
The name of the PIPELINE.

SHELF
The fully qualified name of a directory (or shelf) primarily for WSBIND and WSDL files.

STATUS
The initial state of the PIPELINE.

Values for the parameter are:
DISABLED
ENABLED

WSDIR
Optional Parameter

The fully qualified name of the WSBIND directory on z/OS UNIX.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
CATALOG_ERROR
DIRECTORY_ERROR
INVALID_HFSNAME
INVALID_NAME
INVALID_SHELF
INVALID_STATUS
INVALID_WSDIR
NOT_AUTHORIZED
NOT_DISABLED
WSDIR_INACCESIBLE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIPL gate, COMPLETE_PIPELINE function

Complete the installation of a PIPELINE. PIPELINEs are installed in two phases: this is the second, called after CICS initialization is complete. This function reads data from the files in z/OS UNIX and builds the internal control blocks.

Input Parameters

PIPELINE
The name of the PIPELINE.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- CATALOG_ERROR
- DIRECTORY_ERROR
- INVALID_HFSNAME
- INVALID_NAME
- INVALID_SHELF
- INVALID_STATUS
- INVALID_WSDIR
- NOT_AUTHORIZED
- NOT_DISABLED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIPL gate, DISCARD_PIPELINE function

Discard a PIPELINE.

Input Parameters

PIPELINE
The name of the PIPELINE.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- CATALOG_ERROR
- DISCARD_IN_PROGRESS
- INVALID_BROWSE_TOKEN
- NOT_AUTHORIZED
- NOT_DISABLED
- NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIPL gate, END_BROWSE_PIPELINE function

End the browse operation on the PIPELINE resources that are installed in the system.

Input Parameters

BROWSETOKEN
A token that represents the browse operation on subsequent GET_NEXT_PIPLINE and END_BROWSE requests.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- ABEND
- INVALID_BROWSE_TOKEN
- LOOP

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIPL gate, ESTABLISH_PIPELINE function

Check that a PIPELINE is in a state in which it can be used, and increment its use count.

Input Parameters

PIPELINE
The name of the PIPELINE.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
CATALOG_ERROR
INVALID_STATUS
NOT_AUTHORIZED
NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIPL gate, GET_NEXT_PIPELINE function

During a browse operation, extract information about the next PIPELINE.

Input Parameters

BROWSETOKEN
The browse token that was returned by the START_BROWSE_PIPELINE function.

CONFIGFILE_BUFF
Optional Parameter

A buffer in which the fully qualified name of the XML pipeline configuration file on z/OS UNIX is returned.

RESET
Optional Parameter

A parameter indicating whether the statistics for the PIPELINE are to be reset.

Values for the parameter are:
NO
YES

SHELF_BUFF
Optional Parameter

A buffer in which the fully qualified name of the directory (or shelf) for WSBIND and WSDL files is returned.

WSDIR_BUFF
Optional Parameter

A buffer in which the fully qualified name of the WSBIND directory on z/OS UNIX is returned.

Output Parameters

PIPELINE
The name of the PIPELINE.

REASON
The following values are returned when RESPONSE is EXCEPTION:
ABEND
BROWSE_END

INVALID_BROWSE_TOKEN
LOCK_ERROR
LOOP
PARMS_STORAGE_ERROR
SETUP_ERROR
STORAGE_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STATUS
Optional Parameter

The current status of the PIPELINE.

Values for the parameter are:
DISABLING
DISABLED
DISCARDING
ENABLED
ENABLING

TOTAL_USE_COUNT
Optional Parameter

The current use count of the PIPELINE.

PIPL gate, INQUIRE_PIPELINE function

Inquire on the attributes, state and associated resources of a PIPELINE.

Input Parameters

PIPELINE
The name of the PIPELINE.

CONFIGFILE_BUFF
Optional Parameter

A buffer in which the fully qualified name of the XML pipeline configuration file on z/OS UNIX is returned.

DERIVED_SHELF_BUFF
Optional Parameter

A buffer in which the fully qualified name of the z/OS UNIX file which contains the WSDL for the PIPELINE is returned.

SHELF_BUFF
Optional Parameter

A buffer in which the fully qualified name of the directory (or shelf) for WSBIND and WSDL files is returned.

WSDIR_BUFF
Optional Parameter

A buffer in which the fully qualified name of the WSBIND directory on z/OS UNIXis returned.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
NOT_AUTHORIZED
NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MODE
Optional Parameter

The MODE of the PIPELINE.

Values for the parameter are:
PROVIDER
REQUESTER
UNKNOWN

PIPELINE_TOKEN
Optional Parameter

A token which can be used by other parts of the domain to refer to the PIPELINE.

STATUS
Optional Parameter

The current status of the PIPELINE.

Values for the parameter are:
DISABLING
DISABLED
DISCARDING
ENABLED
ENABLING

TOTAL_USE_COUNT
Optional Parameter

The current use count of the PIPELINE.

PIPL gate, PERFORM_PIPELINE function

Perform the specified action on a PIPELINE.

Input Parameters

ACTION
The only supported action is SCAN. The PIPELINE is scanned for WSBIND files which are then installed.

Values for the parameter are:
SCAN

PIPELINE
The name of the PIPELINE.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
ABEND
DUPLICATE
INVALID_ACTION
INVALID_STATUS
LOOP
NOT_AUTHORIZED
NOT_FOUND
PIPELINE_SCAN_ERROR
SCAN_ALREADY_IN_PROGRESS
WSDIR_INACCESSIBLE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIPL gate, RELINQUISH_PIPELINE function

Relinquish the use of a PIPELINE. The use count is decremented, and if it is then zero, and the PIPELINE's state is DISABLING, the status changes to DISABLED.

Input Parameters

PIPELINE
The name of the PIPELINE.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`CATALOG_ERROR`
`NOT_AUTHORIZED`
`NOT_FOUND`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIPL gate, RESOLVE_PIPELINE function

For each PIPELINE, start a transaction to complete PIPELINE installation. The function is used at the end of domain initialization.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`ABEND`
`LOOP`
`SETUP_ERROR`
`STORAGE_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIPL gate, SET_PIPELINE function

Set a PIPELINE to DISABLED or ENABLED state.

Input Parameters

PIPELINE
The name of the PIPELINE.

STATUS
The state to be set.

Values for the parameter are:
`DISABLED`
`ENABLED`

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`INVALID_STATE`
`NOT_AUTHORIZED`

NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIPL gate, START_BROWSE_PIPELINE function

Start browsing the installed PIPELINE resources.

Input Parameters

PIPELINE
Optional Parameter

The name of the PIPELINE at which the browse is to begin.

Output Parameters

BROWSETOKEN
A token that identifies the browse operation to subsequent GET_NEXT_PIPELINE and END_BROWSE reqeusts.

REASON
Values for the parameter are:

ABEND
INVALID_PIPELINE
LOCK_ERROR
LOOP
SETUP_ERROR
STORAGE_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIPM gate, INVOKE_PROGRAM function

Invoke a PIPELINE's application programs. The function can change the transaction's context, and the request can be routed to another region.

Input Parameters

CHANNEL
The channel to be passed to the target program.

PROGRAM
The program to be invoked.

APPLID
Optional Parameter

The APPLID to be used for the execution of the application program.

RS_PUBLIC_ID
Optional Parameter

The request stream public identifier to be associated with the transaction.

TRANSID
Optional Parameter

The transaction identifier to be used to execute the application program.

USERID
Optional Parameter

The user ID to be used for the execution of the application program.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:
- ABEND
- LOCK_FAILURE
- LOOP

The following values are returned when RESPONSE is EXCEPTION:
- CHANNEL_ERROR
- CONTEXT_SWITCH_FAILED
- NO_CHANNEL
- PIPELINE_MODE_MISMATCH
- PIPELINE_NOT_ACTIVE
- PIPELINE_NOT_FOUND
- RZ_CREATE_FAILURE
- RZ_TRANSPORT_ERROR
- TARGET_PROGRAM_UNAVAILABLE
- UNHANDLED_NODE_FAILURE

The following values are returned when RESPONSE is INVALID:
- INVALID_FORMAT
- INVALID_FUNCTION

The following values are returned when RESPONSE is PURGED:
- TASK_CANCELLED
- TIMED_OUT

RESPONSE

Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

PIPM gate, INVOKE_STUB function

Invoke an application program remotely.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:
- ABEND
- LOCK_FAILURE
- LOOP

The following values are returned when RESPONSE is EXCEPTION:
- CHANNEL_ERROR
- CONTEXT_SWITCH_FAILED
- NO_CHANNEL
- PIPELINE_MODE_MISMATCH
- PIPELINE_NOT_ACTIVE
- PIPELINE_NOT_FOUND
- RZ_CREATE_FAILURE
- RZ_TRANSPORT_ERROR
- TARGET_PROGRAM_UNAVAILABLE
- UNHANDLED_NODE_FAILURE

The following values are returned when RESPONSE is INVALID:
- INVALID_FORMAT
- INVALID_FUNCTION

The following values are returned when RESPONSE is PURGED:
- TASK_CANCELLED

TIMED_OUT

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIPM gate, START_PIPELINE function

Start a requester or provider pipeline.

Input Parameters

MODE

Parameter indicating whether the pipeline is to be started for a service requester or for a service provider.

Values for the parameter are:

PROVIDER
REQUESTER

PIPELINE

The name of the PIPELINE resource.

CHANNEL

Optional Parameter

The name of a channel holding containers to be passed to the pipeline.

TRANSPORT_NAME

Optional Parameter

Depending upon the value of the TRANSPORT_TYPE parameter, the name of a TCPIPSERVICE or an MQ queue to be passed to the pipeline.

TRANSPORT_TYPE

Optional Parameter

Parameter indicating the type of transport.

Values for the parameter are:

HTTP
MQ

WEBSERVICE

Optional Parameter

The name of the WEBSERVICE to be invoked for this pipeline.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

ABEND
LOCK_FAILURE
LOOP

The following values are returned when RESPONSE is EXCEPTION:

CHANNEL_ERROR
CONTEXT_SWITCH_FAILED
NO_CHANNEL
PIPELINE_MODE_MISMATCH
PIPELINE_NOT_ACTIVE
PIPELINE_NOT_FOUND
RZ_CREATE_FAILURE
RZ_TRANSPORT_ERROR
TARGET_PROGRAM_UNAVAILABLE
UNHANDLED_NODE_FAILURE

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

The following values are returned when RESPONSE is PURGED:
`TASK_CANCELLED`
`TIMED_OUT`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIRE gate, PERFORM_RESYNC function

Resynchronize any WS-AtomicTransaction units of work that are indoubt, following a restart of CICS.

Input Parameters

None.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`ALREADY_IN_RESYNC`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PISC gate, DYN_CREATE_WEBSERVICE function

This function dynamically creates a WEBSERVICE resource via a PIPELINE scan.

Input Parameters

PIPELINE
The name of the PIPELINE resource that owns the WEBSERVICE.

WSBIND
The fully qualified location of the Web service binding file in the pickup directory in the z/OS UNIX file system.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`CREATE_FAILED`
`DISCARD_FAILED`
`INQUIRE_FAILED`
`INQUIRE_HFS_FAILED`
`NAME_CLASH`
`NO_UPDATE_NEEDED`
`UPDATE_PENDING`
`WSDL_NAME_TOO_LONG`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PISC gate, UPDATE_WEBSERVICE function

This function completes the updating of a WEBSERVICE resource. It is invoked when the use count for a WEBSERVICE which is in UPDATING state reaches zero.

Input Parameters

WEBSERVICE
: The name of the WEBSERVICE whose update is to be completed.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
    `CREATE_FAILED`
    `DISCARD_FAILED`
    `INQUIRE_FAILED`
    `INQUIRE_HFS_FAILED`
    `NAME_CLASH`
    `NO_UPDATE_NEEDED`
    `UPDATE_PENDING`
    `WSDL_NAME_TOO_LONG`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PISF gate, SOAPFAULT_ADD function

Add extra data to a SOAP fault created by the SOAPFAULT_CREATE function.

Input Parameters

FAULT_STRING
: The description of the fault in a readable form.

SUBCODE_STRING
: The value to put in the `<subcode>` element of a SOAP fault.

CCSID
: Optional Parameter

  The CCSID of the input.

NATLANG
: Optional Parameter

  The `xml:lang` value for the FAULT_STRING

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
    `CCSID_CONVERSION_ERROR`
    `CCSID_INVALID`
    `CCSID_PARTIAL_CONVERSION`
    `CCSID_UNSUPPORTED`
    `INVALID_CODE`
    `INVALID_REQUEST`
    `NO_FAULT`
    `SEVERE_ERROR`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PISF gate, SOAPFAULT_CREATE function

Create a SOAP fault in an internal format.

Input Parameters

FAULT_STRING
The description of the fault in a readable form.

FAULTCODE
The standard SOAP fault code to use

FAULTCODE_STRING
The value to use for the `<faultcode>` element instead of a standard one.

CCSID
Optional Parameter

The CCSID of the input.

DETAIL
Optional Parameter

XML containing detailed fault data.

FAULT_ACTOR
Optional Parameter

The value to put in the `<faultactor>` element.

NATLANG
Optional Parameter

The `xml:lang` value for the FAULT_STRING parameter.

ROLE
Optional Parameter

The value to put in the `<role>` element.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- CCSID_CONVERSION_ERROR
- CCSID_INVALID
- CCSID_PARTIAL_CONVERSION
- CCSID_UNSUPPORTED
- INVALID_CODE
- INVALID_REQUEST
- SEVERE_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PISF gate, SOAPFAULT_DELETE function

Delete the internal form of a SOAP fault.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- NO_FAULT
- NOT_FOUND
- SEVERE_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PISN gate, SOAP_11 function

Start a message handler to process SOAP 1.1 messages.

Output Parameters

SOAPFAULT
: indicates whether a SOAP fault has been built.

  Values for the parameter are:
  `NONE`
  `FAULT_BUILT`

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `ABEND`
  `BAD_FAULT`
  `SEVERE_ERROR`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PISN gate, SOAP_12 function

Start a message handler to process SOAP 1.2 messages.

Output Parameters

SOAPFAULT
: indicates whether a SOAP fault has been built.

  Values for the parameter are:
  `NONE`
  `FAULT_BUILT`

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `ABEND`
  `BAD_FAULT`
  `SEVERE_ERROR`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PITC gate, ISSUE function

Sends a request to the Security Token Service to issue a username token in exchange for a security token from the WS-Security message header.

Input parameters

DESTINATION_URI_BLOCK
: The URI of the Security Token Service endpoint on the network.

SERVICE_URI_BLOCK
: The URI of the Web service that the Security Token should issue a token for to CICS. This URI is taken from the `appliesTo` field.

TRUST_LEVEL
: Optional parameter.

  The level of WS-Trust that CICS supports.

SECURITY_TOKEN_BLOCK
: Optional parameter.

  The security token that the Security Token Service should exchange.

AUTHTOKEN_TYPE_BLOCK
: The URI and localname of the token type that should be returned by the Security Token Service.

RETURNED_SECTOK_BUFF
A buffer for the token that is returned by the Security Token Service.

RESPONSE_TOKEN
The token that is issued by the Security Token Service.

Output parameters

PASSWORD
Optional parameter.

The password that is returned by the Security Token Service.

USERNAME
Optional parameter.

The user name that is returned by the Security Token Service.

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
NOT_FOUND
BUFFER_TOO_SMALL
CHANNEL_ERROR
CONTAINER_ERROR
INVALID_URI
ENDPOINT_NOT_PROVIDED
SOAP_FAULT_BUILT
UNHANDLED_PIPELINE_ERROR
TIMED_OUT
NO_TRUST_REPLY
TRUST_PARSE_FAILED
TRUST_FAULT
INVALID_TRUST_REPLY
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PITC gate, VALIDATE function

Sends a request to the Security Token Service to validate a security token from the WS-Security message header.

Input parameters

DESTINATION_URI_BLOCK
The URI of the Security Token Service endpoint on the network.

TRUST_LEVEL
The level of WS-Trust that is supported in CICS.

SECURITY_TOKEN_BLOCK
The security token that should be validated by the Security Token Service.

RETURNED_SECTOK_BUFF
A buffer for the validation response that is returned by the Security Token Service.

RESPONSE_TOKEN
A unique reference that identifies the request to CICS.

Output parameters

STATUS
The status of the security token that was passed to the Security Token Service for verification. Values are:

TRUST_VALID
The Security Token Service has confirmed that the security token is valid.

TRUST_INVALID
The Security Token Service has confirmed that the security token is invalid.

TRUST_UNKNOWN
The Security Token Service was unable to verify the security token.

REASON
The following values are returned when RESPONSE is EXCEPTION:
- NOT_FOUND
- BUFFER_TOO_SMALL
- CHANNEL_ERROR
- CONTAINER_ERROR
- INVALID_URI
- ENDPOINT_NOT_PROVIDED
- SOAP_FAULT_BUILT
- UNHANDLED_PIPELINE_ERROR
- TIMED_OUT
- NO_TRUST_REPLY
- TRUST_PARSE_FAILED
- TRUST_FAULT
- INVALID_TRUST_REPLY

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PITC gate, GET_RESPONSE function

Retrieves the response message from the Security Token Service.

Input parameters

RESPONSE_TOKEN
The security token that is issued by the Security Token Service.

RETURNED_SECTOK_BUFF
A buffer for the security token that is issued by the Security Token Service.

Output parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- NOT_FOUND
- BUFFER_TOO_SMALL

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PITC gate, TRUST_CLIENT function

Decides what security handler processing should take place in the pipeline.

Input parameters

WSSE_CONFIG
A pointer to the pipeline configuration file details that are stored in memory.

WSSE_PROGRAM
The name of the security handler program.

CHANNEL_TOKEN
The token for the current channel that is being used by the pipeline.

POOL_TOKEN
The token that identifies the pool of containers that is being used by the current channel in the pipeline.

MODE
The mode of the pipeline, either a service requester or service provider.

DIRECTION
The direction for the message, either a request message or response message.

Output parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`TRUST_FAULT`
`INVALID_SECURITY_CONTENT`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PITG gate, SEND_REQUEST function

| Send a Web service request. This is a generic format for the PITH gate (HTML
| transport), PITQ gate (WMQ transport), and PITS gate (CICS transport).

Input Parameters

None

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`INVALID_CODEPAGE`
`SOCKET_ERROR`
`UNKNOWN_HOST`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

The following values are returned when RESPONSE is DISASTER:
`ABEND`
`MQ_FAILURE`

The following values are returned when RESPONSE is EXCEPTION:
`INSUFFICIENT_STORAGE`
`INVALID_PARAMETER`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PITG gate, SEND_RESPONSE function

| Send a Web service response. This is a generic format for the PITH gate (HTML
| transport), PITQ gate (WMQ transport), and PITS gate (CICS transport).

Input Parameters

None

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `INVALID_CODEPAGE`
  `SOCKET_ERROR`
  `UNKNOWN_HOST`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_FORMAT`
  `INVALID_FUNCTION`

  The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `MQ_FAILURE`

  The following values are returned when RESPONSE is EXCEPTION:
  `INSUFFICIENT_STORAGE`
  `INVALID_PARAMETER`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PITG gate, CONVERSE function

| Send a Web service request and receive the reply. This is a generic format for the
| PITH gate (HTML transport), PITQ gate (WMQ transport), and PITS gate (CICS
| transport).

Input Parameters

None

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `INVALID_CODEPAGE`
  `SOCKET_ERROR`
  `UNKNOWN_HOST`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_FORMAT`
  `INVALID_FUNCTION`

  The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `MQ_FAILURE`

  The following values are returned when RESPONSE is EXCEPTION:
  `INSUFFICIENT_STORAGE`
  `INVALID_PARAMETER`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PITG gate, RECEIVE_REQUEST function

Receive a Web service request. This is a generic format for the PITH gate (HTML transport), PITQ gate (WMQ transport), and PITS gate (CICS transport).

Input Parameters

None

Output Parameters

REASON

The following values are returned when RESPONSE is EXCEPTION:

`CODEPAGE_NOT_FOUND`
`CONNECTION_CLOSED`
`SOCKET_ERROR`

The following values are returned when RESPONSE is INVALID:

`INVALID_FORMAT`
`INVALID_FUNCTION`

The following values are returned when RESPONSE is DISASTER:

`ABEND`
`MQ_FAILURE`

The following values are returned when RESPONSE is EXCEPTION:

`INSUFFICIENT_STORAGE`
`INVALID_PARAMETER`

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PITG gate, SEND_ERROR_RESPONSE function

Send a Web service error response. This is a generic format for the PITH gate (HTML transport), PITQ gate (WMQ transport), and PITS gate (CICS transport).

Input Parameters

None

Output Parameters

REASON

The following values are returned when RESPONSE is INVALID:

`INVALID_FORMAT`
`INVALID_FUNCTION`

The following values are returned when RESPONSE is DISASTER:

`ABEND`
`MQ_FAILURE`

The following values are returned when RESPONSE is EXCEPTION:

`INSUFFICIENT_STORAGE`
`INVALID_PARAMETER`

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PITL gate, PROCESS_SOAP_REQUEST function

Process a SOAP body received on a SOAP pipeline

Output Parameters

REASON

The following values are returned when RESPONSE is EXCEPTION:

```
ABEND
APP_FAULT
CONV_FROM_SOAP_FAILED
CONV_TO_SOAP_FAILED
INBOUND_VALIDATION_FAILED
INVALID_FORMAT
INVALID_FUNCTION
LOOP
NOT_AUTHORIZED
OPERATION_NOT_FOUND
OUTBOUND_VALIDATION_FAILED
SEVERE_ERROR
SOAP_BODY_CONTAINER_FAULT
TARGET_ABENDED
TARGET_LINK_FAILED
VENDOR_LINK_FAILED
WSBIND_FORMAT_INVALID
```

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIWR gate, CREATE_WEBSERVICE function

Create a new WEBSERVICE resource.

Input Parameters

PIPELINE

The pipeline which will own the WEBSERVICE.

WEBSERVICE

The name of the WEBSERVICE.

WSBIND_BUF

The location of the Web service binding file in the z/OS UNIX file system.

SCAN_MODE

Optional Parameter

Indicates whether the WEBSERVICE is being scanned in or not.

Values for the parameter are:

```
NO
YES
```

VALIDATION

Optional Parameter

Indicates whether validation is enabled for the WEBSERVICE.

Values for the parameter are:

```
NO
YES
```

WARM_RESTART

Optional Parameter

Indicates whether the WEBSERVICE is to be recovered from the catalog during a warm restart.

Values for the parameter are:
- `NO`
- `YES`

WSDLFILE_BUF
Optional Parameter

The location of the optional Web service description (WSDL) file in the z/OS UNIX file system.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- `ABEND`
- `DIRECTORY_ERROR`
- `INSUFFICIENT_STORAGE`
- `LOCK_FAILURE`
- `PIPELINE_ERROR`
- `PIPELINE_NON_EXISTANT`
- `SEVERE_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIWR gate, DECREMENT_USE_COUNT function

Decrement the current use count for a WEBSERVICE. When it reaches 0 and if the WEBSERVICE is updating or discarding then the completion of the update or discard operation will be triggered.

Input Parameters

WEBSERVICE
The name of the WEBSERVICE.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- `ABEND`
- `SEVERE_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIWR gate, DISCARD_WEBSERVICE function

This function discards a WEBSERVICE resource.

Input Parameters

WEBSERVICE
The name of the WEBSERVICE.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- `ABEND`
- `NOT_AUTHORIZED`

`SEVERE_ERROR`
`WEBSERVICE_IN_USE`
`WEBSERVICE_NOT_FOUND`

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

PIWR gate, END_BROWSE_WEBSERVICE function

This function ends a browse operation for WEBSERVICE resources.

Input Parameters

BROWSE_TOKEN
The browse token for the browse operation.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`INVALID_BROWSE_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

PIWR gate, GET_NEXT_WEBSERVICE function

Get the next WEBSERVICE resource during a browse operation.

Input Parameters

BROWSE_TOKEN
The browse token for the browse operation.

BINDING_BUF
Optional Parameter

A buffer in which the WSDL binding value is returned.

ENDPOINT_BUF
Optional Parameter

A buffer in which the end point URI is returned.

RESET
Optional Parameter

A flag that indicates if the use count is to be reset to zero.

Values for the parameter are:
`NO`
`YES`

WSBIND_BUF
Optional Parameter

A buffer in which the location of the Webservice binding file in the z/OS UNIX file system is returned.

WSDLFILE_BUF
Optional Parameter

A buffer in which the location of the Web service description (WSDL) file in the z/OS UNIX file system is returned.

Output Parameters

DATESTAMP
The date stamp of the Web service binding file

LASTMODTIME
The time at which the Web service binding file was last changed.

PGMINTERFACE
The type of interface used by the target program

Values for the parameter are:
`CHANNEL`
`COMMAREA`

PIPELINE
The pipeline which owns the WEBSERVICE.

PROGRAM
The target program.

REASON
The following values are returned when RESPONSE is EXCEPTION:
`BROWSE_END`
`INVALID_BROWSE_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STATE
The current state of the WEBSERVICE.

Values for the parameter are:
`DISCARDING`
`INITING`
`INSERVICE`
`UNUSABLE`
`UPDATING`

TIMESTAMP
The time stamp of the Web service binding file.

URIMAP
The name of the URIMAP that is associated with the WEBSERVICE.

VALIDATION
Indicates whether validation is enabled for the WEBSERVICE.

Values for the parameter are:
`NO`
`YES`

WEBSERVICE
The name of the WEBSERVICE.

TOTAL_USE_COUNT
Optional Parameter

The current use count for the WEBSERVICE.

PIWR gate, INCREMENT_USE_COUNT function

Increment the use count for the named WEBSERVICE.

Input Parameters

WEBSERVICE
The name of the WEBSERVICE.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`ABEND`
`SEVERE_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIWR gate, INITIALISE_WEBSERVICE function

Resolve the z/OS UNIX parts of a WEBSERVICE. The function takes a WEBSERVICE which is in INSTALLING state to either INSERVICE or UNUSABLE state.

Input Parameters

WEBSERVICE
The name of the WEBSERVICE.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
```
ABEND
EYECATCHER_ERROR
FILE_NOT_FOUND
INSUFFICIENT_STORAGE
NOT_AUTHORIZED
PIPELINE_ERROR
PIPELINE_WRONG_MODE
READ_ERROR
SEVERE_ERROR
SHELF_WRITE_ERROR
VERSION_ERROR
WEBSERVICE_NOT_FOUND
```
RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIWR gate, INQUIRE_WEBSERVICE function

Inquire on a WEBSERVICE resource.

Input Parameters

WEBSERVICE
The name of the WEBSERVICE.

BINDING_BUF
Optional Parameter

A buffer in which the WSDL binding value is returned.

ENDPOINT_BUF
Optional Parameter

A buffer in which the endpoint URI is returned.

WSBIND_BUF
Optional Parameter

A buffer in which the location of the Web service binding file in z/OS UNIX is returned.

WSDLFILE_BUF
Optional Parameter

A buffer in which the location of the optional Web service description (WSDL) file in z/OS UNIX is returned.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `ABEND`
  `NOT_AUTHORIZED`
  `SEVERE_ERROR`
  `WEBSERVICE_NOT_FOUND`

RESPONSE
: Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

CONTAINER
: Optional Parameter

  The name of the container for the target program's data.

DATESTAMP
: Optional Parameter

  The date stamp of the Web service binding file.

LASTMODTIME
: Optional Parameter

  The time at which the Web service binding file was last changed.

PGMINTERFACE
: Optional Parameter

  The type of interface used by the target program

  Values for the parameter are:
  `CHANNEL`
  `COMMAREA`
  `NOTAPPLIC`

PGMINTERFACE
: The type of interface used by the target program

  Values for the parameter are:
  `CHANNEL`
  `COMMAREA`
  `NOTAPPLIC`

PIPELINE
: Optional Parameter

  The pipeline which owns the WEBSERVICE.

PROGRAM
: Optional Parameter

  The target program.

STATE
: Optional Parameter

  The current state of the WEBSERVICE.

  Values for the parameter are:
  `DISCARDING`
  `INITING`
  `INSERVICE`
  `UNUSABLE`
  `UPDATING`

TIMESTAMP
: Optional Parameter

  The time stamp of the Web service binding file.

TOTAL_USE_COUNT
Optional Parameter

The total use count for the WEBSERVICE.

URIMAP
Optional Parameter

The name of the URIMAP that is associated with the WEBSERVICE.

VALIDATION
Optional Parameter

Indicates whether validation is enabled for the WEBSERVICE.

Values for the parameter are:
`NO`
`YES`

WSADDR
Optional Parameter

The address of the WEBSERVICE control block.

PIWR gate, RESOLVE_ALL_WEBSERVICES function

Resolve all WEBSERVICE resources for a given pipeline that are in INITING state.

Input Parameters

PIPELINE
Optional Parameter

The pipeline for which WEBSERVICE resources are to be resolved.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`ABEND`
`SEVERE_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIWR gate, SET_WEBSERVICE function

Change the state of a WEBSERVICE resource.

Input Parameters

VALIDATION
The new validation state for the WEBSERVICE.

Values for the parameter are:
`NO`
`YES`

WEBSERVICE
The name of the WEBSERVICE.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`ABEND`
`DUPLICATE`
`NOT_AUTHORIZED`

SEVERE_ERROR
WEBSERVICE_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIWR gate, START_BROWSE_WEBSERVICE function

Start a browse operation on WEBSERVICE resources.

Output Parameters

BROWSE_TOKEN
The browse token for the browse operation.

REASON
The following values are returned when RESPONSE is EXCEPTION:
ABEND
BROWSE_END
DIRECTORY_ERROR
DUPLICATE
FILE_NOT_FOUND
FREEMAIN_FAILURE
INSUFFICIENT_STORAGE
INVALID_BROWSE_TOKEN
INVALID_FORMAT
INVALID_FUNCTION
LOCK_FAILURE
LOOP
NO_WEBS_INSTALLED
NOT_AUTHORIZED
PIPELINE_ERROR
PIPELINE_NON_EXISTANT
PIPELINE_WRONG_MODE
READ_ERROR
SEVERE_ERROR
SHELF_WRITE_ERROR
WEBSERVICE_IN_USE
WEBSERVICE_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIXI gate, PARSE_XOP function

Converts the XOP message back to standard XML, by replacing any `xop:Include` elements with the base64binary encoded data from the corresponding binary attachment. If there are no XOP elements, nothing is changed.

Input Parameters

ATTACHMENTS_CONTAINER
The 16-byte name of the container in the specified channel that contains the binary attachments list.

BODY_CONTAINER
The 16-byte name of the body container in the specified channel that contains XOP or XML data. This should be a container of DATATYPE(CHAR).

CHANNEL_NAME
Optional parameter

The 16-byte name of the channel for all referenced containers. If this parameter is omitted, then the current channel is assumed.

NAMESPACES_CONTAINER
Optional parameter

The 16-byte name of the container in the specified channel that contains the list of namespaces. The syntax is `xmlns:prefix="value"`.

Output Parameters

ATTACHMENTS_COUNT
The number of `<xop:Include>` elements that were processed. If the number is 0, the original body container does not include any XOP elements and has not been modified.

REASON
The following values are returned when RESPONSE is EXCEPTION:
- CHANNEL_NOT_FOUND
- CONTAINER_NOT_FOUND
- CONTAINER_CCSID_ERROR
- CONTAINER_WRONG_TYPE
- ATTACHMENT_NOT_FOUND
- INPUT_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIXO gate, BUILD_XOP function

Converts a standard XML message with base64binary encoded data into XOP format with separate binary attachments.

Input Parameters

ATTACHMENTS_CONTAINER
The 16-byte name of the container that contains the attachments list in the specified channel.

BODY_CONTAINER
The 16-byte name of the body container in the specified channel that contains XOP or XML data. This should be a container of DATATYPE(CHAR).

CHANNEL_NAME
Optional parameter

The 16-byte name of the channel for all referenced containers. If this parameter is omitted, then the current channel is assumed.

CID_DOMAIN_CONTAINER
The 16-byte name of the container that contains the domain name string that should be used as the last part of the content-ID, to identify the sysplex within which the locally unique value applies.

Output Parameters

ATTACHMENTS_COUNT
The number of `<xop:Include>` elements that were processed. If the number is 0, the original body container does not include any XOP elements and has not been modified.

REASON
The following values are returned when RESPONSE is EXCEPTION:
- CHANNEL_NOT_FOUND
- CONTAINER_NOT_FOUND
- CONTAINER_CCSID_ERROR

```
CONTAINER_WRONG_TYPE
CONTAINER_NAME_INVALID
INPUT_ERROR
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Pipeline Manager domain's generic gates

Table 63 summarizes the Pipeline Manager domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gate, the functions provided by the gate, and the generic format for calls to the gate.

Table 63. Pipeline Manager domain's generic gates

Gate	Trace	Function	Format
PIDM	PI 0100 PI 0101	INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM
PIST	PI 0200 PI 0201	COLLECT_STATISTICS COLLECT_RESOURCE_STATS	STST

Modules

Module	Function
DFHPIA1	Supports inbound and outbound WS-Addressed SOAP messages.
DFHPIAD	Supports the WS-Addressing API.
DFHPIAP	Remote stub program.
DFHPIAT	Supports PI domain's atomic transactions functions.
DFHPICA	CICS program for handling SCA composite resource type.
DFHPICC	Marshal XML body to COMMAREA and channel data.
DFHPIDM	Domain initialization and termination program.
DFHPIDSH	The pipeline HTTP inbound router module. Starts a service provider pipeline by issuing a DFHPIPM START_PIPELINE call to the pipeline manager.
DFHPIDUF	PI domain dump formatting program.
DFHPIII	ICM interpreter.
DFHPIIT	PI installation assist transaction program
DFHPIIW	Pipeline manager support for PIIW gate.
DFHPILN	Pipeline callback program
DFHPIMM	MIME Multipart/Related module that parses inbound MIME messages with binary attachments and builds outbound MIME messages.
DFHPIPA	SOAP envelope SAX parser
DFHPIPL	PIPL gate functions
DFHPIPM	Pipeline manager domain gate
DFHPIRT	The pipeline HTTP outbound router module. Starts a service requester pipeline by issuing a DFHPIPM START_PIPELINE call to the pipeline manager.

Module	Function
DFHPISF	SOAP fault API support.
DFHPISN	SOAP node support.
DFHPISN1	SOAP 1.1 handler program.
DFHPISN2	SOAP 1.2 handler program.
DFHPIST	Pipeline manager's statistics gate.
DFHPITC	Trust handler client module
DFHPITH	The pipeline HTTP transport management program which performs the functions of the PITG gate.
DFHPITL	Top level Web service module
DFHPITP	PI domain's EXEC layer program
DFHPITQ	WebSphere MQ (WMQ) transport.
DFHPITQ1	CICS SOAP WMQ Transport program.
DFHPITRI	PI domain trace formatting program.
DFHPITS	The pipeline transport management program
DFHPIWR	WEBSERVICE resource functions.
DFHPIWT	Work request manager.
DFHPIXI	XOP parsing interface for handling inbound MIME Multipart/Related messages in compatibility mode.
DFHPIXO	XOP parsing interface for handling outbound MIME Multipart/Related messages in compatibility mode.

Chapter 97. Partner Management Domain (PT)

The partner domain provides services to coordinate flows between two CICS tasks.

Partner Management Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the PT domain.

PTTW gate, BREAK_PARTNERSHIP function

Break an established partnership.

Input Parameters

STATE_TOKEN
The state_token used to manage the handshake

COMPLETION_CODE
Optional Parameter

The completion code to be passed to the partner. The caller can use this to notify partner why the partnership is being broken. Once read the completion code is reset to zero. This is optional so that the caller can pass exactly one completion code when calling trigger_partner followed by break_partnership. The completion code is ignored if the resulting state is not_made.

Output Parameters

REASON
The values for the parameter are:

```
NOT_FOUND
NOT_PARTNER
PARTNERSHIP_NOT_MADE
```

PARTNER_COMPLETION_CODE
The partner's completion code indicates why the partner broke the partnership.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

NEW_TRIGSTATE1
Optional Parameter

The state of partner 1 after the request.

Values for the parameter are:

```
RESUMED
TRIGGERED
UNDEFINED
VALID
WAITING
```

NEW_TRIGSTATE2
Optional Parameter

The state of partner 2 after the request.

Values for the parameter are:

```
RESUMED
TRIGGERED
UNDEFINED
```

VALID
WAITING

OLD_TRIGSTATE1
Optional Parameter

The state of partner 1 before the request.

Values for the parameter are:
RESUMED
TRIGGERED
UNDEFINED
VALID
WAITING

OLD_TRIGSTATE2
Optional Parameter

The state of partner 2 before the request.

Values for the parameter are:
RESUMED
TRIGGERED
UNDEFINED
VALID
WAITING

PTTW gate, CREATE_PARTNERSHIP function

Create a new state block to represent a partnership, and add it to the pool.

Input Parameters

POOL_TOKEN
The token of this pool

Output Parameters

REASON
The values for the parameter are:
POOL_NOT_FOUND
POOL_QUIESCING

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STATE_TOKEN
The state_token used to manage the handshake

PTTW gate, CREATE_POOL function

The CREATE_POOL function creates a pool for state_tokens.

Input Parameters

GARBAGE_COLLECTION
Whether or not garbage collection is to be performed for state_tokens in this pool.

Values for the parameter are:
OFF
ON

POOL_NAME
The eight character name of the pool. This name must be unique across all pools. There is no enforced character set for this name.

FREE_USER_DATA_DOMAIN
Optional Parameter

An optional callback routine that may be called to free any user data addressed from the user_data_token associated with each state_token. This callback must implement the PTFD FREE_USER_DATA gate.

FREE_USER_DATA_GATE
Optional Parameter

An optional callback routine that may be called to free any user data addressed from the user_data_token associated with each state_token. This callback must implement the PTFD FREE_USER_DATA gate.

GARBAGE_COLLECT_INTERVAL
Optional Parameter

The interval in milliseconds between collections of garbage for this pool. If garbage collection is on, this parameter must be provided. If garbage collection is off, this parameter is ignored.

Output Parameters

REASON
The values for the parameter are:
```
BAD_CALLBACK
NAME_NOT_UNIQUE
```
POOL_TOKEN
The token of this pool

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PTTW gate, DESTROY_PARTNERSHIP function

Remove a state block from its pool and delete it to destroy the partnership. If the state token is still in use by the partner, it is flagged as deleted.

Input Parameters

STATE_TOKEN
The state_token used to manage the handshake

Output Parameters

REASON
The values for the parameter are:
```
NOT_FOUND
PARTNER_WAITING
```
RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

NEW_TRIGSTATE1
Optional Parameter

The state of partner 1 after the request.

Values for the parameter are:
```
RESUMED
TRIGGERED
UNDEFINED
VALID
WAITING
```

NEW_TRIGSTATE2
Optional Parameter

The state of partner 2 after the request.

Values for the parameter are:
RESUMED
TRIGGERED
UNDEFINED
VALID
WAITING

OLD_TRIGSTATE1
Optional Parameter

The state of partner 1 before the request.

Values for the parameter are:
RESUMED
TRIGGERED
UNDEFINED
VALID
WAITING

OLD_TRIGSTATE2
Optional Parameter

The state of partner 2 before the request.

Values for the parameter are:
RESUMED
TRIGGERED
UNDEFINED
VALID
WAITING

PTTW gate, DESTROY_POOL function

Destroys a pool of state_tokens.

Input Parameters

DESTROY_OPTION
Specifies how the pool is destroyed.

Values for the parameter are:
FORCE
MUST_BE_EMPTY
QUIESCE

POOL_TOKEN
The token of this pool

Output Parameters

REASON
The values for the parameter are:
POOL_NOT_EMPTY
POOL_NOT_FOUND
POOL_QUIESCING

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PTTW gate, END_POOL_BROWSE function

End a browse of pools.

Input Parameters

POOL_CURSOR
The browse cursor returned from start_pool_browse

Output Parameters

REASON
The values for the parameter are:
`INVALID_CURSOR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PTTW gate, GET_NEXT_POOL function

Get the next pool

Input Parameters

POOL_CURSOR
The browse cursor returned from start_pool_browse

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`END_BROWSE`
`INVALID_CURSOR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

POOL_NAME
Optional Parameter

The eight character name of the pool. This name must be unique across all pools. There is no enforced character set for this name.

POOL_TOKEN
Optional Parameter

The token of this pool

PTTW gate, INQUIRE_GARBAGE_INTERVAL function

Get garbage collection interval.

Input Parameters

POOL_TOKEN
The token of this pool

Output Parameters

REASON
The values for the parameter are:
`POOL_NOT_FOUND`

GARBAGE_COLLECT_INTERVAL
The interval in milliseconds between collections of garbage for this pool. If garbage collection is on, this parameter must be provided. If garbage collection is off, this parameter is ignored.

GARBAGE_COLLECTION
Whether or not garbage collection is to be performed for state_tokens in this pool.

Values for the parameter are:
`OFF`
`ON`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PTTW gate, INQUIRE_USER_TOKEN function

Get the user token in the state block.

Input Parameters

STATE_TOKEN
The state_token used to manage the handshake

Output Parameters

REASON
The values for the parameter are:
`NOT_FOUND`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USER_TOKEN
The user token to be associated with the state token

PTTW gate, MAKE_PARTNERSHIP function

Establish a partnership with another task. The partner task may or may not have previously made the partnership.

Input Parameters

ORDER
Specifies the order in which the partners make the partnership.

Values for the parameter are:
`DONT_CARE`
`ONLY`
`SUBSEQUENT`

STATE_TOKEN
The state_token used to manage the handshake

Output Parameters

REASON
The values for the parameter are:
`ALREADY_MADE`
`ALREADY_PARTNER`
`NOT_FOUND`
`NOT_ONLY`
`NOT_PARTNER`
`NOT_SUBSEQUENT`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

NEW_TRIGSTATE1
Optional Parameter

The state of partner 1 after the request.

Values for the parameter are:
```
RESUMED
TRIGGERED
UNDEFINED
VALID
WAITING
```

NEW_TRIGSTATE2
Optional Parameter

The state of partner 2 after the request.

Values for the parameter are:
```
RESUMED
TRIGGERED
UNDEFINED
VALID
WAITING
```

OLD_TRIGSTATE1
Optional Parameter

The state of partner 1 before the request.

Values for the parameter are:
```
RESUMED
TRIGGERED
UNDEFINED
VALID
WAITING
```

OLD_TRIGSTATE2
Optional Parameter

The state of partner 2 before the request.

Values for the parameter are:
```
RESUMED
TRIGGERED
UNDEFINED
VALID
WAITING
```

PTTW gate, QUERY_PARTNERSHIP function

Get the status of the partner task.

Input Parameters

STATE_TOKEN
The state_token used to manage the handshake

Output Parameters

REASON
The values for the parameter are:
```
NOT_FOUND
NOT_PARTNER
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

POOL_TOKEN
Optional Parameter

The token of this pool

STATE
Optional Parameter

Describes whether the state token is not made, made or partially made and who by.

Values for the parameter are:
```
MADE
MADE_BY_PARTNER
MADE_BY_SELF
NOT_MADE
```

STATUS_OF_PARTNER
Optional Parameter

Describes whether partner is waiting or has been triggered.

Values for the parameter are:
```
RESUMED
TRIGGERED
UNDEFINED
VALID
WAITING
```

STATUS_OF_SELF
Optional Parameter

Describes whether the caller has been triggered or not.

Values for the parameter are:
```
TRIGGERED
UNDEFINED
VALID
```

XM_TOKEN
Optional Parameter

The partner's transaction manager token.

PTTW gate, QUERY_POOL function

Query the attributes and state of a pool.

Input Parameters

POOL_NAME
The eight character name of the pool. This name must be unique across all pools. There is no enforced character set for this name.

POOL_TOKEN
The token of this pool

Output Parameters

REASON
The values for the parameter are:
```
POOL_NOT_FOUND
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FREE_USER_DATA_DOMAIN
Optional Parameter

An optional callback routine that may be called to free any user data addressed from the user_data_token associated with each state_token. This callback must implement the PTFD FREE_USER_DATA gate.

FREE_USER_DATA_GATE
Optional Parameter

An optional callback routine that may be called to free any user data addressed from the user_data_token associated with each state_token. This callback must implement the PTFD FREE_USER_DATA gate.

GARBAGE_COLLECT_INTERVAL
Optional Parameter

The interval in milliseconds between collections of garbage for this pool. If garbage collection is on, this parameter must be provided. If garbage collection is off, this parameter is ignored.

GARBAGE_COLLECTION
Optional Parameter

Whether or not garbage collection is to be performed for state_tokens in this pool.

Values for the parameter are:
`OFF`
`ON`

POOL_NAME_OUT
Optional Parameter

The pool name is returned.

POOL_STATE
Optional Parameter

The cureent state of the pool.

Values for the parameter are:
`EMPTY`
`NOT_EMPTY`
`QUIESCING`

POOL_TOKEN_OUT
Optional Parameter

The pool token is returned.

PTTW gate, SET_GARBAGE_INTERVAL function

Set garbage collection interval.

Input Parameters

GARBAGE_COLLECT_INTERVAL
The interval in milliseconds between collections of garbage for this pool. If garbage collection is on, this parameter must be provided. If garbage collection is off, this parameter is ignored.

POOL_TOKEN
The token of this pool

Output Parameters

REASON
: The values for the parameter are:
  GARBAGE_COLLECTION_OFF
  POOL_NOT_FOUND

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PTTW gate, SET_USER_TOKEN function

Change the user token in the state block.

Input Parameters

STATE_TOKEN
: The state_token used to manage the handshake

USER_TOKEN
: The user token to be associated with the state token

Output Parameters

REASON
: The values for the parameter are:
  NOT_FOUND

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PTTW gate, START_POOL_BROWSE function

Creates a pool cursor to browse pools.

Output Parameters

REASON
: The values for the parameter are:
  NO_POOLS

POOL_CURSOR
: The browse cursor returned from start_pool_browse

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PTTW gate, TRIGGER_PARTNER function

Notify a waiting partner. If the partner is not waiting when trigger is called, the partner will be triggered when it next waits.

Input Parameters

COMPLETION_CODE
: The completion code to be passed to the partner. The caller can use this to notify partner why the partnership is being broken. Once read the completion code is reset to zero. This is optional so that the caller can pass exactly one completion code when calling trigger_partner followed by break_partnership. The completion code is ignored if the resulting state is not_made.

PARTNER_EXISTENCE
: Specifies whether the partner must exist for this request.

  Values for the parameter are:
  DONT_CARE

MUST_EXIST

STATE_TOKEN

The state_token used to manage the handshake

Output Parameters

REASON

The values for the parameter are:

ALREADY_TRIGGERED
NOT_FOUND
NOT_PARTNER
PARTNER_NOT_THERE
PARTNERSHIP_NOT_MADE

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

NEW_TRIGSTATE1

Optional Parameter

The state of partner 1 after the request.

Values for the parameter are:

RESUMED
TRIGGERED
UNDEFINED
VALID
WAITING

NEW_TRIGSTATE2

Optional Parameter

The state of partner 2 after the request.

Values for the parameter are:

RESUMED
TRIGGERED
UNDEFINED
VALID
WAITING

OLD_TRIGSTATE1

Optional Parameter

The state of partner 1 before the request.

Values for the parameter are:

RESUMED
TRIGGERED
UNDEFINED
VALID
WAITING

OLD_TRIGSTATE2

Optional Parameter

The state of partner 2 before the request.

Values for the parameter are:

RESUMED
TRIGGERED
UNDEFINED
VALID
WAITING

PTTW gate, WAIT_FOR_PARTNER function

Wait to be notified by a partner or until the wait times out.

Input Parameters

PARTNER_EXISTENCE
Specifies whether the partner must exist for this request.

Values for the parameter are:
`DONT_CARE`
`MUST_EXIST`

STATE_TOKEN
The state_token used to manage the handshake

PURGEABLE
Optional Parameter

Specifies whether the wait can be purged.

Values for the parameter are:
`NO`
`YES`

TIMEOUT
Optional Parameter

An optional maximum time to wait before waking up in milliseconds

Output Parameters

REASON
The values for the parameter are:
`NOT_FOUND`
`NOT_PARTNER`
`PARTNER_NOT_THERE`
`PARTNER_WAITING`
`PARTNERSHIP_NOT_MADE`
`TIMED_OUT`

PARTNER_COMPLETION_CODE
The partner's completion code indicates why the partner broke the partnership.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

NEW_TRIGSTATE1
Optional Parameter

The state of partner 1 after the request.

Values for the parameter are:
`RESUMED`
`TRIGGERED`
`UNDEFINED`
`VALID`
`WAITING`

NEW_TRIGSTATE2
Optional Parameter

The state of partner 2 after the request.

Values for the parameter are:
`RESUMED`
`TRIGGERED`
`UNDEFINED`

`VALID`
`WAITING`

OLD_TRIGSTATE1
Optional Parameter

The state of partner 1 before the request.

Values for the parameter are:
`RESUMED`
`TRIGGERED`
`UNDEFINED`
`VALID`
`WAITING`

OLD_TRIGSTATE2
Optional Parameter

The state of partner 2 before the request.

Values for the parameter are:
`RESUMED`
`TRIGGERED`
`UNDEFINED`
`VALID`
`WAITING`

Modules

Module	Function
DFHPTDM	Domain initialisation and termination. PRE_INITIALIZE INITIALIZE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN
DFHPTTW	Handles the following requests: CREATE_POOL DESTROY_POOL QUERY_POOL START_POOL_BROWSE GET_NEXT_POOL END_POOL_BROWSE CREATE_PARTNERSHIP DESTROY_PARTNERSHIP SET_USER_TOKEN INQUIRE_USER_TOKEN MAKE_PARTNERSHIP BREAK_PARTNERSHIP TRIGGER_PARTNER WAIT_FOR_PARTNER QUERY_PARTNERSHIP SET_GARBAGE_INTERVAL INQUIRE_GARBAGE_INTERVAL

Chapter 98. Resource life-cycle domain (RL)

The resource life-cycle domain handles the installation and life cycle of application resources.

Resource life-cycle domain's specific gates

The specific gates provide access for other domains to functions that are provided by the RL domain.

RLPM gate, DISCARD_BUNDLE function

Discards a disabled BUNDLE resource, releasing the associated storage.

Input parameters

BUNDLE_NAME
Optional parameter

An 8-byte character name of the bundle.

BUNDLE_TOKEN
Optional parameter

An 8-byte token that represents the created bundle. Either the BUNDLE_NAME or the BUNDLE_TOKEN is used, but not both.

Output parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
```
RLPM_CLIENT_FAILED
RLPM_DUPLICATE_BUNDLE
RLPM_INVALID_STATE
RLPM_MANIFEST_INVALID
RLPM_MANIFEST_NOT_FOUND
RLPM_NOT_DISABLED
RLPM_NOT_FOUND
RLPM_RESOURCE_ERROR
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RLPM gate, END_BROWSE_BUNDLE function

Ends a browse session on installed BUNDLE resources.

Input parameters

BROWSE_TOKEN
The browse token for the browse operation.

Output parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
```
INVALID_BROWSE
INVALID_DIRECTORY
```

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RLPM gate, GET_NEXT_BUNDLE function

Get the next installed BUNDLE resource to browse it.

Input parameters

BROWSE_TOKEN
: The browse token for the browse operation.

RESOURCE_SIGNATURE
: Optional parameter

  The resource signature of the resource.

INQUIRE_VENDOR
: Optional parameter

  The bundle is provided by a vendor. The value of this parameter is YES or NO.

ROOT_BUFF
: Optional parameter

  A buffer for the root directory of the BUNDLE resource.

SCOPE_BUFF
: Optional parameter

  A buffer for the scope of the bundle.

Output parameters

BUNDLE_TOKEN
: Optional parameter

  An 8-byte token that represents the created bundle.

BUNDLE_NAME
: An 8-byte character name of the bundle.

DEFINE_COUNT
: Optional parameter

  The total number of dynamically created resources in the bundle.

ENABLED_COUNT
: Optional parameter

  The number of current resources that were dynamically created by the bundle and are enabled in the CICS region.

PART_COUNT
: Optional parameter

  The total number of imports, exports, and definition statements that are defined in the bundle manifest.

REASON
: The following values are returned when RESPONSE is EXCEPTION:

  RLPM_BROWSE_END
  RLPM_CLIENT_FAILED

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STATE
A 1–byte enumeration expressing whether the initial state of the BUNDLE resource is enabled or disabled.

RLPM gate, INQUIRE_BUNDLE function

Inquire to find out if the BUNDLE resource is enabled or disabled.

Input parameters

BUNDLE_NAME
Optional parameter

An 8-byte character name of the bundle.

BUNDLE_TOKEN
Optional parameter

An 8-byte token that represents the created bundle. Either the BUNDLE_NAME or the BUNDLE_TOKEN is used, but not both.

INQUIRE_VENDOR
Optional parameter

The bundle is provided by a vendor. The value of this parameter is YES or NO.

ROOT_BUFF
Optional parameter

Abuffer for the root path of the bundle.

RESOURCE_SIGNATURE
Optional parameter

The resource signature of the resource.

SCOPE_BUFF
Optional parameter

A buffer for the scope of the bundle.

Output parameters

DEFINE_COUNT
Optional parameter

The total number of dynamically created resources in the bundle.

ENABLED_COUNT
Optional parameter

The number of current resources that were dynamically created by the bundle and are enabled in the CICS region.

PART_COUNT
Optional parameter

The total number of imports, exports, and definition statements that are defined in the bundle manifest.

STATE
A 1–byte enumeration expressing whether the initial state of the BUNDLE resource is enabled or disabled.

REASON
The following values are returned when RESPONSE is EXCEPTION:

RLPM_CLIENT_FAILED

RLPM_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RLPM gate, INSTALL_BUNDLE function

Creates a BUNDLE resource from a bundle that has been deployed into CICS.

Input parameters

BUNDLE_NAME
An 8-byte character name of the bundle.

CATALOGUE
Optional parameter

Add the BUNDLE resource to the CICS catalog. This parameter value is YES or NO.

RESOURCE_SIGNATURE
The resource signature of the resource.

ROOT
The fully qualified path of the root directory in the file system for the bundle.

SCOPE
Optional parameter.

A character string that contains the scope of the bundle as a URL.

STATE
A 1–byte enumeration expressing whether the initial state of the BUNDLE resource is enabled or disabled.

Output parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
RLPM_CLIENT_FAILED
RLPM_DUPLICATE_BUNDLE
RLPM_MANIFEST_INVALID
RLPM_MANIFEST_NOT_FOUND
RLPM_MANIFEST_NOT_AUTH
RLPM_RESOURCE_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RLPM gate, SET_BUNDLE function

Set the status of the BUNDLE resource.

Input parameters

BUNDLE_NAME
Optional parameter

An 8-byte character name of the bundle.

BUNDLE_TOKEN
Optional parameter

An 8-byte token that represents the created bundle. Either the BUNDLE_NAME or the BUNDLE_TOKEN is used, but not both.

STATE
A 1–byte enumeration expressing whether the initial state of the BUNDLE resource is enabled or disabled.

Output parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- `RLPM_BUNDLE_SET_FAILED`
- `RLPM_CLIENT_FAILED`
- `RLPM_DUPLICATE_BUNDLE`
- `RLPM_INVALID_STATE`
- `RLPM_MANIFEST_INVALID`
- `RLPM_MANIFEST_NOT_FOUND`
- `RLPM_RESOURCE_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RLPM gate, START_BROWSE_BUNDLE function

Start a browse session on installed BUNDLE resources.

Input parameters

None.

Output parameters

BROWSE_TOKEN
The browse token for the browse operation.

REASON
The following values are returned when RESPONSE is EXCEPTION:
- `INVALID_DIRECTORY`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RLRO gate, CREATED function

The CREATED function is called by the client domain after the BUNDLE resource is created.

Input parameters

BUNDLE_TOKEN
An 8-byte token that represents the created BUNDLE resource.

CLIENT_TOKEN
An 8-byte token that represents the client domain's view of the resource.

RESOURCE_TOKEN
An 8-byte token that represents the resource.

STATE
A 1–byte enumeration that expresses whether the state of the resource is enabled, disabled, or failed.

Output parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

BAD_TOKEN
CATALOG_FULL
INVALID_DATA_LENGTH
IO_ERROR
RL_NOT_REGISTERED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RLRO gate, DEREGISTER function

Deregister a resource type and its callback program.

Input parameters

TYPE
A character string that contains the URL for the type of resource.

CALLBACK_GATE
Optional parameter

The CICS callback gate that handles creating the resource type.

CALLBACK_PROGRAM
Optional parameter

The name of the program that handles creating the user resource type.

Output parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
RLRO_NOT_REGISTERED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RLRO gate, DISCARDED function

The DISCARDED function is called by the client domain after the resource is discarded.

Input parameters

BUNDLE_TOKEN
An 8-byte token that represents the created BUNDLE resource.

RESOURCE_TOKEN
An 8-byte token that represents the resource.

Output parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RLRO gate, DRIVE_PENDING function

Complete the creation of a BUNDLE resource during CICS initialization.

Input parameters

None.

Output parameters

None.

RLRO gate, END_BROWSE_BUNDLERES function

End a browse session on resources in an installed BUNDLE resource.

Input parameters

BROWSE_TOKEN
: The browse token for the browse operation.

Output parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `RLRO_NOT_FOUND`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RLRO gate, GET_NEXT_BUNDLERES function

Get the next resource from an installed BUNDLE to browse it.

Input parameters

BROWSE_TOKEN
: The browse token for the browse operation.

FILE_BUFF
: Optional parameter

  A buffer for the artifact that defines the resource.

NAME_BUFF
: Optional parameter

  A buffer for the resource name.

TYPE_BUFF
: Optional parameter

  A buffer for the resource type.

Output parameters

BUNDLE
: The 8-byte character name of the BUNDLE resource.

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `RLRO_NOT_FOUND`

RESCLASS
: Optional parameter

  The class of the resource. The value of this parameter is DEFINE, IMPORT, or EXPORT.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STATE
: Optional parameter

  The state of the resource. This parameter can have one of the following values:
  - Disabled

- Disabling
- Discarding
- Enabled
- Enabling
- Failed

RLRO gate, NOTIFY function

The NOTIFY function is called by the client domain when the requested operation has completed.

Input parameters

BUNDLE_TOKEN
An 8-byte token that represents the created BUNDLE resource.

RESOURCE_TOKEN
An 8-byte token that represents the resource.

STATE
A 1–byte enumeration that expresses whether the state of the resource is enabled, disabled, or failed.

Output parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RLRO gate, REGISTER function

Register a resource type and its callback program or domain.

Input parameters

CALLBACK_GATE
Optional parameter

The CICS callback gate that handles creating the resource type.

CALLBACK_PROGRAM
Optional parameter

The name of the program that handles creating the user resource type.

DELEGATE_RECOVERY
Optional parameter

Delegate the recovery of the resource. The value of this parameter is YES or NO.

TYPE
A character string that contains the URL for the type of resource.

Output parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
RLRO_ALREADY_REGISTERED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RLRO gate, START_BROWSE_BUNDLERES function

Start a browse session on resources that were dynamically created by installing a BUNDLE resource.

Input parameters

BUNDLE
: The 8-byte character name of the BUNDLE resource

Output parameters

BROWSE_TOKEN
: The browse token for the browse operation.

REASON
: The following values are returned when RESPONSE is EXCEPTION:
: RLRO_NOT_FOUND

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RLXM gate, INQUIRE_SCOPE function

The INQUIRE_SCOPE function inquires on the **SCOPE** parameter on the **INVOKE SERVICE** command.

Input parameters

SCOPE_BUFFER
: A buffer for the scope of the service.

Output parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  - ABEND
  - LOOP

  The following value is returned when RESPONSE is EXCEPTION:
  - LENGTH_ERROR
  - NO_SCOPE

  The following values are returned when RESPONSE is INVALID:
  - INVALID_FORMAT
  - INVALID_FUNCTION

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RLXM gate, POP_SCOPE function

The POP_SCOPE function removes the SCOPE parameter on the **INVOKE SERVICE** command.

Input parameters

None.

Output parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  - ABEND
  - LOOP

  The following values are returned when RESPONSE is INVALID:
  - INVALID_FORMAT
  - INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RLXM gate, PUSH_SCOPE function

The PUSH_SCOPE function saves the **SCOPE** parameter on the **INVOKE SERVICE** command.

Input parameters

SCOPE_BUFFER
A buffer for the scope of the service.

Output parameters

REASON
The following values are returned when RESPONSE is DISASTER:
- ABEND
- LOOP

The following value is returned when RESPONSE is EXCEPTION:
- LENGTH_ERROR

The following values are returned when RESPONSE is INVALID:
- INVALID_FORMAT
- INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RLXM gate, RELEASE_XM_CLIENT function

The RELEASE_XM_CLIENT function releases the XM client.

Input parameters

None.

Output parameters

REASON
The following values are returned when RESPONSE is DISASTER:
- ABEND
- LOOP

The following values are returned when RESPONSE is INVALID:
- INVALID_FORMAT
- INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Resource life-cycle domain's generic gates

Table 64 on page 1547 summarizes the Resource life-cycle domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gate, the functions provided by the gate, and the generic format for calls to the gate.

Table 64. Resource life-cycle domain's generic gates

Gate	Trace	Function	Format
RLDM	RL 0100 RL 0101	INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM
RLST	RL 0200 RL 0201	COLLECT_STATISTICS COLLECT_RESOURCE_STATS	STST

Resource life-cycle domain's call-back formats

Table 65 describes the call-back formats owned by the domain and shows the functions performed on the calls.

Table 65. Resource life-cycle domain's call-back formats

Format	Calling module	Function

RLCB		CREATE
		DISCARD
		INQUIRE
		SET

In the descriptions for the formats, the input parameters are input not to the resource life-cycle domain, but to the domain being called by the recovery life-cycle domain. Similarly, the output parameters are output by the domain that was called by the resource life-cycle domain, in response to the call.

RLCB gate, CREATE function

The CREATE function is called on the client domain by the RL domain to create a resource that is owned by the domain.

Input parameters

DATA
Contains the metadata for the resource.

BUNDLE_NAME
An 8-byte character name of the bundle.

BUNDLE_TOKEN
Optional parameter

An 8-byte token that represents the created bundle. Either the BUNDLE_NAME or the BUNDLE_TOKEN is used, but not both.

RESOURCE_TOKEN
An 8-byte token that represents the resource.

ROOT
The fully qualified path of the root directory in the file system for the bundle.

SCOPE
Optional parameter.

A character string that contains the scope of the bundle as a URL.

STATE
A 1–byte enumeration expressing whether the initial state of the BUNDLE resource is enabled or disabled.

TYPE
A character string that contains the URL for the type of resource.

Output parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RLCB gate, DISCARD function

The DISCARD function is called on the client domain by the RL domain to request that the resource is discarded by the client domain.

Input parameters

BUNDLE_TOKEN
: Optional parameter

  An 8-byte token that represents the created bundle. Either the BUNDLE_NAME or the BUNDLE_TOKEN is used, but not both.

CLIENT_TOKEN
: An 8-byte token that represents the client domain's view of the resource.

RESOURCE_TOKEN
: An 8-byte token that represents the resource.

Output parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RLCB gate, INQUIRE function

The INQUIRE function is called on the client domain by the RL domain to inquire on the state of a resource that is owned by the domain.

Input parameters

BUNDLE_TOKEN
: Optional parameter

  An 8-byte token that represents the created bundle. Either the BUNDLE_NAME or the BUNDLE_TOKEN is used, but not both.

CLIENT_TOKEN
: An 8-byte token that represents the client domain's view of the resource.

RESOURCE_TOKEN
: An 8-byte token that represents the resource.

Output parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STATE
: A 1–byte enumeration that expresses the state of the resource:
  - Enabled
  - Disabled
  - Enabling
  - Disabling
  - Discarding

RLCB gate, INQUIRE_BY_NAME function

Inquire on imports that are defined in the bundle.

Input parameters

TYPE
A character string that contains the URL for the type of resource.

NAME
An 8-byte character string that contains the name of the bundle.

SCOPE
A character string that contains the URL of the bundle.

Output parameters

STATE
A 1-byte enumeration that expresses the state of the resource:
- Enabled
- Disabled
- Enabling
- Disabling
- Discarding

REASON
The following values are returned when RESPONSE is EXCEPTION:

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RLCB gate, SET function

The SET function is called on the client domain by the RL domain to request that an action is performed on a resource owned by the domain.

Input parameters

BUNDLE_TOKEN
Optional parameter

An 8-byte token that represents the created bundle. Either the BUNDLE_NAME or the BUNDLE_TOKEN is used, but not both.

CLIENT_TOKEN
An 8-byte token that represents the client domain's view of the resource.

RESOURCE_TOKEN
An 8-byte token that represents the resource.

STATE
A 1–byte enumeration expressing whether the initial state of the BUNDLE resource is enabled or disabled.

Output parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Modules

Module	Function
DFHRLCB	Callback handler
DFHRLDM	Domain initialization and termination program
DFHRLDUF	Dump formatting program

Module	Function
DFHRLMF	Contains the data structures for processing bundle manifests
DFHRLPK	Driven by DFHRLPM to manage bundles
DFHRLPM	Bundle manager that drives DFHRLPK
DFHRLRG	Resource type handler
DFHRLRO	Bundle manager gate module
DFHRLRP	RL resolution program
DFHRLRS	Resource state and operations function
DFHRLSC	Contains the schema for handling SCA composite resource types
DFHRLST	Statistics manager
DFHRLTRI	Trace formatting program
DFHRLVP	Variable domain subpool allocate and free function
DFHRLXM	RL domain XM attach client program

Chapter 99. Recovery Manager Domain (RM)

The Recovery Manager (RM) domain is responsible for ensuring that the resource updates for a unit of work are all committed or all backed out, including updates across multiple systems.

Recovery Manager Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the RM domain.

RMCD gate, INQUIRE_CLIENT_DATA function

This function returns data associated with a Recovery Manager client.

Input Parameters

CLIENT_DATA_BUFFER
A buffer to contain the data returned.

CLIENT_NAME
Name of the communications protocol used on the link.

Output Parameters

REASON
The values for the parameter are:
`CLIENT_DATA_TOO_LONG`
`UNKNOWN_CLIENT`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMCD gate, REGISTER function

This function is used to register a Recovery Manager client.

Input Parameters

CLIENT_NAME
Name of the communications protocol used on the link.

CLIENT_TYPE
Whether the client owns local (RO) or remote (RMC) resources.

Values for the parameter are:
`RMC`
`RO`

GATE
Optional Parameter

An optional parameter specifying the kernel gate that services the client's callback functions.

Output Parameters

REASON
The values for the parameter are:
`ALREADY_REGISTERED`
`TOO_LATE`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMCD gate, SET_CLIENT_DATA function

This function associates some data with a Recovery Manager client.

Input Parameters

CLIENT_DATA_BUFFER
: A buffer to contain the data returned.

CLIENT_NAME
: Name of the communications protocol used on the link.

Output Parameters

REASON
: The values for the parameter are:
  `CLIENT_DATA_TOO_LONG`
  `UNKNOWN_CLIENT`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMCD gate, SET_GATE function

This function is used to inform Recovery Manager of the kernel gate that services a Recovery Manager clients callback functions.

Input Parameters

CLIENT_NAME
: Name of the communications protocol used on the link.

GATE
: An optional parameter specifying the kernel gate that services the client's callback functions.

Output Parameters

REASON
: The values for the parameter are:
  `GATE_ALREADY_SET`
  `UNKNOWN_CLIENT`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMDM gate, INQUIRE_LOCAL_LU_NAME function

This function inquires on the local LU name, that is used in the generation of network UOWIDs by in this system.

Output Parameters

LOCAL_LU_NAME
: The local LU name.

LOCAL_LU_NAME_LENGTH
: The length of the local LU name

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMDM gate, INQUIRE_STARTUP function

This function returns information about the type of system start being performed.

Output Parameters

ALL
A value specifying whether all components are cold starting.

Values for the parameter are:
`NO`
`YES`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STARTUP
The type of system start being performed.

Values for the parameter are:
`COLD`
`EMERGENCY`
`WARM`

INITIAL_START
Optional Parameter

A value specifying whether the cold start is in fact an initial one.

Values for the parameter are:
`NO`
`YES`

LAST_COLD_START_TIME
Optional Parameter

An 8 byte Store Clock representation of the last cold start time.

LAST_EMER_START_TIME
Optional Parameter

An 8 byte Store Clock representation of the last emergency start time.

LAST_INIT_START_TIME
Optional Parameter

An 8 byte Store Clock representation of the last initial start time.

RMDM gate, SET_LOCAL_LU_NAME function

This function sets the local LU name, that is used in the generation of network UOWIDs by in this system.

Input Parameters

LOCAL_LU_NAME
A parameter specifying the local LU name.

LOCAL_LU_NAME_LENGTH
A parameter specifying the length of the local LU name.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMDM gate, SET_PARAMETERS function

This function is used only by Parameter Manager Domain to inform Recovery Manager of initialization parameters.

Input Parameters

DELETE_LOG
: Optional Parameter

An optional parameter specifying whether an initial start has been requested in the System Initialization Table, and so the contents of the system log should be deleted.

Values for the parameter are:
- NO
- YES

STARTUP
: Optional Parameter

The type of start.

Values for the parameter are:
- EMERGENCY

Output Parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMDM gate, SET_STARTUP function

This function sets the type of start that will be performed when this system is next restarted.

Input Parameters

STARTUP
: The type of start.

Values for the parameter are:
- COLD
- NORESTART

Output Parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMLN gate, ADD_LINK function

This function adds a link to a remote system to a unit of work. The unit of work is distributed across more than one system and Recovery Manager will manage the syncpoint processing between systems.

Input Parameters

CLIENT_NAME
: Name of the communications protocol used on the link.

RMC_TOKEN
: A token to be passed to the client on all callback functions.

COORDINATOR
: Optional Parameter

A parameter specifying whether the remote system is the coordinator of the distributed unit of work.

Values for the parameter are:
`NO`
`YES`

INITIATOR
Optional Parameter

A parameter specifying whether the remote system is the initiator of the syncpoint.

Values for the parameter are:
`NO`
`YES`

LAST
Optional Parameter

A parameter specifying whether the remote system supports the last agent optimization.

Values for the parameter are:
`DESIRABLE`
`MAYBE`
`NO`
`YES`

LINK_ID_BUFFER
Optional Parameter

A buffer containing the termid of the session to the remote system, or the External Resource Manager qualifier.

LINK_ID_SOURCE
Optional Parameter

An optional parameter specifying whether the local or remote system allocated the session.

Values for the parameter are:
`LOCAL`
`REMOTE`

LOGNAME_BUFFER
Optional Parameter

An optional parameter specifying a buffer containing the logname of the remote system.

NO_RESYNC_OUTCOME
Optional Parameter

A binary value indicating that the link will not provide a resolution to the distributed unit-of-work during resynchronization.

Values for the parameter are:
`NO`
`YES`

OTS_HOSTNAME_BUFFER
Optional Parameter

A buffer in which the TCP/IP host name is supplied.

OTS_IORSTRING_BUFFER
Optional Parameter

A buffer containing the OTS IOR string.

PRELOGGING
Optional Parameter

A parameter specifying whether the client requires to be called with the PERFORM_PRELOGGING callback function.

Values for the parameter are:
NO
YES

PRESUMPTION
Optional Parameter

A parameter specifying whether the remote system assumes the presume abort or presume nothing protocols.

Values for the parameter are:
ABORT
NOTHING

RECOVERY_STATUS
Optional Parameter

A parameter specifying whether recoverable work has taken place as part of the distributed unit of work on the remote system.

Values for the parameter are:
NECESSARY
SYNC_LEVEL_1
UNNECESSARY

REMOTE_ACCESS_ID_BUFFER
Optional Parameter

A buffer containing the netname of the remote system, or the name of the External Resource Manager.

SINGLE_UPDATER
Optional Parameter

A parameter specifying whether the remote system supports the single updater optimization.

Values for the parameter are:
NO
YES

UOW_ID
Optional Parameter

An optional parameter specifying the network UOWID to be given to the unit of work object. This parameter will be present if the unit of work being created is part of a distributed unit of work that originated on another system.

VOLATILE
Optional Parameter

A binary parameter indicating whether the link is volatile.

Values for the parameter are:
NO
YES

Output Parameters

REASON
The values for the parameter are:
CLIENT_UNKNOWN
INVALID_SYNCPOINT_STATE

UOW_UNKNOWN

LINK_TOKEN
A token that identifies the Recovery Manager Link object.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMLN gate, DELETE_LINK function

This function removes a link to a remote system from a unit of work. The remote system will not now be included in syncpoint processing for the current unit of work.

Input Parameters

LINK_TOKEN
A token identifying the Recovery Manager Link object.

Output Parameters

REASON
The values for the parameter are:
LINK_UNKNOWN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMLN gate, END_LINK_BROWSE function

This function is used to terminate a browse of Recovery Manager Link objects.

Input Parameters

LINK_BROWSE_TOKEN
Optional Parameter

A token identifying a browse of all the Recovery Manager Link objects belonging to a particular Recovery Manager client.

UOW_BROWSE_TOKEN
Optional Parameter

A token identifying a browse of all the Recovery Manager Link objects belonging to a particular unit of work object.

Output Parameters

REASON
The values for the parameter are:
INVALID_BROWSE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMLN gate, GET_NEXT_LINK function

This function returns information about the next Recovery Manager Link object in a browse.

Input Parameters

LINK_BROWSE_TOKEN
Optional Parameter

A token identifying a browse of all the Recovery Manager Link objects belonging to a particular Recovery Manager client.

LINK_ID_BUFFER
Optional Parameter

A buffer containing the termid of the session to the remote system, or the External Resource Manager qualifier.

LOGNAME_BUFFER
Optional Parameter

An optional parameter specifying a buffer containing the logname of the remote system.

OTS_HOSTNAME_BUFFER
Optional Parameter

A buffer in which the TCP/IP host name is returned.

OTS_IORSTRING_BUFFER
Optional Parameter

A buffer containing the OTS IOR string.

REMOTE_ACCESS_ID_BUFFER
Optional Parameter

A buffer containing the netname of the remote system, or the name of the External Resource Manager.

UOW_BROWSE_TOKEN
Optional Parameter

A token identifying a browse of all the Recovery Manager Link objects belonging to a particular unit of work object.

Output Parameters

REASON
The values for the parameter are:
- END_BROWSE
- INVALID_BROWSE
- UOW_UNKNOWN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACCESSIBLE
Optional Parameter

Whether the communications link to the remote system is active or not.

Values for the parameter are:
- NO
- SHUNTED
- YES

CLIENT_NAME
Optional Parameter

The name of the Recovery Manager client that owns the resource that has caused the unit of work to shunt.

COORDINATOR
Optional Parameter

Whether the remote system is the coordinator of the distributed unit of work.

Values for the parameter are:
- NO

`YES`

`FORGET`

Optional Parameter

Whether all obligations to the remote system with respect to recovery have been discharged.

Values for the parameter are:

`NO`
`YES`

`HEURISM`

Optional Parameter

Whether the unit of work should take a unilateral decision if a failure occurs in the in doubt window.

Values for the parameter are:

`NO`
`YES`

`INITIATOR`

Optional Parameter

Whether the remote system is the initiator of the syncpoint of the distributed unit of work.

Values for the parameter are:

`NO`
`YES`

`LAST`

Optional Parameter

Whether the remote system supports the last agent optimization.

Values for the parameter are:

`MAYBE`
`NO`
`YES`

`LINK_ID_SOURCE`

Optional Parameter

Whether the local or remote system allocated the session.

Values for the parameter are:

`LOCAL`
`REMOTE`

`LINK_TOKEN`

Optional Parameter

A token identifying the new Recovery Manager Link object.

`LOCAL_UOW_ID`

Optional Parameter

An optional parameter to receive the local UOWID.

`LOGICAL_SERVER`

Optional Parameter

The logical server associated with the link.

`MARK`

Optional Parameter

Whether the Recovery Manager Link object has been marked during resynchronization.

Values for the parameter are:

`NO`
`YES`

PRESUMPTION
Optional Parameter

Whether the remote system assumes the presume abort or presume nothing protocols.

Values for the parameter are:

`ABORT`
`NOTHING`

PUBLIC_ID
Optional Parameter

The public identifier of the RequestStream associated with the link.

RECOVERY_STATUS
Optional Parameter

Whether recoverable work has taken place as part of the distributed unit of work on the remote system.

Values for the parameter are:

`NECESSARY`
`SYNC_LEVEL_1`
`UNNECESSARY`

RESYNC_SCHEDULED
Optional Parameter

Whether resynchronization activity has been scheduled.

Values for the parameter are:

`NO`
`YES`

RMC_TOKEN
Optional Parameter

A token to be passed to the client on all callback functions.

SINGLE_UPDATER
Optional Parameter

Whether the remote system supports the single updater optimization.

Values for the parameter are:

`NO`
`YES`

UNSHUNTED
Optional Parameter

Whether the unit of work is not currently shunted.

Values for the parameter are:

`NO`
`YES`

UOW_TOKEN
Optional Parameter

A token identifying the unit of work object.

RMLN gate, INBOUND_FLOW function

This function is used to notify Recovery Manager of the successful completion of syncpoint processing on the remote system, or a communications failure with the remote system.

Input Parameters

FLOW
A parameter specifying successful completion (DATA) or communication failure (UNBIND).

Values for the parameter are:
`DATA`
`UNBIND`

LINK_TOKEN
A token identifying the Recovery Manager Link object.

Output Parameters

REASON
The values for the parameter are:
`LINK_INACCESSIBLE`
`LINK_UNKNOWN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMLN gate, INITIATE_RECOVERY function

This function identifies a Recovery Manager Link object in an in doubt failed unit of work and marks it as being resynchronized.

Input Parameters

CLIENT_NAME
Name of the communications protocol used on the link.

DIRECTION
Parameter specifying whether to commit (FORWARD), backout (BACKWARD) or obey the ACTION attribute in the definition of the originating transaction.

Values for the parameter are:
`INBOUND`
`OUTBOUND`

COORDINATOR_LINK
Optional Parameter

A binary value indicating whether the remote system is the coordinator of the distributed unit of work.

Values for the parameter are:
`YES`

LINK_ID_BUFFER
Optional Parameter

A buffer containing the termid of the session to the remote system, or the External Resource Manager qualifier.

LINK_ID_SOURCE
Optional Parameter

An optional parameter specifying whether the local or remote system allocated the session.

Values for the parameter are:
`LOCAL`
`REMOTE`

LOCAL_UOW_ID
Optional Parameter

The local UOWID of the required unit of work.

OTS_IORSTRING_BUFFER
Optional Parameter

A buffer containing the OTS IOR string.

REMOTE_ACCESS_ID_BUFFER
Optional Parameter

A buffer containing the netname of the remote system, or the name of the External Resource Manager.

UOW_ID
Optional Parameter

An optional parameter specifying the network UOWID to be given to the unit of work object. This parameter will be present if the unit of work being created is part of a distributed unit of work that originated on another system.

Output Parameters

REASON
The values for the parameter are:
`LINK_ACTIVE`
`LINK_UNKNOWN`
`RECOVERY_ALREADY_IN_PROG`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

COORDINATOR
Optional Parameter

Whether the remote system is the coordinator of the distributed unit of work.

Values for the parameter are:
`NO`
`YES`

FAILURE_TIME
Optional Parameter

An 8 byte Store Clock representation of the in doubt failure time.

INITIATOR
Optional Parameter

Whether the remote system is the initiator of the syncpoint of the distributed unit of work.

Values for the parameter are:
`NO`
`YES`

LINK_TOKEN
Optional Parameter

A token identifying the new Recovery Manager Link object.

PRESUMPTION
Optional Parameter

Whether the remote system assumes the presume abort or presume nothing protocols.

Values for the parameter are:
`ABORT`
`NOTHING`

`UOW_STATUS`
Optional Parameter

The status of the unit of work.

Values for the parameter are:
`BACKWARD`
`FORWARD`
`HEURISTIC_BACKWARD`
`HEURISTIC_FORWARD`
`INDOUBT`

`UOW_TOKEN`
Optional Parameter

A token identifying the unit of work object.

RMLN gate, INQUIRE_LINK function

This function returns information about a given Recovery Manager Link object.

Input Parameters

`LINK_TOKEN`
A token identifying the Recovery Manager Link object.

`LINK_ID_BUFFER`
Optional Parameter

A buffer containing the termid of the session to the remote system, or the External Resource Manager qualifier.

`LOGNAME_BUFFER`
Optional Parameter

An optional parameter specifying a buffer containing the logname of the remote system.

`OTS_HOSTNAME_BUFFER`
Optional Parameter

A buffer in which the TCP/IP host name is returned.

`OTS_IORSTRING_BUFFER`
Optional Parameter

A buffer containing the OTS IOR string.

`REMOTE_ACCESS_ID_BUFFER`
Optional Parameter

A buffer containing the netname of the remote system, or the name of the External Resource Manager.

`RESOLVE_TO_CURRENT_LINK`
Optional Parameter

Up to two Recovery Manager Link objects may be associated with a token. This optional parameter specifies whether to return information about the most recent or not.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The values for the parameter are:
`LINK_UNKNOWN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACCESSIBLE
Optional Parameter

Whether the communications link to the remote system is active or not.

Values for the parameter are:
`NO`
`SHUNTED`
`YES`

CLIENT_NAME
Optional Parameter

The name of the Recovery Manager client that owns the resource that has caused the unit of work to shunt.

COORDINATOR
Optional Parameter

Whether the remote system is the coordinator of the distributed unit of work.

Values for the parameter are:
`NO`
`YES`

CURRENT_TOKEN
Optional Parameter

The link token of the current link.

FORGET
Optional Parameter

Whether all obligations to the remote system with respect to recovery have been discharged.

Values for the parameter are:
`NO`
`YES`

HEURISM
Optional Parameter

Whether the unit of work should take a unilateral decision if a failure occurs in the in doubt window.

Values for the parameter are:
`NO`
`YES`

INITIATOR
Optional Parameter

Whether the remote system is the initiator of the syncpoint of the distributed unit of work.

Values for the parameter are:
`NO`
`YES`

LAST
Optional Parameter

Whether the remote system supports the last agent optimization.

Values for the parameter are:
- `MAYBE`
- `NO`
- `YES`

LINK_ID_SOURCE
Optional Parameter

Whether the local or remote system allocated the session.

Values for the parameter are:
- `LOCAL`
- `REMOTE`

LOCAL_UOW_ID
Optional Parameter

An optional parameter to receive the local UOWID.

LOGICAL_SERVER
Optional Parameter

The logical server associated with the link.

MARK
Optional Parameter

Whether the Recovery Manager Link object has been marked during resynchronization.

Values for the parameter are:
- `NO`
- `YES`

PRESUMPTION
Optional Parameter

Whether the remote system assumes the presume abort or presume nothing protocols.

Values for the parameter are:
- `ABORT`
- `NOTHING`

PUBLIC_ID
Optional Parameter

The public identifier of the RequestStream associated with the link.

RECOVERY_STATUS
Optional Parameter

Whether recoverable work has taken place as part of the distributed unit of work on the remote system.

Values for the parameter are:
- `NECESSARY`
- `SYNC_LEVEL_1`
- `UNNECESSARY`

RESYNC_SCHEDULED
Optional Parameter

Whether resynchronization activity has been scheduled.

Values for the parameter are:
- `NO`
- `YES`

RMC_TOKEN
Optional Parameter

A token to be passed to the client on all callback functions.

SINGLE_UPDATER
Optional Parameter

Whether the remote system supports the single updater optimization.

Values for the parameter are:
`NO`
`YES`

UNSHUNTED
Optional Parameter

Whether the unit of work is not currently shunted.

Values for the parameter are:
`NO`
`YES`

UOW_TOKEN
Optional Parameter

A token identifying the unit of work object.

RMLN gate, INSERT_LINK function

Insert a link into the link-set of the current unit of work.

Input Parameters

LINK_TOKEN
A token identifying the Recovery Manager Link object.

Output Parameters

REASON
The values for the parameter are:
`COORDINATOR_ALREADY`
`LINK_UNKNOWN`
`NOT_REMOVED`

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

RMLN gate, ISSUE_PREPARE function

This function performs phase 1 of syncpoint processing on the specified Recovery Manager Link object.

Input Parameters

CONTINUE
Is the task continuing into a following, new unit of work.

Values for the parameter are:
`NO`
`YES`

LINK_TOKEN
A token identifying the Recovery Manager Link object.

Output Parameters

REASON
: The values for the parameter are:
  COORDINATOR_ALREADY
  INITIATOR_ALREADY
  LINK_UNKNOWN
  PREPARE_REJECTED

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

VOTE
: The vote from the client owning the Recovery Manager Link object.

  Values for the parameter are:
  NO
  NO_CONTINUE
  READ_ONLY
  YES

RMLN gate, RECORD_VOTE function

Record a link's vote in a distributed syncpoint.

Input Parameters

HEURISM
: A binary value indicating whether the vote is heuristic.

  Values for the parameter are:
  NO
  YES

LINK_TOKEN
: A token identifying the Recovery Manager Link object.

VOTE
: The link's vote.

  Values for the parameter are:
  NO
  NO_CONTINUE
  READ_ONLY
  YES

Output Parameters

REASON
: The values for the parameter are:
  COORDINATOR_ALREADY
  INITIATOR_ALREADY
  LINK_UNKNOWN

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMLN gate, REMOVE_LINK function

This function remove a link to a remote system from a unit of work.

Input Parameters

LINK_TOKEN
: A token that identifies the Recovery Manager Link object.

Output Parameters

REASON

The values for the parameter are:

ALREADY_REMOVED
LINK_UNKNOWN

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMLN gate, REPORT_RECOVERY_STATUS function

This function is similar to SET_RECOVERY_STATUS but is applicable in the case of Presumed Abort or Last Agent resynchronization where the coordinator has backed out and has no record of the UOW. The participant may have gone indoubt, and needs to resynchronize.

Input Parameters

REMOTE_ACCESS_ID_BUFFER

A buffer containing the netname of the remote system, or the name of the External Resource Manager.

REMOTE_UOW_STATUS

The status of the unit of work in the remote system.

Values for the parameter are:

HEURISTIC_BACKWARD
HEURISTIC_FORWARD
HEURISTIC_MIXED
INDOUBT

UOW_ID

An optional parameter specifying the network UOWID to be given to the unit of work object. This parameter will be present if the unit of work being created is part of a distributed unit of work that originated on another system.

Output Parameters

REASON

The following values are returned when RESPONSE is EXCEPTION:

ALREADY_REMOVED
ALREADY_SET
CLIENT_UNKNOWN
COORDINATOR_ALREADY
END_BROWSE
INITIATOR_ALREADY
INVALID_SYNCPOINT_STATE
LINK_ACTIVE
LINK_INACCESSIBLE
LINK_UNKNOWN
NO_FORGET_PENDING
NOT_REMOVED
PREPARE_REJECTED
RECOVERY_ALREADY_IN_PROG
RECOVERY_IN_PROGRESS
RECOVERY_NOT_IN_PROGRESS
SET_NOT_DONE
UOW_UNKNOWN
VOTED_ALREADY

The following values are returned when RESPONSE is INVALID:

`INVALID_BROWSE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMLN gate, SET_LINK function

This function is used to set characteristics of a Recovery Manager Link object.

Input Parameters

LINK_TOKEN
A token identifying the Recovery Manager Link object.

ACCESSIBLE
Optional Parameter

A parameter specifying that the communications link to the remote system has failed.

Values for the parameter are:
`NO`
`SHUNTED`

COORDINATOR
Optional Parameter

A parameter specifying whether the remote system is the coordinator of the distributed unit of work.

Values for the parameter are:
`NO`
`YES`

FORGET
Optional Parameter

A parameter specifying whether all obligations to the remote system with respect to recovery have been discharged.

Values for the parameter are:
`NO`
`YES`

INITIATOR
Optional Parameter

A parameter specifying whether the remote system is the initiator of the syncpoint.

Values for the parameter are:
`NO`
`YES`

LINK_ID_BUFFER
Optional Parameter

A buffer containing the termid of the session to the remote system, or the External Resource Manager qualifier.

LINK_ID_SOURCE
Optional Parameter

An optional parameter specifying whether the local or remote system allocated the session.

Values for the parameter are:
`LOCAL`
`REMOTE`

LOGNAME_BUFFER
Optional Parameter

An optional parameter specifying a buffer containing the logname of the remote system.

PRELOGGING
Optional Parameter

A parameter specifying whether the client requires to be called with the PERFORM_PRELOGGING callback function.

Values for the parameter are:
`NO`
`YES`

RECOVERY_STATUS
Optional Parameter

A parameter specifying whether recoverable work has taken place as part of the distributed unit of work on the remote system.

Values for the parameter are:
`NECESSARY`
`SYNC_LEVEL_1`
`UNNECESSARY`

RESOLVE_TO_CURRENT_LINK
Optional Parameter

Up to two Recovery Manager Link objects may be associated with a token. This optional parameter specifies whether to return information about the most recent or not.

Values for the parameter are:
`NO`
`YES`

RESYNC_SCHEDULED
Optional Parameter

A parameter specifying whether resynchronization activity has been scheduled.

Values for the parameter are:
`NO`
`YES`

SINGLE_UPDATER
Optional Parameter

A parameter specifying whether the remote system supports the single updater optimization.

Values for the parameter are:
`NO`
`YES`

UNSHUNTED
Optional Parameter

A parameter specifying whether the unit of work is not currently shunted.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
: The values for the parameter are:
  `COORDINATOR_ALREADY`
  `INITIATOR_ALREADY`
  `INVALID_SYNCPOINT_STATE`
  `LINK_UNKNOWN`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMLN gate, SET_MARK function

This function marks a Recovery Manager Link object during recovery.

Input Parameters

LINK_TOKEN
: A token identifying the Recovery Manager Link object.

MARK
: Optional Parameter

  Binary parameter indicating whether the links should be marked.

  Values for the parameter are:
  `NO`
  `YES`

Output Parameters

REASON
: The values for the parameter are:
  `LINK_ACTIVE`
  `LINK_UNKNOWN`
  `RECOVERY_IN_PROGRESS`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMLN gate, SET_RECOVERY_STATUS function

This function is used to notify an Recovery Manager Link object of the outcome of a distributed unit of work which failed in the in doubt window. It results in the shunted unit of work the Recovery Manager Link object belongs to unshunting and committing or backing out its resource updates as appropriate.

Input Parameters

DIRECTION
: Parameter specifying whether to commit (FORWARD), backout (BACKWARD) or obey the ACTION attribute in the definition of the originating transaction.

  Values for the parameter are:
  `INBOUND`
  `OUTBOUND`

LINK_TOKEN
: A token identifying the Recovery Manager Link object.

REMOTE_UOW_STATUS
: Optional Parameter

  The status of the unit of work in the remote system.

Values for the parameter are:
`BACKWARD`
`COLD`
`FORWARD`
`HEURISTIC_BACKWARD`
`HEURISTIC_FORWARD`
`HEURISTIC_MIXED`
`INDOUBT`
`RESET`
`UNKNOWN`

TOLERATE_VIOLATIONS
Optional Parameter

A parameter specifying the rules to be used to detect resynchronization protocol violations.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The values for the parameter are:
`ALREADY_SET`
`LINK_UNKNOWN`
`RECOVERY_NOT_IN_PROGRESS`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

UOW_STATUS
Optional Parameter

The status of the unit of work.

Values for the parameter are:
`BACKWARD`
`FORWARD`
`HEURISTIC_BACKWARD`
`HEURISTIC_FORWARD`
`INDOUBT`

RMLN gate, START_LINK_BROWSE function

This function starts a browse of Recovery Manager Link objects. The browse can return either

Input Parameters

CLIENT_NAME
Optional Parameter

Name of the communications protocol used on the link.

REMOTE_ACCESS_ID_BUFFER
Optional Parameter

A buffer containing the netname of the remote system, or the name of the External Resource Manager.

Output Parameters

REASON
: The values for the parameter are:
  `CLIENT_UNKNOWN`
  `UOW_UNKNOWN`

LINK_BROWSE_TOKEN
: A token to be used during a browse of all Recovery Manager Link objects for a particular Recovery Manager client.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

UOW_BROWSE_TOKEN
: A token to be used during a browse of all Recovery Manager Link objects for a particular unit of work object.

RMLN gate, TERMINATE_RECOVERY function

Input Parameters

DIRECTION
: Parameter specifying whether to commit (FORWARD), backout (BACKWARD) or obey the ACTION attribute in the definition of the originating transaction.

  Values for the parameter are:
  `INBOUND`
  `OUTBOUND`

FORGET
: A parameter specifying whether all obligations to the remote system with respect to recovery have been discharged.

  Values for the parameter are:
  `NO`
  `YES`

LINK_TOKEN
: A token identifying the Recovery Manager Link object.

OPERATOR_INITIATED
: A parameter specifying whether the function is the result of an explicit user action.

  Values for the parameter are:
  `NO`
  `YES`

Output Parameters

REASON
: The values for the parameter are:
  `LINK_UNKNOWN`
  `RECOVERY_NOT_IN_PROGRESS`
  `SET_NOT_DONE`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMNM gate, CLEAR_PENDING function

This function is used to remove Recovery Manager Link objects associated with a specified remote system. Affected indoubt units of work will take a unilateral decision to commit or backout their resource updates.

Input Parameters

CLIENT_NAME
: Name of the communications protocol used on the link.

REMOTE_ACCESS_ID_BUFFER
: A buffer containing the netname of the remote system, or the name of the External Resource Manager.

ALL
: Optional Parameter

  A parameter specifying whether only Recovery Manager Link objects with the same logname as that currently associated with the remote system should be removed or all Recovery Manager Link objects.

  Values for the parameter are:
  NO
  YES

COLD
: Optional Parameter

  A parameter specifying whether the remote system has a new log and so has lost recovery information with respect to units of work in this system.

  Values for the parameter are:
  NO
  YES

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  CLEAR_PENDING_IN_PROGRESS
  NOT_FOUND
  UNKNOWN_CLIENT

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMNM gate, INQUIRE_LOGNAME function

This function returns the logname and data associated with the specified remote system being communicated with via the specified Recovery Manager client.

Input Parameters

LOGNAME_BUFFER
: An optional parameter specifying a buffer containing the logname of the remote system.

CLIENT_NAME
: Optional Parameter

  Name of the communications protocol used on the link.

REMOTE_ACCESS_ID_BUFFER
: Optional Parameter

  A buffer containing the netname of the remote system, or the name of the External Resource Manager.

RMC_DATA_BUFFER
: Optional Parameter

  A buffer to be used to return data owned by the Recovery Manager client.

Output Parameters

REASON
: The values for the parameter are:
  `NOT_FOUND`
  `UNKNOWN_CLIENT`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

IN_USE
: Optional Parameter

  Whether there are any Recovery Manager Link object in the system associated with the logname.

  Values for the parameter are:
  `NO`
  `YES`

RMNM gate, SET_LOGNAME function

This function is used to associate a logname and some data with the netname of a remote system for a specified Recovery Manager client.

Input Parameters

CLIENT_NAME
: Name of the communications protocol used on the link.

LOGNAME_BUFFER
: An optional parameter specifying a buffer containing the logname of the remote system.

REMOTE_ACCESS_ID_BUFFER
: A buffer containing the netname of the remote system, or the name of the External Resource Manager.

RMC_DATA_BUFFER
: Optional Parameter

  A buffer to be used to return data owned by the Recovery Manager client.

Output Parameters

REASON
: The values for the parameter are:
  `UNKNOWN_CLIENT`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMOT gate, COMMIT function

Commit an Open Transaction Environment (OTE) transaction.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `UOW_ROLLEDBACK`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMOT gate, PREPARE function

Prepare an Open Transaction Environment (OTE) transaction.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  - `INVALID_VOTE`

RESPONSE
: Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

VOTE
: The vote from the OTE transaction.

  Values for the parameter are:
  - `HEURISTIC_MIXED`
  - `NO`
  - `READ_ONLY`
  - `YES`

RMOT gate, ROLLBACK function

Roll back an Open Transaction Environment (OTE) transaction.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  - `UOW_COMMITTED`

RESPONSE
: Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

RMOT gate, SET_OTS_UOW function

Set the properties of an Open Transaction Environment (OTE) transaction.

Input Parameters

BQUAL_LEN
FORMAT_ID
LOGICAL_SERVER
PUBLIC_ID
TID_BLOCK_IN

Output Parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

RMRE gate, APPEND function

This function writes data to the system log. The data written is associated with the current unit of work of the currently executing transaction if either FORWARD_DATA(YES) or BACKWARD_DATA(YES) is specified.

Input Parameters

BACKWARD_DATA
: A parameter specifying whether the data is used for backward recovery purposes.

Values for the parameter are:

```
NO
YES
```

CLIENT_NAME

Name of the communications protocol used on the link.

Values for the parameter are:

```
APAL
APIC
APRD
APSP
APUS
BAM
BR
DH
EJ
FC
IRCO
LGGL
LT
NQ
OT
RMIO
RZ
SH
TDTR
TS
XFFR
```

DATA

Address of an extended Iliffe vector. An extended Iliffe vector consists of a linked list of at least one element. Each element of the linked list consists of a variable length array of address length pairs. Each address and length field is four bytes long. The top bit of each address is off except for the last which may be on.

If an address is binary zero, then this terminates the element and the linked list.

If an address has the top bit on, then it terminates the element and points to the next element in the linked list.

An extended Iliffe vector represents the block of data formed by concatenating all the blocks which are pointed to by address length pairs in the vector which have the address top bit off. The order is from front to back of the linked list and from low to high index within each array.

FORCE_DATA

A parameter specifying whether the data is forced out on to the non-volatile log or can merely be written to the volatile log buffer.

Values for the parameter are:

```
NO
YES
```

FORWARD_DATA

A parameter specifying whether the data is used for forward recovery purposes.

Values for the parameter are:

```
NO
```

YES

LOG_BUFFER_SUSPEND
: Optional Parameter

A binary value specifying whether the caller can tolerate the task suspending to wait for space in a log buffer.

Values for the parameter are:

`NO`
`YES`

RAISE_INV_DATA_LENGTH
: Optional Parameter

An optional parameter specifying whether the caller wants to be informed of there being to much data to be logged.

Values for the parameter are:

`NO`
`YES`

REMARK
: Optional Parameter

An optional parameter for the benefit of trace to describe the data being logged.

RESOURCE_ID
: Optional Parameter

A parameter specifying the name of the resource with which the data to be logged is associated.

Output Parameters

REASON
: The values for the parameter are:

`INSUFFICIENT_BUFFER_SPACE`
`INVALID_CLIENT_NAME`
`INVALID_DATA_LENGTH`
`INVALID_RESOURCE_ID`
`NO_DATA`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FORCE_TOKEN
: Optional Parameter

A token that can be used to force the data on to the non-volatile log with the FORCE function of the RMRE gate.

RMRE gate, AVAIL function

This function informs Recovery Manager that a local resource has become available. It is used when either a backout failure or a commit failure has previously occurred and the resource (or reason for the failure) has now cleared - or there is now reason to believe it may have cleared.

Input Parameters

CLIENT_NAME
: Name of the communications protocol used on the link.

Values for the parameter are:

`APAL`

APIC
APRD
APSP
APUS
BAM
BR
DH
EJ
FC
IRCO
LGGL
LT
NQ
OT
RMIO
RZ
SH
TDTR
TS
XFFR

LOCAL_ACCESS_ID
An optional parameter specifying a buffer in which the local access ID of the resource causing the unit of work to shunt will be returned.

GENERIC
Optional Parameter

A binary value indicating if the local access ID is generic.

Values for the parameter are:
NO
YES

Output Parameters

REASON
The values for the parameter are:
LOCAL_ACCESS_ID_UNKNOWN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMRE gate, FORCE function

This function forces data written previously to a log buffer to the non-volatile log.

Input Parameters

FORCE_TOKEN
A token returned on a previous call to the APPEND function of the RMRE gate.

Output Parameters

REASON
The values for the parameter are:
INSUFFICIENT_BUFFER_SPACE
INVALID_CLIENT_NAME
INVALID_DATA_LENGTH
INVALID_LOCAL_ACCESS_ID
INVALID_RESOURCE_ID

LOCAL_ACCESS_ID_UNKNOWN
NO_DATA
UOW_NOT_BACKWARDS
UOW_NOT_SHUNTED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMRE gate, KEYPOINT_DATA function

Record keypoint data on the system log.

Input Parameters

CLIENT_NAME
Name of the communications protocol used on the link.

Values for the parameter are:
APAL
APIC
APRD
APSP
APUS
BAM
BR
DH
EJ
FC
IRCO
LGGL
LT
NQ
OT
RMIO
RZ
SH
TDTR
TS
XFFR

DATA

Address of an extended Iliffe vector. An extended Iliffe vector consists of a linked list of at least one element. Each element of the linked list consists of a variable length array of address length pairs. Each address and length field is four bytes long. The top bit of each address is off except for the last which may be on.

If an address is binary zero, then this terminates the element and the linked list.

If an address has the top bit on, then it terminates the element and points to the next element in the linked list.

An extended Iliffe vector represents the block of data formed by concatenating all the blocks which are pointed to by address length pairs in the vector which have the address top bit off. The order is from front to back of the linked list and from low to high index within each array.

RAISE_INV_DATA_LENGTH
Optional Parameter

An optional parameter specifying whether the caller wants to be informed of there being to much data to be logged.

Values for the parameter are:
`NO`
`YES`

REMARK
Optional Parameter

An optional parameter for the benefit of trace to describe the data being logged.

Output Parameters

REASON
The values for the parameter are:
`INVALID_CLIENT_NAME`
`INVALID_DATA_LENGTH`
`NO_DATA`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMRE gate, REMOVE function

This function removes data logged by a Recovery Manager client and associated with a particular local resource from a unit of work.

Input Parameters

CLIENT_NAME
Name of the communications protocol used on the link.

Values for the parameter are:
`APAL`
`APIC`
`APRD`
`APSP`
`APUS`
`BAM`
`BR`
`DH`
`EJ`
`FC`
`IRCO`
`LGGL`
`LT`
`NQ`
`OT`
`RMIO`
`RZ`
`SH`
`TDTR`
`TS`
`XFFR`

LOCAL_ACCESS_ID
An optional parameter specifying a buffer in which the local access id of resource causing the unit of work to shunt will be returned.

LOCAL_UOW_ID
The local UOWID of the required unit of work.

UOW_ID
An optional parameter specifying the network UOWID to be given to the unit of work object. This parameter will be present if the unit of work being created is part of a distributed unit of work that originated on another system.

Output Parameters

REASON
The values for the parameter are:
- INVALID_CLIENT_NAME
- INVALID_LOCAL_ACCESS_ID
- UOW_NOT_BACKWARDS
- UOW_NOT_SHUNTED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMRE gate, REQUEST_FORGET function

This function associates a Recovery Manager client and a named local resource with a requirement to engage in forget processing.

Input Parameters

CLIENT_NAME
Name of the communications protocol used on the link.

Values for the parameter are:
- APAL
- APIC
- APRD
- APSP
- APUS
- BAM
- BR
- DH
- EJ
- FC
- IRCO
- LGGL
- LT
- NQ
- OT
- RMIO
- RZ
- SH
- TDTR
- TS
- XFFR

LOCAL_ACCESS_ID
An optional parameter specifying a buffer in which the local access id of resource causing the unit of work to shunt will be returned.

LOG_NEEDED
Optional Parameter

Binary value that specifies whether the information is to be recorded in the system log, for recovery at emergency restart.

Values for the parameter are:
- NO

YES

Output Parameters

REASON
The values for the parameter are:
INVALID_CLIENT_NAME
INVALID_LOCAL_ACCESS_ID

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMSL gate, TAKE_ACTIVITY_KEYPOINT function

This function performs the activity associated with taking a keypoint.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMUW gate, BACKOUT_UOW function

This function causes the changes in a unit of work to be backed out.

Input Parameters

CONTINUE
Is the task continuing into a following, new unit of work.

Values for the parameter are:
NO
YES

RESTART
Optional Parameter

This parameter is only applicable when CONTINUE(NO) is specified and indicates whether or not transaction restart will be performed.

Values for the parameter are:
NO
YES

Output Parameters

REASON
The values for the parameter are:
BACKOUT_FAILURE
COMMIT_FAILURE
REMOTE_COMMIT_ABENDED
ROLLBACK_NOT_SUPPORTED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMUW gate, BIND_UOW_TO_TXN function

Make the specified unit of work the current unit of work for the current transaction.

Input Parameters

UOW_TOKEN
An optional parameter specifying a token used to identify the unit of work object being queried.

Output Parameters

REASON
The values for the parameter are:
- BACKOUT_FAILURE
- BROWSE_END
- COMMIT_FAILURE
- HEURISTIC_BACKOUT
- HEURISTIC_COMMIT
- HEURISTIC_READONLY_BACKOUT
- HEURISTIC_READONLY_COMMIT
- INDOUBT_FAILURE
- INVALID_BROWSE_TOKEN
- LINKS_INVALID
- LOCAL_NO_MARKED
- LOCAL_NO_VOTE
- NOT_FOUND
- NOT_SHUNTED
- REMOTE_COMMIT_ABENDED
- REMOTE_NO_DECISION
- REMOTE_NO_VOTE
- RESYNCH_IN_PROGRESS
- ROLLBACK
- ROLLBACK_NOT_SUPPORTED
- UOW_NOT_INDOUBT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMUW gate, COMMIT_UOW function

This function attempts to commit the changes made in a unit of work.

Input Parameters

CONTINUE
Is the task continuing into a following, new unit of work.

Values for the parameter are:
- NO
- YES

Output Parameters

REASON
The values for the parameter are:
- COMMIT_FAILURE
- HEURISTIC_BACKOUT
- HEURISTIC_COMMIT
- HEURISTIC_READONLY_BACKOUT
- HEURISTIC_READONLY_COMMIT
- INDOUBT_FAILURE
- LINKS_INVALID
- LOCAL_NO_MARKED
- LOCAL_NO_VOTE

REMOTE_COMMIT_ABENDED
REMOTE_NO_DECISION
REMOTE_NO_VOTE
ROLLBACK

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMUW gate, CREATE_NETWORK_UOWID function

Generate a unit-of-word ID (UOWID).

Input Parameters

UOW_ID
A block in which the generated UOWID is returned.

Output Parameters

REASON
The values for the parameter are:
BACKOUT_FAILURE
BROWSE_END
COMMIT_FAILURE
HEURISTIC_BACKOUT
HEURISTIC_COMMIT
HEURISTIC_READONLY_BACKOUT
HEURISTIC_READONLY_COMMIT
INDOUBT_FAILURE
INVALID_BROWSE_TOKEN
LINKS_INVALID
LOCAL_NO_MARKED
LOCAL_NO_VOTE
NOT_FOUND
NOT_SHUNTED
REMOTE_COMMIT_ABENDED
REMOTE_NO_DECISION
REMOTE_NO_VOTE
RESYNCH_IN_PROGRESS
ROLLBACK
ROLLBACK_NOT_SUPPORTED
UOW_NOT_INDOUBT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMUW gate, CREATE_UOW function

Create a unit of work object under the currently executing transaction.

Input Parameters

CHOICE
Optional Parameter

Specifies whether the unit of work should commit or backout if requested to take a unilateral decision.

Values for the parameter are:
BACKWARD
FORWARD

HEURISM

Optional Parameter

Specifies whether the unit of work should take a unilateral decision if a failure occurs in the in doubt window.

Values for the parameter are:

```
NO
YES
```

INDOUBT_TIMEOUT_INTERVAL

Optional Parameter

The period of time that the unit of work should be prepared to wait in doubt.

UOW_ID

Optional Parameter

The network UOWID to be given to the unit of work object. This parameter will be present if the unit of work being created is part of a distributed unit of work that originated on another system.

USERID

Optional Parameter

The userid associated with the currently executing transaction.

Output Parameters

REASON

The values for the parameter are:

```
BACKOUT_FAILURE
BROWSE_END
COMMIT_FAILURE
HEURISTIC_BACKOUT
HEURISTIC_COMMIT
HEURISTIC_READONLY_BACKOUT
HEURISTIC_READONLY_COMMIT
INDOUBT_FAILURE
INVALID_BROWSE_TOKEN
LINKS_INVALID
LOCAL_NO_MARKED
LOCAL_NO_VOTE
NOT_FOUND
NOT_SHUNTED
REMOTE_COMMIT_ABENDED
REMOTE_NO_DECISION
REMOTE_NO_VOTE
RESYNCH_IN_PROGRESS
ROLLBACK
ROLLBACK_NOT_SUPPORTED
UOW_NOT_INDOUBT
```

RESPONSE

Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

RMUW gate, END_UOW_BROWSE function

This function is used at the end of a browse of the unit of work objects in the system.

Input Parameters

`BROWSE_TOKEN`
: A token obtained from a previous START_UOW_BROWSE call.

Output Parameters

`REASON`
: The values for the parameter are:
  `INVALID_BROWSE_TOKEN`

`RESPONSE`
: Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

RMUW gate, END_WORK_TOKEN_BROWSE function

This function is used at the end of a browse of the work token objects in the system.

Input Parameters

`BROWSE_TOKEN`
: A token obtained from a previous START_WORK_TOKEN_BROWSE call.

Output Parameters

`REASON`
: The values for the parameter are:
  `INVALID_BROWSE_TOKEN`

`RESPONSE`
: Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

RMUW gate, FORCE_UOW function

This function forces an in doubt unit of work to unilaterally commit or backout its changes rather than continue waiting for resynchronization with the coordinating system.

Input Parameters

`UOW_TOKEN`
: An optional parameter specifying a token used to identify the unit of work object being queried.

`DIRECTION`
: Optional Parameter

  Parameter specifying whether to commit (FORWARD), backout (BACKWARD) or obey the ACTION attribute in the definition of the originating transaction.

  Values for the parameter are:
  `BACKWARD`
  `FORWARD`
  `HEURISTIC`

`HEURISTIC_CAUSE`
: Optional Parameter

  An indication of the reason a unilateral decision must be taken.

  Values for the parameter are:
  `OPERATOR`
  `OTHER_CAUSE`
  `TIMEOUT`

Output Parameters

REASON
: The values for the parameter are:
  `NOT_FOUND`
  `NOT_SHUNTED`
  `RESYNCH_IN_PROGRESS`
  `UOW_NOT_INDOUBT`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMUW gate, GET_NEXT_UOW function

This function returns information about the next unit of work object in the browse.

Input Parameters

BROWSE_TOKEN
: A token obtained from a previous START_UOW_BROWSE call.

LINK_ID
: Optional Parameter

  An optional parameter specifying a buffer in which the termid of the link to the coordinating system will be returned.

LOCAL_ACCESS_ID
: Optional Parameter

  An optional parameter specifying a buffer in which the local access id of resource causing the unit of work to shunt will be returned.

LOGNAME
: Optional Parameter

  An optional parameter specifying a buffer in which the log name of the coordinating system will be returned.

OTS_TID
: Optional Parameter

REMOTE_ACCESS_ID
: Optional Parameter

  An optional parameter specifying a buffer in which the netname of coordinating system will be returned.

UOW_ID
: Optional Parameter

  An optional parameter specifying the network UOWID to be given to the unit of work object. This parameter will be present if the unit of work being created is part of a distributed unit of work that originated on another system.

Output Parameters

REASON
: The values for the parameter are:
  `BROWSE_END`
  `INVALID_BROWSE_TOKEN`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACCESS_ID_TYPE
: Optional Parameter

  The type of resource that has caused the unit of work to shunt.

Values for the parameter are:
`LOCAL`
`REMOTE`

`AWAITING_FORGET`
Optional Parameter

The unit of work might have completed syncpoint processing, and be merely waiting for confirmation that subordinates have completed theirs.

Values for the parameter are:
`NO`
`YES`

`CHOICE`
Optional Parameter

The choice of whether the unit of work should commit or backout if requested to take a unilateral decision.

Values for the parameter are:
`BACKWARD`
`FORWARD`

`CLIENT_NAME`
Optional Parameter

The name of the Recovery Manager client that owns the resource that has caused the unit of work to shunt.

`CREATION_TIME`
Optional Parameter

An 8 byte Store Clock representation of the time the unit of work was created.

`DURATION`
Optional Parameter

An 8 byte Store Clock representation of the time the unit of work changed state.

`FIRST_UOW_FOR_TXN`
Optional Parameter

A binary value that indicates whether this is the first unit of work in the CICS transaction.

Values for the parameter are:
`NO`
`YES`

`HEURISM`
Optional Parameter

Whether the unit of work should take a unilateral decision if a failure occurs in the in doubt window.

Values for the parameter are:
`NO`
`YES`

`LOCAL_UOW_ID`
Optional Parameter

An optional parameter to receive the local UOWID.

`OP_ID`
Optional Parameter

The Operator Id associated with the task that created the unit of work.

OUT_UOW_TOKEN
Optional Parameter

The token used to identify the unit of work object.

SHUNTED
Optional Parameter

The unit of work may or may not be shunted.

Values for the parameter are:
`NO`
`YES`

TERMID
Optional Parameter

The termid associated with the task that created the unit of work object.

TERMINAL_LUNAME
Optional Parameter

The terminal LU name associated with the task that created the unit of work object.

TRANID
Optional Parameter

The tranid of the task that created the unit of work object.

TRANNUM
Optional Parameter

The task number of the task that created the unit of work.

UOW_STATUS
Optional Parameter

The status of the unit of work.

Values for the parameter are:
`BACKWARD`
`FORWARD`
`HEURISTIC_BACKWARD`
`HEURISTIC_FORWARD`
`IN_DOUBT`
`IN_FLIGHT`

USERID
Optional Parameter

The userid associated with the task that created the unit of work object.

RMUW gate, GET_NEXT_WORK_TOKEN function

This function returns information about the next work token object in the browse.

Input Parameters

BROWSE_TOKEN
A token obtained from a previous START_WORK_TOKEN_BROWSE call.

Output Parameters

REASON
The values for the parameter are:
`BROWSE_END`
`INVALID_BROWSE_TOKEN`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WORK_TOKEN
: The work token returned by the browse operation.

LOCAL_UOW_ID
: Optional Parameter

  The local unit of work identifier for the unit of work associated with the work token.

UOW_TOKEN
: Optional Parameter

  The token for the unit of work associated with the work token.

RMUW gate, INQUIRE_UOW function

This function is used to query information about a particular unit of work.

Input Parameters

LINK_ID
: Optional Parameter

  A buffer in which the termid of the link to the coordinating system will be returned.

LOCAL_ACCESS_ID
: Optional Parameter

  A buffer in which the local access id of resource causing the unit of work to shunt will be returned.

LOG_CHAIN_TOKEN
: Optional Parameter

  A token that identifies the log chain whose unit of work object is to be queried.

LOGNAME
: Optional Parameter

  A buffer in which the log name of the coordinating system will be returned.

OTS_TID
: Optional Parameter

  The Open Transaction Environment (OTE) identifier of the unit of work.

REMOTE_ACCESS_ID
: Optional Parameter

  A buffer in which the netname of coordinating system will be returned.

TRANSACTION_TOKEN
: Optional Parameter

  A token that identifies the transaction whose unit of work object is to be queried.

UOW_ID
: Optional Parameter

  A buffer in which the network UOWID will be returned.

UOW_TOKEN
: Optional Parameter

  A token that identifies the unit of work object being queried.

Output Parameters

REASON
The values for the parameter are:
`NOT_FOUND`

RESPONSE
The domian's response to the call.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

ACCESS_ID_TYPE
Optional Parameter

The type of resource that has caused the unit of work to shunt.

Values for the parameter are:
`LOCAL`
`REMOTE`

AWAITING_FORGET
Optional Parameter

Indicates that the unit of work has completed syncpoint processing, and is just waiting for confirmation that subordinates have completed theirs.

Values for the parameter are:
`NO`
`YES`

CHOICE
Optional Parameter

The choice that has been made as to whether the unit of work should commit or backout if requested to take a unilateral decision.

Values for the parameter are:
`BACKWARD`
`FORWARD`

CLIENT_NAME
Optional Parameter

The name of the Recovery Manager client that owns the resource that has caused the unit of work to shunt.

CREATION_TIME
Optional Parameter

An 8 byte Store Clock representation of the time the unit of work was created.

DURATION
Optional Parameter

An 8 byte Store Clock representation of the time the unit of work changed state.

FIRST_UOW_FOR_TXN
Optional Parameter

A binary value indicating if this is the first unit of work for the transaction.

Values for the parameter are:
`NO`
`YES`

HEURISM
Optional Parameter

Binary value indicating whether the unit of work should take a unilateral decision if a failure occurs in the in doubt window.

Values for the parameter are:
`NO`
`YES`

LOCAL_UOW_ID
Optional Parameter

The local unit of work id.

OP_ID
Optional Parameter

The Operator Id associated with the task that created the unit of work.

OUT_UOW_TOKEN
Optional Parameter

The token used to identify the unit of work object.

SHUNTED
Optional Parameter

A binary value indicating if the unit of work has been shunted.

Values for the parameter are:
`NO`
`YES`

TERMID
Optional Parameter

The termid associated with the task that created the unit of work object.

TERMINAL_LUNAME
Optional Parameter

The terminal LU name associated with the task that created the unit of work object.

TRANID
Optional Parameter

The tranid of the task that created the unit of work object.

TRANNUM
Optional Parameter

The transaction number of the task that created the unit of work.

UOW_STATUS
Optional Parameter

The status of the unit of work.

Values for the parameter are:
`BACKWARD`
`FORWARD`
`HEURISTIC_BACKWARD`
`HEURISTIC_FORWARD`
`IN_DOUBT`
`IN_FLIGHT`

USERID
Optional Parameter

The userid associated with the task that created the unit of work object.

RMUW gate, INQUIRE_UOW_ID function

Return the network and local UOWIDs of the unit of work of the currently executing transaction.

Input Parameters

UOW_ID
Optional Parameter

An optional parameter specifying the network UOWID to be given to the unit of work object. This parameter will be present if the unit of work being created is part of a distributed unit of work that originated on another system.

Output Parameters

REASON
The values for the parameter are:

```
BACKOUT_FAILURE
BROWSE_END
COMMIT_FAILURE
HEURISTIC_BACKOUT
HEURISTIC_COMMIT
HEURISTIC_READONLY_BACKOUT
HEURISTIC_READONLY_COMMIT
INDOUBT_FAILURE
INVALID_BROWSE_TOKEN
LINKS_INVALID
LOCAL_NO_MARKED
LOCAL_NO_VOTE
NOT_FOUND
NOT_SHUNTED
REMOTE_COMMIT_ABENDED
REMOTE_NO_DECISION
REMOTE_NO_VOTE
RESYNCH_IN_PROGRESS
ROLLBACK
ROLLBACK_NOT_SUPPORTED
UOW_NOT_INDOUBT
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LOCAL_UOW_ID
Optional Parameter

An optional parameter to receive the local UOWID.

RMUW gate, INQUIRE_UOW_TOKEN function

Return the token identifying the unit of work object with the specified local UOWID.

Input Parameters

LOCAL_UOW_ID
The local UOWID of the required unit of work.

Output Parameters

REASON
The values for the parameter are:

```
NOT_FOUND
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

UOW_TOKEN
A token identifying the unit of work object.

RMUW gate, INQUIRE_WORK_TOKEN function

Retrieve the work token that is associated with a client in a unit of work.

Input Parameters

CLIENT_NAME
The name of the client that is associated with the work token.

Values for the parameter are:
APAL
APIC
APRD
APSP
APUS
BAM
BR
DH
EJ
FC
IRCO
LGGL
LT
NQ
OT
RMIO
RZ
SH
TDTR
TS
XFFR

UOW_TOKEN
Optional Parameter

A token that identifies the unit of work. If this parameter is omitted, the request is made against the current unit of work.

Output Parameters

REASON
The values for the parameter are:
NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WORK_TOKEN
The work token.

RMUW gate, REATTACH_REPLY function

This function gives control to Recovery Manager to do its unshunt processing under a re-attached transaction.

Input Parameters

UOW_TOKEN
An optional parameter specifying a token used to identify the unit of work object being queried.

Output Parameters

REASON
The values for the parameter are:

```
BACKOUT_FAILURE
BROWSE_END
COMMIT_FAILURE
HEURISTIC_BACKOUT
HEURISTIC_COMMIT
HEURISTIC_READONLY_BACKOUT
HEURISTIC_READONLY_COMMIT
INDOUBT_FAILURE
INVALID_BROWSE_TOKEN
LINKS_INVALID
LOCAL_NO_MARKED
LOCAL_NO_VOTE
NOT_FOUND
NOT_SHUNTED
REMOTE_COMMIT_ABENDED
REMOTE_NO_DECISION
REMOTE_NO_VOTE
RESYNCH_IN_PROGRESS
ROLLBACK
ROLLBACK_NOT_SUPPORTED
UOW_NOT_INDOUBT
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMUW gate, SET_UOW function

This function is used to set characteristics of the currently executing unit of work.

Input Parameters

HEURISM
Optional Parameter

An optional parameter specifying whether the unit of work should take a unilateral decision if a failure occurs in the in doubt window.

Values for the parameter are:

```
YES
```

HEURISTIC_CAUSE
Optional Parameter

An indication of the reason a unilateral decision must be taken.

Values for the parameter are:

```
LU61_CLIENT
MRO_CLIENT
OTHER_CLIENT
RMI_CLIENT
TD_CLIENT
```

Output Parameters

REASON
  The values for the parameter are:
    NOT_FOUND

RESPONSE
  Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMUW gate, SET_WORK_TOKEN function

Pass a work token to recovery manager, denoting a client's interest in the current unit-of-work.

Input Parameters

CLIENT_NAME
  The name of the client that is associated with the work token.

  Values for the parameter are:
    APAL
    APIC
    APRD
    APSP
    APUS
    BAM
    BR
    DH
    EJ
    FC
    IRCO
    LGGL
    LT
    NQ
    OT
    RMIO
    RZ
    SH
    TDTR
    TS
    XFFR

WORK_TOKEN
  The client's work token.

RMUW gate, START_UOW_BROWSE function

This function is used to start a browse of unit of work objects in the system.

Input Parameters

SHUNTED
  Optional Parameter

  The browse can be of only shunted units of work, only non-shunted units of work or all units of work.

  Values for the parameter are:
    BOTH
    NO
    YES

Output Parameters

REASON
  The values for the parameter are:
    NOT_FOUND

BROWSE_TOKEN
  A token to be used on subsequent GET_NEXT_UOW calls.

RESPONSE
  Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMUW gate, START_WORK_TOKEN_BROWSE function

Start a browse operation on the work tokens associated with a client.

Input Parameters

CLIENT_NAME
  The name of the client that is associated with the work token.

  Values for the parameter are:
    APAL
    APIC
    APRD
    APSP
    APUS
    BAM
    BR
    DH
    EJ
    FC
    IRCO
    LGGL
    LT
    NQ
    OT
    RMIO
    RZ
    SH
    TDTR
    TS
    XFFR

Output Parameters

REASON
  The values for the parameter are:
    NOT_FOUND

BROWSE_TOKEN
  A token that identifies the browse operation.

RESPONSE
  Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Recovery manager domain call-back formats

Table 66 describes the call-back formats owned by the domain and shows the functions performed on the calls.

Table 66. Recovery manager domain call-back formats

Format	Calling module	Function
RMRO	DFHRMUO	PERFORM_COMMIT
	DFHRMUP	
	DFHRMUQ	
	DFHRMUW	
	DFHRMUO	PERFORM_PREPARE
	DFHRMRO2	START_BACKOUT
	DFHRMRO3	DELIVER_BACKOUT_DATA
	DFHRMRO4	END_BACKOUT
	DFHRMROS	PERFORM_SHUNT
	DFHRMROU	PERFORM_UNSHUNT
RMDE	DFHRMR1S	START_DELIVERY
	DFHRMR1D	DELIVER_RECOVERY
	DFHRMR1E	END_DELIVERY
	DFHRMR1D	DELIVER_FORGET
RMKP	DFHRMR1K	TAKE_KEYPOINT
RMLK	DFHRMLSP	PERFORM_PRELOGGING
	DFHRMLSP	PERFORM_PREPARE
	DFHRMLSD	REPLY_DO_COMMIT
	DFHRMLSD	SEND_DO_COMMIT
	DFHRMLSO	PERFORM_COMMIT
	DFHRMLSS	PERFORM_SHUNT
	DFHRMLSU	PERFORM_UNSHUNT

Note: In the descriptions of the formats, the input parameters are input not to the Recovery manager domain, but to the domain being called by the Recovery manager domain. Similarly, the output parameters are output by the domain that was called by the Recovery manager domain, in response to the call.

RMRO gate, DELIVER_BACKOUT_DATA function

This function requires the Recovery Manager client process backout data from the system log for the unit of work.

Input Parameters

WORK_TOKEN
The Recovery Manager client's work token for the syncpointing unit of work.

DATA
A buffer containing the data previously logged with BACKWARD_DATA(YES) via the APPEND function of the RMRE gate.

RESOURCE_ID
Optional parameter.

The name of the resource with which the logged data is associated.

CONTINUE
A parameter specifying whether the current transaction will continue into a following unit of work.

The values for the parameter are:
`NO`

`YES`

FORWARD_DATA
A parameter specifying whether or not the data was originally logged as FORWARD_DATA.

The values for the parameter are:
`NO`
`YES`

REMOVE
A parameter specifying whether or not the backout is due to an invocation of the REMOVE function of the RMRE gate.

The values for the parameter are:
`NO`
`YES`

CLUSTER_ID
A buffer to receive a symbolic name identifying the resource.

LOCAL_ACCESS_ID
A buffer to receive the specific name of the resource

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

KEEP
A value specifying whether the backout action failed, implying the record should be kept and not forgotten.

The values for the parameter are:
`NO`
`YES`

RMRO gate, END_BACKOUT function

This function notifies the Recovery Manager client that backout processing has completed for the unit of work.

Input Parameters

WORK_TOKEN
The Recovery Manager client's work token for the syncpointing unit of work.

CONTINUE
A parameter specifying whether the current transaction will continue into a following unit of work.

The values for the parameter are:
`NO`
`YES`

REMOVE
A parameter specifying whether or not the backout is due to an invocation of the REMOVE function of the RMRE gate.

The values for the parameter are:
`NO`
`YES`

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMRO gate, PERFORM_COMMIT function

This function requires the Recovery Manager client to perform phase two of syncpoint processing.

Input Parameters

WORK_TOKEN
The Recovery Manager client's work token for the syncpointing unit of work.

CONTINUE
A parameter specifying whether the current transaction will continue into a following unit of work.

The values for the parameter are:
```
NO
YES
```

UOW_STATUS
The status of the current unit of work.

The values for the parameter are:
```
BACKWARD
FORWARD
```

RESTART
Optional parameter

Specifies whether a backing out transaction will be restarted.

The values for the parameter are:
```
NO
YES
```

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FORGET_RECORD
A value specifying whether all obligations to this Recovery Manager client have been discharged.

The values for the parameter are:
```
NO
YES
```

RMRO gate, PERFORM_PREPARE function

This function requires the Recovery Manager client to perform phase one of syncpoint processing.

Input Parameters

WORK_TOKEN
The Recovery Manager client's work token for the syncpointing unit of work.

CONTINUE
A parameter specifying whether the current transaction will continue into a following unit of work.

The values for the parameter are:
```
NO
YES
```

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

VOTE
A value specifying the Recovery Manager client's vote on the outcome of the syncpointing unit of work.

It can have any one of these values: YES|NO|NO_CONTINUE|READ_ONLY

The values for the parameter are:
- NO
- NO_CONTINUE
- READ_ONLY
- YES

RMRO gate, PERFORM_SHUNT function

This function notifies the Recovery Manager client that the unit of work is about to shunt.

Input Parameters

WORK_TOKEN
The Recovery Manager client's work token for the syncpointing unit of work.

CONTINUE
A parameter specifying whether the current transaction will continue into a following unit of work.

The values for the parameter are:
- NO
- YES

Output Parameters

NEXT_WORK_TOKEN
A value for the Recovery Manager client's work token in the following unit of work.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMRO gate, PERFORM_UNSHUNT function

This function notifies the Recovery Manager client that the unit of work is unshunting.

Input Parameters

WORK_TOKEN
The Recovery Manager client's work token for the syncpointing unit of work.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMRO gate, START_BACKOUT function

This function notifies the Recovery Manager client that backout processing is about to be performed for the unit of work.

Input Parameters

`WORK_TOKEN`
: The Recovery Manager client's work token for the syncpointing unit of work.

`CONTINUE`
: A parameter specifying whether the current transaction will continue into a following unit of work.

  The values for the parameter are:
  `NO`
  `YES`

`REMOVE`
: A parameter specifying whether or not the backout is due to an invocation of the REMOVE function of the RMRE gate.

  The values for the parameter are:
  `NO`
  `YES`

Output Parameters

`RESPONSE`
: Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

RMDE gate, DELIVER_FORGET function

This function notifies the Recovery Manager client that FORGET processing is required for some resource in a unit of work.

Input Parameters

LOCAL_ACCESS_ID

A parameter specifying the name of the resource associated with the forget processing.

`UOW`
: A parameter with the fixed value `YES`.

`UOW_STATUS`
: The status of the unit of work.

  The values for the parameter are:
  `FORWARD`
  `BACKWARD`
  `IN_DOUBT`
  `IN_FLIGHT`

`LOCAL_UOW_ID`
: The local unit of work identifier.

Output Parameters

`RESPONSE`
: Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

RMDE gate, DELIVER_RECOVERY function

This function requires the Recovery Manager client to process recovery data from the system log.

Input Parameters

`RESOURCE_ID`
: Optional parameter

The name of the resource with which the logged data is associated.

DATA
A buffer containing the data previously logged with BACKWARD_DATA(YES) via the APPEND function of the RMRE gate.

FORWARD_DATA
A parameter specifying whether or not the data was originally logged as FORWARD_DATA. It can have any one of these values: YES|NO

The values for the parameter are:
`NO`
`YES`

BACKWARD_DATA
A parameter specifying whether or not the data was originally logged as BACKWARD_DATA.

The values for the parameter are:
`NO`
`YES`

KEYPOINT
A parameter specifying whether or not the data was logged as part of a keypoint.

The values for the parameter are:
`NO`
`YES`

BACKED_OUT
A parameter specifying whether or not the update the data is associated with backed out.

UOW
A parameter specifying whether the data is related to a particular unit of work.

The values for the parameter are:
`NO`
`YES`

UOW_STATUS
Optional parameter

Specifies the status of unit of work the data belongs to (if any).

The values for the parameter are:
`FORWARD`
`BACKWARD`
`IN_DOUBT`
`IN_FLIGHT`

LOCAL_UOW_ID

Optional parameter

Specifies the local UOWID of the unit of work the data belongs to (if any).

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMDE gate, END_DELIVERY function

This function notifies the Recovery Manager client that all recovery information from the system log has been processed.

Input Parameters

None

Output Parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMDE gate, START_DELIVERY function

This function notifies the Recovery Manager client that system recovery processing is about to be performed.

Input Parameters

None

Output Parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMKP gate, TAKE_KEYPOINT function

This function requires the Recovery Manager client to perform keypoint processing.

Input Parameters

SHUTDOWN
: Specifies whether the keypoint is the warm keypoint taken during shutdown or an activity keypoint.

  The values for the parameter are:
  `NO`
  `YES`

Output Parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RMLK gate, PERFORM_COMMIT function

This function requires the Recovery Manager client perform phase two of syncpoint processing.

Input Parameters

RMC_TOKEN
: The Recovery Manager client's token associated with the Recovery Manager Link object.

CONTINUE
: A parameter specifying whether the current transaction will continue into a following unit of work.

  The values for the parameter are:
  `NO`
  `YES`

SINGLE_UPDATER
A parameter specifying whether the single updater optimization is being performed.

The values for the parameter are:
NO
YES

UOW_STATUS
The status of the syncpointing unit of work.

The values for the parameter are:
BACKWARD
FORWARD

RESTART
Optional parameter

Specifies whether a backing out transaction will be restarted.

The values for the parameter are:
NO
YES

COORDINATOR
A parameter specifying whether the remote system is the coordinator of the distributed unit of work.

The values for the parameter are:
NO
YES

INITIATOR
A parameter specifying whether the remote system is the initiator of the syncpoint.

The values for the parameter are:
NO
YES

PRESUMPTION
A parameter specifying whether the remote system assumes the presume abort or presume nothing protocols.

The values for the parameter are:
ABORT
NOTHING

RECOVERY_STATUS
A parameter specifying whether recoverable work has taken place as part of the distributed unit of work on the remote system.

The values for the parameter are:
NECESSARY
UNNECESSARY
SYNC_LEVEL_1

Output Parameters

RESPONSE
is the Recovery Manager domain's response to the call.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID

KERNERROR
PURGED

ACCESSIBLE
A parameter specifying that the communications link to the remote system has failed.

The values for the parameter are:
NO
SHUNTED
YES

FORGET
A parameter specifying whether all obligations to the remote system with respect to recovery have been discharged.

The values for the parameter are:
NO
YES

PASS
A parameter specifying whether an equivalent Recovery Manager Link object should be created in the following unit of work.

The values for the parameter are:
NO
YES

ABEND
A parameter specifying whether an abend occurred during the PERFORM_COMMIT call-back.

The values for the parameter are:
NO
YES

NEXT_RECOVERY_STATUS
A parameter specifying the initial RECOVERY_STATUS of the Recovery Manager Link object created in the following unit of work as a result of PASS(YES).

The values for the parameter are:
DEFAULT
NECESSARY
SYNC_LEVEL_1
UNNECESSARY

RMLK gate, PERFORM_PRELOGGING function

This function notifies the Recovery Manager client that phase one of syncpoint processing is about to occur.

Input Parameters

RMC_TOKEN
The Recovery Manager client's token associated with the Recovery Manager Link object.

INITIATOR
A parameter specifying whether the remote system is the initiator of the syncpoint.

The values for the parameter are:
NO
YES

COORDINATOR
A parameter specifying whether the remote system is the coordinator of the distributed unit of work.

The values for the parameter are:
`NO`
`YES`

Output Parameters

RESPONSE
is the domain's response to the call.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

RMLK gate, PERFORM_PREPARE function

This function requires the Recovery Manager client perform phase one of syncpoint processing.

Input Parameters

RMC_TOKEN
The Recovery Manager client's token associated with the Recovery Manager Link object.

CONTINUE
A parameter specifying whether the current transaction will continue into a following unit of work.

The values for the parameter are:
`NO`
`YES`

SYSTEM
A parameter specifying whether the PERFORM_PREPARE call is part of a syncpoint or the result of an **EXEC CICS ISSUE PREPARE** command.

The values for the parameter are:
`NO`
`YES`

RECOVERY_STATUS
A parameter specifying whether recoverable work has taken place as part of the distributed unit of work on the remote system.

The values for the parameter are:
`NECESSARY`
`UNNECESSARY`
`SYNC_LEVEL_1`

Output Parameters

RESPONSE
is the Recovery Manager domain's response to the call.

Values for the parameter are:
`OK`
`EXCEPTION`

DISASTER
INVALID
KERNERROR
PURGED

VOTE
A value specifying the Recovery Manager client's vote on the outcome of the syncpointing unit of work.

The values for the parameter are:
HEURISTIC_MIXED
NO
NO_CONTINUE
READ_ONLY
YES

RMLK gate, PERFORM_SHUNT function

This function notifies the Recovery Manager client that the unit of work is shunting. Input parameters

Input Parameters

RMC_TOKEN
The Recovery Manager client's token associated with the Recovery Manager Link object.

CONTINUE
A parameter specifying whether the current transaction will continue into a following unit of work.

The values for the parameter are:
NO
YES

RECOVERY_STATUS
A parameter specifying whether recoverable work has taken place as part of the distributed unit of work on the remote system.

The values for the parameter are:
NECESSARY
UNNECESSARY
SYNC_LEVEL_1

Output Parameters

RESPONSE
is the Recovery Manager domain's response to the call.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

FORGET
A parameter specifying whether all obligations to the remote system with respect to recovery have been discharged.

The values for the parameter are:
NO
YES

RMLK gate, PERFORM_UNSHUNT function

This function notifies the Recovery Manager client that the unit of work is unshunting.

Input Parameters

LINK_TOKEN
: A token identifying the Recovery Manager Link object to be unshunted.

LOGNAME_BUFFER
: A buffer containing the logname of the remote system.

REMOTE_ACCESS_ID_BUFFER
: A buffer containing the netname of the remote system, or the name of the External Resource Manager.

LINK_ID_BUFFER
: A buffer containing the termid of the session to the remote system, or the External Resource Manager qualifier.

LINK_ID_SOURCE
: An optional parameter specifying whether the local or remote system allocated the session.

The values for the parameter are:
`LOCAL`
`REMOTE`

Output Parameters

RESPONSE
: is the Recovery Manager domain's response to the call.

Values for the parameter are:
`OK`
`EXCEPTION`
`DISASTER`
`INVALID`
`KERNERROR`
`PURGED`

RMLK gate, REPLY_DO_COMMIT function

This function requires the Recovery Manager client communicate the result of this systems phase one syncpoint processing to the coordinating system, and obtain the outcome of the distributed unit of work.

Input Parameters

RMC_TOKEN
: The Recovery Manager client's token associated with the Recovery Manager Link object.

CONTINUE
: A parameter specifying whether the current transaction will continue into a following unit of work.

The values for the parameter are:
`NO`
`YES`

SINGLE_UPDATER
: A parameter specifying whether the single updater optimization is being performed.

The values for the parameter are:
`NO`

YES

Output Parameters

RESPONSE
is the Recovery Manager domain's response to the call.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

ACCESSIBLE
A value specifying whether communication with the remote system failed.

The values for the parameter are:
NO
SUNTED
YES

VOTE
A value specifying the Recovery Manager client's vote on the outcome of the syncpointing unit of work.

The values for the parameter are:
HEURISTIC_MIXED
NO
NO_CONTINUE
READ_ONLY
YES

RMLK gate, SEND_DO_COMMIT function

This function requires the Recovery Manager client communicate the result of this system's phase one syncpoint processing to the last agent system, and obtain the outcome of the distributed unit of work.

Input Parameters

RMC_TOKEN
The Recovery Manager client's token associated with the Recovery Manager Link object.

CONTINUE
A parameter specifying whether the current transaction will continue into a following unit of work.

The values for the parameter are:
NO
YES

SINGLE_UPDATER
A parameter specifying whether the single updater optimization is being performed.

The values for the parameter are:
NO
YES

Output Parameters

RESPONSE
is the Recovery Manager domain's response to the call.

Values for the parameter are:

OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

ACCESSIBLE

A value specifying whether communication with the remote system failed.

The values for the parameter are:

NO
SUNTED
YES

VOTE

A value specifying the Recovery Manager client's vote on the outcome of the syncpointing unit of work.

The values for the parameter are:

HEURISTIC_MIXED
NO
NO_CONTINUE
READ_ONLY
YES

Modules

Module	Function
DFHRMCD	Handles the functions of the RMCD gate.
DFHRMCD1	Initialises the Client Directory Class.
DFHRMCD2	Quiesces the Client Directory Class.
DFHRMCI2	Sets the callback gate of a Recovery Manager client.
DFHRMCI3	Waits for a registered Recovery Manager client to set its callback gate.
DFHRMCI4	Waits for a registered Recovery Manager client to set its callback gate and calls it with a given parameter list.
DFHRMDM	Recovery Manager domain initialization and termination. Handles the DMDM and RMDM gate functions.
DFHRMDU0	Formats the Recovery Manager control blocks.
DFHRMDU2	Starts a browse of all Recovery Manager client work tokens during dump formatting.
DFHRMDU3	Gets the next Recovery Manager client work token during dump formatting.
DFHRMDU4	Ends a browse of all Recovery Manager client work tokens during dump formatting.
DFHRMLKQ	Quiesces the Recovery Manager Link Class.
DFHRMLK1	Initialises the Recovery Manager Link Class.
DFHRMLK2	Handles the INITIATE_RECOVERY function of the RMLN gate.
DFHRMLK3	Inquires whether a Logname is in-use by any Recovery Manager Link.
DFHRMLK4	Handles the CLEAR_PENDING function for a particular Recovery Manager Link.
DFHRMLK5	Collects statistics from the Recovery Manager Link Class.

Module	Function
DFHRMLN	Handles the functions of the RMLN gate.
DFHRMLSD	Asks the coordinator Recovery Manager Link to decide the outcome of the unit of work.
DFHRMLSF	Determines the reason for a unit of work being in doubt.
DFHRMLSO	Commits the Recovery Manager Links for a unit of work.
DFHRMLSP	Prepares the Recovery Manager Links for a unit of work.
DFHRMLSS	Shunts the Recovery Manager Links for a unit of work.
DFHRMLSU	Unshunts the Recovery Manager Links for a unit of work.
DFHRML1D	Reconstructs Recovery Manager Links from log records.
DFHRMNM	Handles the functions of the RMNM gate.
DFHRMNM1	Initialises the Recovery Manager Lognames Class.
DFHRMNS1	Initialises the Recovery Manager Logname Set Class.
DFHRMNS2	Quiesces the Recovery Manager Logname Set Class.
DFHRMOFI	Initialises a Recovery Manager Object Factory.
DFHRMRO	Handles the functions of the RMRO gate.
DFHRMROO	Handles FORGET processing for Recovery Manager Resource Owners.
DFHRMROS	Shunts a Recovery Manager Resource Owner.
DFHRMROU	Unshunts a Recovery Manager Resource Owner.
DFHRMROV	Handles AVAIL processing for Recovery Manager Resource Owners.
DFHRMRO1	Initialises the Recovery Manager Resource Owner Class.
DFHRMRO2	Signals start_backout to a Recovery Manager Resource Owner.
DFHRMRO3	Delivers backout data to a Recovery Manager Resource Owner.
DFHRMRO4	Signals end_backout to a Recovery Manager Resource Owner.
DFHRMR1D	Delivers recovery data to a Recovery Manager Resource Owner.
DFHRMR1E	Signals end of recovery to a Recovery Manager Resource Owner.
DFHRMR1K	Signals a keypoint to a Recovery Manager Resource Owner.
DFHRMR1S	Signals start of recovery to a Recovery Manager Resource Owner.
DFHRMSL	Handles the functions of the RMSL gate.
DFHRMSLF	Forces the System Log.
DFHRMSLJ	Checks for Chain independence during recovery.
DFHRMSLL	Closes a Chain on the System Log.
DFHRMSLO	Opens a Chain on the System Log.
DFHRMSLV	Moves a Chain on the System Log.
DFHRMSLW	Writes a record to a Chain on the System Log.
DFHRMSL1	Initialises the Recovery Manager System Log Class.
DFHRMSL2	Starts a browse of a Chain on the System Log.
DFHRMSL3	Reads a Record from a Chain on the System Log.
DFHRMSL4	Ends a browse of a Chain on the System Log.
DFHRMSL5	Performs restart processing for Recovery Manager System Log Class.
DFHRMSL6	Schedules keypoint activity.
DFHRMSL7	Performs keypoint processing.

Module	Function
DFHRMST	Handles STST functions for Recovery Manager.
DFHRMST1	Initializes the Recovery Manager Statistics Class.
DFHRMTRI	Formats Recovery Manager trace entries.
DFHRMUC	Creates a RMUW (unit of work) object.
DFHRMUO	Commits a unit of work.
DFHRMUTL	Recovery Manager batch utility.
DFHRMUW	Handles the functions of the RMUW gate.
DFHRMUWB	Handles data during backout of a unit of work.
DFHRMUWE	Handles activities when a unit of work is unshunted.
DFHRMUWF	Forces log records for a unit of work.
DFHRMUWH	Holds an RMUW object.
DFHRMUWJ	Forces a unit of work to take a unilateral decision.
DFHRMUWL	Handles notification that all remote remotes have finished processing.
DFHRMUWN	Schedules a unit of work to be unshunted.
DFHRMUWP	Handles notification that a local resource has become available.
DFHRMUWQ	Handles commit or backout of an unshunted, in doubt unit of work.
DFHRMUWS	Records the outcome of a unit of work during resynchronization.
DFHRMUWU	Records the local LU name.
DFHRMUWV	Handles notification that a local resource has become available.
DFHRMUWW	Writes a record belonging to a unit of work to the System Log.
DFHRMUW0	Releases an RMUW object.
DFHRMUW1	Initializes the Recovery Manager Unit of Work Class.
DFHRMUW2	Collects the Recovery Manager Unit of Work Class Statistics.
DFHRMUW3	Handles the INQUIRE_UOW_TOKEN function.
DFHRMU1C	Sets the Chain token for a unit of work.
DFHRMU1D	Handles log records of units of work during recovery.
DFHRMU1E	Signals that all records have been recovered from the System Log during recovery.
DFHRMU1F	Handles an in doubt wait timeout.
DFHRMU1J	Inquires whether all unit of work chains are disjoint.
DFHRMU1K	Keypoints a unit of work.
DFHRMU1L	Handle XMPP_FORCE_PURGE_INHIBIT_QUERY.
DFHRMU1N	Handle XMPP_FORCE_PURGE_INHIBIT_QUERY.
DFHRMU1Q	Handle the NOTIFY function of the TISR gate.
DFHRMU1R	Performs restart processing for Recovery Manager Unit of Work Class.
DFHRMU1S	Signals that recovery of log records is about to be performed.
DFHRMU1U	Process a unit of work after recovery.
DFHRMU1V	Requests time out interval notification for a unit of work.
DFHRMU1W	Cancels wait time out notification for a unit of work.
DFHRMVP1	Initializes the Recovery Manager Variable Length Subpool Class.
DFHRMXNE	Reattaches a transaction to process an unshunted unit of work.

Module	Function
DFHRMXN2	Schedules a keypoint.
DFHRMXN3	The keypoint program
DFHRMXN4	Restarts the Recovery Manager Transaction Class.
DFHRMXN5	Increments Recovery Manager statistics for a Transaction.

Chapter 100. Region status domain (RS)

The region status (RS) domain captures information about the status of a region and records the status in a coupling facility data table (CFDT). Using RS domain services, other CICS regions can enquire on this status, by reading the CFDT record.

Region status domains specific gates

The specific gates provide access for other domains to functions that are provided by the RS domain.

RSDU gate, END_SYSTEM_DUMP function

The END_SYSTEM_DUMP function is called from the dump domain to record the end of a system dump (SDUMP).

Output parameters

REASON
One of the following values is returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

One of the following values is returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

The following value is returned when RESPONSE is PURGED:
`TASK_CANCELLED`

RESPONSE
Indicates whether the domain call was successful.

For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RSDU gate, END_TRANSACTION_DUMP function

The END_TRANSACTION_DUMP function is called from the dump domain to record the end of a transaction dump.

Output parameters

REASON
One of the following values is returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

One of the following values is returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

The following value is returned when RESPONSE is PURGED:
`TASK_CANCELLED`

RESPONSE
Indicates whether the domain call was successful.

For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RSDU gate, START_SYSTEM_DUMP function

The START_SYSTEM_DUMP function is called from the dump domain to record the start of a system dump (SDUMP).

Output parameters

REASON
One of the following values is returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

One of the following values is returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

The following value is returned when RESPONSE is PURGED:
`TASK_CANCELLED`

RESPONSE
Indicates whether the domain call was successful.

For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RSDU gate, START_TRANSACTION_DUMP function

The START_TRANSACTION_DUMP function is called from the dump domain to record the start of a transaction dump.

Output parameters

REASON
One of the following values is returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

One of the following values is returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

The following value is returned when RESPONSE is PURGED:
`TASK_CANCELLED`

RESPONSE
Indicates whether the domain call was successful.

For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RSSR gate, DEREGISTER_INTEREST function

DEREGISTER_INTEREST deregisters interest in a target region.

Input parameters

FILE_NAME
Specifies a 16-character file name.

POOL_NAME
Specifies an 8-character pool name.

REGION_NAME
Specifies an 8-character region name.

Output parameters

REASON
One of the following values is returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`
`LOCK_FAILURE`

One of the following values is returned when RESPONSE is EXCEPTION:
`RECORDING_NOT_ACTIVE`
`INCORRECT_POOL_NAME`
`TARGET_NOT_KNOWN`
`SERVER_FAILED`

One of the following values is returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`
`RECORDING_ACTIVE`

The following value is returned when RESPONSE is PURGED:
`TASK_CANCELLED`

RESPONSE
Indicates whether the domain call was successful.

For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RSSR gate, INQUIRE_TARGET_STATUS function

INQUIRE_TARGET_STATUS retrieves information about target region status.

Input parameters

FILE_NAME
Specifies a 16-character file name.

POOL_NAME
Specifies an 8-character pool name.

REGION_NAME
Specifies an 8-character region name.

<STATUS_BLOCK_TOKEN>
The token that identifies a status block where the region status is to be copied.

Output parameters

<SOS>
Specifies whether a target region is short-on-storage in the CICS environment.

The values of this parameter are:
`NO`
`YES`

<MAXTASK>
Specifies whether a target region is at maxtask within the CICS environment.

The values of this parameter are:
`NO`
`YES`

<SDUMPACTIVE>
Specifies whether a system dump is active in the target region.

The values of this parameter are:
`NO`
`YES`

<TDUMPACTIVE>
Specifies whether a transaction dump is active in the target region.

The values of this parameter are:
`NO`
`YES`

<CURRENT_TASK_COUNT>
The number of running tasks used to evaluate the load on the current routing target.

<MAX_TASK_COUNT>
The defined maximum number of active tasks that can concurrently run in the routing target.

<THRESHOLD_PERCENTAGE>
The threshold percentage of the target region, as a halfword binary value.

REASON
One of the following values is returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`
`LOCK_FAILURE`

One of the following values is returned when RESPONSE is EXCEPTION:
`RECORDING_NOT_ACTIVE`
`INCORRECT_POOL_NAME`
`TARGET_NOT_KNOWN`
`SERVER_FAILED`

One of the following values is returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`
`RECORDING_ACTIVE`

The following value is returned when RESPONSE is PURGED:
`TASK_CANCELLED`

RESPONSE
Indicates whether the domain call was successful.

For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RSSR gate, SET_THRESHOLD_PERCENTAGE function

SET_THRESHOLD_PERCENTAGE sets the threshold percentage, upper-tier percentage, and the lower-tier percentage value.

Input parameters

FILE_NAME
Specifies a 16-character file name.

POOL_NAME
Specifies an 8-character pool name.

REGION_NAME
Specifies an 8-character region name.

THRESHOLD_PERCENTAGE
Specifies the threshold percentage, as a halfword binary value. The value specified must be in the range 0 - 31.

<UPPER_TIER_PERCENTAGE>
Specifies the upper-tier percentage, as a halfword binary value. The value specified must be in the range 0 - 31.

<LOWER_TIER_PERCENTAGE>
Specifies the lower-tier percentage, as a halfword binary value. The value specified must be in the range 0 - 31.

<STATUS_BLOCK_TOKEN>
The token that identifies a status block where the region status is to be copied.

Output parameters

REASON
One of the following values is returned when RESPONSE is DISASTER:

```
ABEND
LOOP
LOCK_FAILURE
```

One of the following values is returned when RESPONSE is EXCEPTION:

```
RECORDING_NOT_ACTIVE
INCORRECT_POOL_NAME
TARGET_NOT_KNOWN
SERVER_FAILED
```

One of the following values is returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
RECORDING_ACTIVE
```

The following value is returned when RESPONSE is PURGED:

```
TASK_CANCELLED
```

RESPONSE
Indicates whether the domain call was successful.

For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

RSSR gate, START_RECORDING function

START_RECORDING starts the recording of region status data into a coupling facility data table (CFDT).

Input parameters

FILE_NAME
Specifies a 16-character file name.

POOL_NAME
Specifies an 8-character pool name.

REGION_NAME
Specifies an 8-character region name.

THRESHOLD_PERCENTAGE
Specifies the threshold percentage, as a halfword binary value. The value specified must be in the range 0 - 31.

<UPPER_TIER_PERCENTAGE>
Specifies the upper-tier percentage, as a halfword binary value. The value specified must be in the range 0 - 31.

<LOWER_TIER_PERCENTAGE>
Specifies the lower-tier percentage, as a halfword binary value. The value specified must be in the range 0 - 31.

<STATUS_BLOCK_TOKEN>
The token that identifies a status block where the region status is to be copied.

<FAILURE_ECB_PTR>
The token that identifies the address of an ECB to be posted when connection to the CFDT server is lost.

Output parameters

REASON
: One of the following values is returned when RESPONSE is DISASTER:

  ABEND
  LOOP
  LOCK_FAILURE

  One of the following values is returned when RESPONSE is EXCEPTION:

  RECORDING_NOT_ACTIVE
  INCORRECT_POOL_NAME
  TARGET_NOT_KNOWN
  SERVER_FAILED

  One of the following values is returned when RESPONSE is INVALID:

  INVALID_FORMAT
  INVALID_FUNCTION
  RECORDING_ACTIVE

  The following value is returned when RESPONSE is PURGED:

  TASK_CANCELLED

RESPONSE
: Indicates whether the domain call was successful.

  For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RSSR gate, STOP_RECORDING function

STOP_RECORDING stops the recording of region status data into a coupling facility data table (CFDT).

Input parameters

FILE_NAME
: Specifies a 16-character file name.

POOL_NAME
: Specifies an 8-character pool name.

REGION_NAME
: Specifies an 8-character region name.

Output parameters

REASON
: One of the following values is returned when RESPONSE is DISASTER:

  ABEND
  LOOP
  LOCK_FAILURE

  One of the following values is returned when RESPONSE is EXCEPTION:

  RECORDING_NOT_ACTIVE
  INCORRECT_POOL_NAME
  TARGET_NOT_KNOWN
  SERVER_FAILED

  One of the following values is returned when RESPONSE is INVALID:

  INVALID_FORMAT
  INVALID_FUNCTION
  RECORDING_ACTIVE

  The following value is returned when RESPONSE is PURGED:

  TASK_CANCELLED

RESPONSE
Indicates whether the domain call was successful.

For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RSSR gate, TEST_CONNECTION function

TEST_CONNECTION tests the status of the region status (RS) domain connection by attempting a read from the Coupling Facility (CF) for the pool name.

Input parameters

FILE_NAME
Specifies a 16-character file name.

POOL_NAME
Specifies an 8-character pool name.

Output parameters

REASON
One of the following values is returned when RESPONSE is DISASTER:

```
ABEND
LOOP
LOCK_FAILURE
```

One of the following values is returned when RESPONSE is EXCEPTION:

```
RECORDING_NOT_ACTIVE
INCORRECT_POOL_NAME
TARGET_NOT_KNOWN
SERVER_FAILED
```

One of the following values is returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
RECORDING_ACTIVE
```

The following value is returned when RESPONSE is PURGED:

```
TASK_CANCELLED
```

RESPONSE
Indicates whether the domain call was successful.

For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RSXM gate, END_TRANSACTION function

The END_TRANSACTION function is called at the end of each transaction to update the number of active and queued transactions in the region.

Input parameters

ACTIVE_TXN_COUNT
Specifies the number of started transactions in the region.

QUEUED_TXN_COUNT
Specifies the number of transactions that are queued in the region because a MAXTASK limit has been exceeded.

Output parameters

REASON
One of the following values is returned when RESPONSE is DISASTER:

```
ABEND
```

`LOOP`

One of the following values is returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

The following value is returned when RESPONSE is PURGED:
`TASK_CANCELLED`

`RESPONSE`
Indicates whether the domain call was successful.

For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

RSXM gate, START_TRANSACTION function

The START_TRANSACTION function is called at the start of each transaction to update the number of active and queued transactions in the region.

Input parameters

`ACTIVE_TXN_COUNT`
Specifies the number of started transactions in the region.

`QUEUED_TXN_COUNT`
Specifies the number of transactions that are queued in the region because a MAXTASK limit has been exceeded.

Output parameters

`REASON`
One of the following values is returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

One of the following values is returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

The following value is returned when RESPONSE is PURGED:
`TASK_CANCELLED`

`RESPONSE`
Indicates whether the domain call was successful.

For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

Region status domains generic gates

The generic gates provide access for other domains to functions that are provided by the RS domain.

Table 67 summarizes the region status domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gate, the functions provided by the gate, and the generic format for calls to the gate.

Table 67. Region status domain's generic gates

Gate	Trace	Function	Format
RSDM	RS 0101 RS 0102	INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM

Table 67. Region status domain's generic gates (continued)

Gate	Trace	Function	Format
RSSM	RS 0300 RS 0301	STORAGE_NOTIFY	SMNT
RSXM	RS 0400 RS 0401	MXT_CHANGE_NOTIFY MXT_NOTIFY	XMNT

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

"Storage manager domain generic formats" on page 1709

"Transaction manager domain's generic formats" on page 1999

Modules

The RS domain modules handle requests to process, format or broadcast RS domain data.

Module	Function
DFHMERSx	RS domain messages
DFHRSDM	RS domain initialization and termination program
DFHRSDU	RS domain dump domain interface
DFHRSDUF	RS domain dump formatting
DFHRSFD	RS domain Create Region Status CFDT File
DFHRSSM	RS domain storage notification handler
DFHRSSR	RS domain request handler
DFHRSXM	RS domain transaction manager interface and transaction manager notification handler
DFHRSXRI	RS domain trace formatting

Chapter 101. RRMS domain (RX)

The RRMS domain is responsible for managing interaction with OS/390 Recoverable Resource Management Services (RRMS) and in particular, Resource Recovery Services (RRS) which is a component of RRMS.

RRMS domain's specific gates

The specific gates provide access for other domains to functions that are provided by the RX domain.

RXDM gate, INQUIRE_RRS function

The INQUIRE_RRS function of the RXDM gate is used to determine the status of the interface with Recoverable Resource Management Services (RRMS).

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`

OPEN
A binary value indicating if the interface is open.

Values for the parameter are:
`NO`
`YES`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RESTART_STATE
Optional Parameter

The restart state of RRS

Values for the parameter are:
`COLD`
`NOT_STARTED`
`STARTING`
`WARM`

RXDM gate, SET_PARAMETERS function

The SET_PARAMETERS function of the RXDM gate is used to pass the values of relevant System Initialization parameters to the domain.

Input Parameters

RRMS
A binary value that specifies whether CICS is to register as a resource manager with recoverable resource management services (RRMS).

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
: The following values are returned when RESPONSE is INVALID:
  `INVALID_FUNCTION`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RXUW gate, GET_CLIENT_REQUEST function

The GET_CLIENT_REQUEST function of the RXDM gate is used to suspend a transaction until the PUT_CLIENT_REQUEST is issued for the same Unit of Recovery.

Input Parameters

UR_TOKEN
: is the token by which the UR associated with the request is known by the RX domain.

TIMEOUT
: Optional Parameter

  The time (in seconds) for which the transaction should be suspended. If this parameter is omitted, the transaction will be suspended indefinitely.

Output Parameters

REASON
: The values for the parameter are:
  `BACKOUT`
  `RACE`
  `SYNCPOINT`
  `TASK_CANCELLED`
  `TIMED_OUT`

CLIENT_TOKEN
: A token representing the client of the UR.

CLIENT_TYPE
: Indicates the type of client of the transaction.

  Values for the parameter are:
  `TERMINAL`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RXUW gate, INQUIRE function

The INQUIRE function requests attributes of a Unit of Recovery

Input Parameters

UR_TOKEN
: is the token by which the UR associated with the request is known by the RX domain.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `BACKOUT`
  `RACE`
  `RRS_UNAVAILABLE`

SYNCPOINT

The following values are returned when RESPONSE is INVALID:
INVALID_FUNCTION

The following values are returned when RESPONSE is PURGED:
TASK_CANCELLED
TIMED_OUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

URID
Optional Parameter

The identifier of the Unit of Recovery used by RRMS.

RXUW gate, PUT_CLIENT_REQUEST function

The PUT_CLIENT_REQUEST function of the RXDM gate is used to associate a request from a client with an RRS Unit of Recovery (UR).

Input Parameters

CLIENT_TOKEN
A token representing the client of the UR.

CLIENT_TYPE
Indicates the type of client of the transaction.

Values for the parameter are:
TERMINAL

CONNECTION
The connection on which the client request was received. This parameter is used to identify the source of the request in any messages that are issued.

CONTEXT_TOKEN
The token representing the RRMS context for which the request is issued.

PASS_TOKEN
A token used to protect against unauthorised use of the context token and URID.

TRANSACTION_ID
The transaction id associated with the request. This parmeter is used to correlate succesive requests for the same transaction instance.

URID
The identifier of the RRS Unit of Recovery associated with the context.

USERID
The userid associated with the request. This parmeter is used to correlate succesive requests for the same transaction instance.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
BACKOUT
RACE
RRS_UNAVAILABLE
SYNCPOINT

The following values are returned when RESPONSE is INVALID:
INVALID_FUNCTION

The following values are returned when RESPONSE is PURGED:
TASK_CANCELLED

TIMED_OUT

NEW_UR
Indicates whether a new UR has been created for this request.

Values for the parameter are:
YES
NO_AND_READY
NO_AND_NOT_READY
NO_AND_NOTASK

YES
Indicates that a new UR has been created

NO_AND_READY
Indicates that the request was associated with an existing UR and that task is ready to receive the request.

NO_AND_NOT_READY
Indicates that the request was associated with an existing UR but that task is not ready to receive the request. This typically occurs when the original request has timed out and another transactional EXCI request in the same RU has been sent by the EXCI job.

NO_AND_NOTASK
Indicates that the request was associated with an existing UR but that task has not yet expressed an interest in that UR. This can occur when the original request has been held by MAXTASK or TRANCLASS (TCLASS) limits and has timed out, and another transactional EXCI request in the same RU has been sent by the EXCI job.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TRANSACTION_NUMBER
The transaction number of the transaction associated with the request.

UR_TOKEN
is the token by which the UR associated with the request is known by the RX domain.

RRMS domain's call-back gates

Table 68 summarizes the domain's call-back gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 68. RRMS domain's call-back gates

Gate	Trace	Function	Format
RXXM	RX 0401 RX 0402	INIT_XM_CLIENT BIND_XM_CLIENT	XMAC

For descriptions of these functions and their input and output parameters, refer to descriptions of the following call-back formats:

"Transaction Manager domain's callback formats" on page 1996

Modules

Module	Function
DFHRXDM	RX domain management and global functions.
DFHRXUW	RX domain unit-of-work related functions. .

Module	Function
DFHRXSVC	RX domain SVC code for RRMS authorized interface.
DFHRXXRG	RX domain Registration Services exits.
DFHRXXRM	RX domain Resource Manager exits.
DFHRXDUF	RX domain dump formatting.
DFHRXTRI	RX domain trace interpretation

Chapter 102. Request Streams Domain (RZ)

The RequestStream domain provides connectivity between elements of the Corbaserver and EJB components in a sysplex to allow transfer of GIOP requests from a requester to a request processor, and to permit appropriate workload balancing of the deployment of those requests.

Request Streams Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the RZ domain.

RZRJ gate, PERFORM_JOIN function

This function reduces the calls necessary from the join task (in remote join capability) to the RZ domain. It initiates the procedures necessary to pass an attached RequestStream to a local processor.

Output Parameters

REASON
The values for the parameter are:
`JOIN_NOT_POSSIBLE`
`TRANSPORT_FAILURE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RZRT gate, SET_EXIT_PROGRAM function

The following defines the syntax of the SET_EXIT_PROGRAM function.

Input Parameters

PROGRAM_NAME
The name of the user-replaceable program for the Distributed Dynamic Routing program.

LOCAL_SYSID
Optional Parameter

The SYSID for the local CICS region to recognize it in routing user-replaceable program responses.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RZSO gate, CREATE function

Create a RequestStream and return a (local region) source RequestStream token for it.

The target process(or) is identified either by USERID and TRANID or by HOST_IP_ADDRESS and PORT_NUMBER. Precisely one of these groups must be provided. (The HOST_IP_ADDRESS is a character string as expected by the internal sockets domain interfaces.)

The SERVER_DATA may be retrieved at the target (RZTA) interface and is copied (and fixed) on this call.

The response is (exception, service_not_available) if it is not possible to resolve the target, or to set up a connection to the target. (Success does not guarantee that this exception will not occur on the SEND function.)

The response is (exception, target_unknown) if the HOST_IP_ADDRESS character string is malformed (as detected by the sockets domain interfaces). The response is invalid when the parameters are badly formed, in particular if there is not the right combination of target identification parameters.

Input Parameters

CERTIFICATE_LABEL
Optional Parameter

The label of an X.509 certificate that is used during the SSL handshake

CIPHER_COUNT
Optional Parameter

The number of cipher suites encoded in the **CIPHER_SUITES** parameter.

CIPHER_SUITES
Optional Parameter

A binary representation of the cipher suites used to encrypt data.

DEBUG_BLOCK
Optional Parameter

A block used to return debugging information.

HOST_IP_ADDRESS
Optional Parameter

Identification of the target which is to process the requests.

PORT_NUMBER
Optional Parameter

Further identification of the target.

PRIVACY
Optional Parameter

Specifies the level of SSL encryption required.

Values for the parameter are:
- NOTSUPPORTED
- REQUIRED
- SUPPORTED

SERVER_BLOCK
Optional Parameter

Data associated with the RequestStream available at the target end by the server using the RZTA interface.

SSL_REQUIRED
Optional Parameter

Whether to use SSL on a socket transport. Otherwise ignored.

Values for the parameter are:
`NO`
`YES`

TRANID
Optional Parameter

TranId of the transaction which runs the target processor.

USER_KEY_VERSION
Optional Parameter

USERID
Optional Parameter

Userid under which the requests are to be processed.

Output Parameters

REASON
The values for the parameter are:
`SERVICE_NOT_AVAILABLE`
`TARGET_UNKNOWN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RS_TOKEN
Token by which RequestStream is identified on all subsequent requests from this task on this region.

APPLID
Optional Parameter

The application ID of the target processor.

RZSO gate, JOIN function

Join a RequestStream identified by a public_id.

If the required transport mechanism is not available, or fails in use, the appropriate exception is returned as for "create". If the RequestStream, identified by the "public_id", does not exist (because the target end does not exist) then this call does not detect this. Instead a new request processor will be created implicitly just as for "create". The "userid" (if supplied) must match that used on the "create", otherwise an error may occur later in (Request Processor) processing. This is not detected at this call. The "tranid" and the "server_data" is supplied in case the RequestStream is recreated on this call, otherwise they are ignored. They may be omitted as in *create*. If the "public_id" is not valid, or cannot be interpreted then the response "(exception, public_id_invalid)" will be returned. The "rs_token" for the local source RequestStream is returned as result.

Input Parameters

PUBLIC_ID
The public RequestStream identifier, valid for all participating regions in the logical server, of the target RequestStream, which may be in a separate region.

TRANID
The transaction identifier of the transaction which runs the target processor.

DEBUG_BLOCK
Optional Parameter

A block used to return debugging information.

SERVER_BLOCK
Optional Parameter

Data associated with the RequestStream available at the target end by the server using the RZTA interface.

USERID
Optional Parameter

Userid under which the requests are to be processed.

Output Parameters

REASON
The values for the parameter are:
- INVALID_USERID
- PUBLIC_ID_INVALID
- SERVICE_NOT_AVAILABLE
- TRANSPORT_FAILURE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RS_TOKEN
A token by which the RequestStream is identified on all subsequent requests from this task on this region.

RZSO gate, LEAVE function

Remove this source from its RequestStream. The RequestStream is modified so that the "rs_token" (which must denote a source end of the RequestStream) is no longer valid. (A token value may or may not be reissued by "RZ" on another "create" or "join" request - however the caller must not rely on its value after "leave".)

Input Parameters

RS_TOKEN
Token returned on CREATE by which RequestStream is identified.

Output Parameters

REASON
The values for the parameter are:
- RS_TOKEN_NOT_SOURCE
- RS_TOKEN_UNKNOWN
- TRANSPORT_FAILURE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RZSO gate, RECEIVE_REPLY function

A reply is returned (blocks until one is available).

Input Parameters

RS_TOKEN
Token returned on CREATE by which RequestStream is identified.

MINIMUM_DATA_LENGTH
Optional Parameter

Minimum amount of data to accept (multiple transfers may occur until this amount is received).

REPLY_BUFFER
Optional Parameter

Buffer in which reply bytes are assembled.

Output Parameters

REASON
The values for the parameter are:
`INVALID_BUFFER`
`REQUEST_PROCESSOR_FAILURE`
`RS_TOKEN_UNKNOWN`
`SERVICE_NOT_AVAILABLE`
`TRANSPORT_FAILURE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

REPLY_DATA_LENGTH
Optional Parameter

Total length of reply (even if not all received in one call).

RZSO gate, SEND_REQUEST function

The source RequestStream token and the request (coded as a *RUEI* or as a contiguous data block) is passed as input. Either a RUEI or a block must be used, not both. If this is not so then an invalid response is returned.

The request is deemed to be entire and may be presented to the target. Data may be transported across the transport mechanism during this call. The request may be of zero length, this does not imply that nothing is transported.

If the source RequestStream token does not exist (in the local region) the response (exception, rs_token_unknown) is returned.

If a transport mechanism fails to respond, or is not functional, then the response (exception, service_not_available) is returned. If it fails during transmission then (exception, transport_failure) is returned. The distinction is that in the former case there is no transport mechanism and in the latter there is still one (albeit inoperational).

Input Parameters

RS_TOKEN
Token returned on CREATE by which RequestStream is identified.

LAST
Optional Parameter

A binary value indicating if this is the last request.

Values for the parameter are:
`NO`
`YES`

REQUEST_BLOCK
Optional Parameter

Request data to send described as a single block. Exclusive with REQUEST_RUEI.

REQUEST_RUEI
Optional Parameter

Reusable-extended-Iliffe Vector which describes contiguous bytes to send as a request, supplied in possibly discontiguous blocks. Exclusive with REQUST_BLOCK.

TARGET_PROGRAM
Optional Parameter

The name of the program in the target that will receive the request.

Output Parameters

REASON
: The values for the parameter are:
  `RS_TOKEN_UNKNOWN`
  `SERVICE_NOT_AVAILABLE`
  `TRANSPORT_FAILURE`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RZSO gate, WEAK_JOIN function

Join a RequestStream when there is no public_id.

Input Parameters

APPLID
: The application ID of the target.

TRANID
: The transaction identifier of the transaction which runs the target processor.

USERID
: The user identifier associated with the current task.

SERVER_BLOCK
: Optional Parameter

  Data associated with the RequestStream available at the target end by the server using the RZTA interface.

Output Parameters

REASON
: The values for the parameter are:
  `INVALID_USERID`
  `SERVICE_NOT_AVAILABLE`
  `TRANSPORT_FAILURE`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RS_TOKEN
: A token by which the RequestStream is identified on all subsequent requests from this task on this region.

RZTA gate, GET_CURRENT function

The token for the RequestStream for the current transaction is returned. If the "XM" token is not set, or is set to an invalid value, then the response "(exception, RequestStream_not_current)" is returned.

Output Parameters

REASON
: The values for the parameter are:
  `REQUESTSTREAM_NOT_CURRENT`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RS_TOKEN
Token by which RequestStream is identified on all subsequent requests from this task on this region.

RZTA gate, GET_DEBUG_DATA function

The GET_DEBUG_DATA function returns debugging information about the current request stream for use in end-to-end debugging.

Input Parameters

DEBUG_BLOCK
A block containing the debugging information returned by the domain.

Output Parameters

REASON
The values for the parameter are:
`REQUESTSTREAM_NOT_CURRENT`
`SERVER_BLOCK_TOO_SMALL`

DEBUG_DATA_LENGTH
The length of the debugging information returned.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RZTA gate, GET_JOIN_DATA function

This is a utility function used by the join task which can thereby reduce the number of domain calls to RZ when acting as intermediary to another task on remote join.

Output Parameters

REASON
The values for the parameter are:
`REQUESTSTREAM_NOT_CURRENT`

PUBLIC_ID
Public RequestStream Identifier -- valid for all participating regions in the logical server -- of the current target RequestStream which must be attached to this task/transaction.

REQUEST_DATA_LENGTH
The data length of the request to be passed to the processor to be joined.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TRANID
The transid of the request processor to be joined.

RZTA gate, GET_PUBLIC_ID function

The public identifier of the RequestStream for the current transaction is returned. (If the target of the RequestStream is not internal to the plex there may not be a public identifier, for example in the case of outbound RequestStreams. In this case the response is "(exception, public_id_unknown)". However, this should never happen on this interface, since such a RequestStream will never be set in the "RZ" transaction manager token for a transaction instance.)

Output Parameters

REASON
: The values for the parameter are:
  `PUBLIC_ID_UNKNOWN`
  `REQUESTSTREAM_NOT_CURRENT`

PUBLIC_ID
: Public RequestStream Identifier -- valid for all participating regions in the logical server -- of the current target RequestStream which must be attached to this task/transaction.

RESPONSE
: Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

RZTA gate, GET_SERVER_DATA function

Return the server data for the current RequestStream.

Input Parameters

SERVER_BLOCK
: Data associated with the RequestStream available at the target end by the server using the RZTA interface.

Output Parameters

REASON
: The values for the parameter are:
  `REQUESTSTREAM_NOT_CURRENT`
  `SERVER_BLOCK_TOO_SMALL`

RESPONSE
: Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

SERVER_DATA_LENGTH
: The number of bytes of the server data, even if not all were returned.

RZTA gate, RECEIVE_REQUEST function

Get the next request. This call blocks if there is no request ready, and returns when a request becomes available or if the RequestStream is destroyed while waiting ("terminate"d). This call will be satisfied without undue waiting if a "notify" callback has been invoked.

Input Parameters

REQUEST_BUFFER
: Buffer into which the request is received.

MINIMUM_DATA_LENGTH
: Optional Parameter

  Minimum amount of data to accept (multiple transfers may occur until this amount is received).

Output Parameters

REASON
: The values for the parameter are:
  `INVALID_BUFFER`
  `REQUESTSTREAM_NOT_CURRENT`
  `SERVICE_NOT_AVAILABLE`
  `TRANSPORT_FAILURE`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CORRELATION_ID
: Optional Parameter

  The identifier of the requester using this RequestStream. It is used when replying to this request (using SEND_REPLY on this RequestStream) so as to identify the source from which the request was issued. It is valid only while this RequestStream is available to this transaction.

RZTA gate, SEND_REPLY function

Send a reply to a source identified by "correlation_id".

The "correlation_id" must be one returned by the "receive_request" function for the current RequestStream, or else the exception "correlation_id_unknown" may be returned. A reply may consist of the empty sequence of bytes in which case an empty reply is sent. The usual exceptions are returned for transportation failures.

Input Parameters

CORRELATION_ID
: The correlation id received on RECEIVE_REQUEST for the request to which this is the reply.

REPLY_BLOCK
: A block containing the complete contiguous reply.

LAST
: Optional Parameter

  Indicates if this is the last request.

  Values for the parameter are:
  - NO
  - YES

Output Parameters

REASON
: The values for the parameter are:
  - CORRELATION_ID_UNKNOWN
  - REQUESTSTREAM_NOT_CURRENT
  - SERVICE_NOT_AVAILABLE
  - TRANSPORT_FAILURE

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RZTA gate, TERMINATE function

Terminate the current (target) RequestStream either normally or abnormally. After this call the "XM" token in the transaction instance is cleared and no longer denotes a RequestStream.

Output Parameters

REASON
: The values for the parameter are:
  - CANNOT_TERMINATE_NORMALLY
  - REQUESTSTREAM_NOT_CURRENT
  - RS_TOKEN_UNKNOWN

```
SERVICE_NOT_AVAILABLE
TRANSPORT_FAILURE
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Modules

Module	Function
DFHRZDUF	Dump Formatting program
DFHRZIX	XM Attach Client for InStore transports
DFHRZJN	Join task program
DFHRZLN	Listen and Notify calls
DFHRZNR2	Initialize `rsnr` class (notification object)
DFHRZOFI	Initialize object factory class
DFHRZRG2	Initialize `rsrg` registration class
DFHRZRJ	Perform join
DFHRZRM	RM Resource Owner for RZ
DFHRZRS1	RM Resource Owner for RZ
DFHRZRT	Set Routing Exit program name
DFHRZRT1	Initialize routing user-replaceable program class (`rzrt`)
DFHRZRT2	Invoke Routing user-replaceable program
DFHRZSO	Source commands on RequestStreams (not Create/Join)
DFHRZSO1	Create and Join commands on Source RequestStreams
DFHRZTA	Target commands on RequestStreams
DFHRZTCX	XM Attach Client for MRO transports
DFHRZTRI	Trace interpretation
DFHRZTR1	Initialize rztr class
DFHRZVP1	Initialize rzvp class
DFHRZXM	XM Attach Client for RequestStreams

Chapter 103. Scheduler Services Domain (SH)

The scheduler services domain is used to harden schedule requests between the end of one unit of work and the start of the next, and to route schedule requests to a target region identified by the distributed routing exit program. A schedule request is a request to undertake a piece of work, or execute a named transaction. The domain is used by CICS business transaction services.

Scheduler Services Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the SH domain.

SHPR gate, ADD_PENDING_REQUEST function

The ADD_PENDING_REQUEST function of the SHPR gate is used to add a pending schedule request to the scheduler services queue associated with this UOW. The pending schedule requests are hardened to the scheduler services local request queue (LRQ) as part of syncpoint processing.

Input Parameters

ACTIVITY_REQUEST_BLOCK
is a block containing the BAM domain activity request block.

BALANCE
indicates whether this schedule request is eligible for workload balancing.

Values for the parameter are:

`NO`
`YES`

TOKEN
is a string of length 4, used to identify the pending queue.

TRANID
is an 4-character transaction id.

USERID
is an 8-character userid.

ACTIVITY_ID
Optional Parameter

is a block containing the activity id.

ACTIVITY_NAME
Optional Parameter

is the name of the activity.

PNAME
Optional Parameter

is the 36-character process name.

PROCESS_ID
Optional Parameter

is a block containing the process id.

PTYPE
Optional Parameter

is the 8-character process type.

TIME
Optional Parameter

is a string of length 8, used when a request is delayed for a period time.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SHPR gate, DELETE_PENDING_REQUEST function

The DELETE_PENDING_REQUEST of the SHPR gate is used to delete a pending request queue.

Input Parameters

TOKEN
is a string of length 4, used to identify the pending queue.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`REQUEST_NOT_FOUND`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SHPR gate, SET_BOUND_REQUEST function

The SET_BOUND_REQUEST function of the SHPR gate is used to update the schedule request to indicate that a process and/or activity has completed.

Input Parameters

ACTIVITY_COMPLETE
indicates whether the activity associated with this UOW has completed.

Values for the parameter are:
`NO`
`YES`

PROCESS_COMPLETE
indicates whether the process associated with this UOW has completed.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`REQUEST_NOT_FOUND`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SHRQ gate, PERFORM_REGULAR_DREDGE function

The PERFORM_REGULAR_DREDGE function of the SHRQ gate initiates the periodic dredging of expired schedule requests on the local request queue (LRQ).

Output Parameters

QUIESCE
: A binary value indicating that whether the system is quuiescing.

  Values for the parameter are:
  `NO`
  `YES`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SHRQ gate, PERFORM_RESTART_DREDGE function

The PERFORM_RESTART_DREDGE of the SHRQ gate is used to initiate the dredging of expired schedule requests on the local request queue (LRQ) after a CICS system restart.

Output Parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SHRQ gate, PERFORM_SHUTDOWN function

The PERFORM_SHUTDOWN function of the SHRQ gate is used to stop dredging of schedule requests on the local request queue (LRQ), preventing any further CICS BTS work from being initiated.

Input Parameters

IMMEDIATE
: Optional Parameter

  A binary value indicating if this is an immediate shutdowm.

  Values for the parameter are:
  `NO`
  `YES`

Output Parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SHRR gate, RECEIVE_REQUEST function

The RECIEVE_REQUEST function of the SHRR gate is used to receive a schedule request once it has been routed to the target region.

Input Parameters

REQUEST_BLOCK
: A block into which the request is received.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `INVALID_REQUEST_RECEIVED`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SHRR gate, RETRY_REQUEST function

The RETRY_REQUEST function of the SHRR gate is used obtain another target region if the initial attempt at routing the schedule request fails.

Input Parameters

REQUEST_BUFFER
is a buffer used to hold the schedule request which is to be routed.

ROUTE_ERROR
indicates the reason why the routing of the schedule request failed.

Values for the parameter are:

```
ALLOCATE_REJECTED
FUNC_NOT_SUPPORTED
INVREQ
LENGERR
NO_SESSIONS
NOTAUTH
PGMIDERR
QUEUE_PURGED
SYSID_NOT_FOUND
SYSID_OUT_SERVICE
TERMERR
```

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
NO_REQUEST_FOUND
NO_SYSTEM
REQUEST_BUFFER_TOO_SMALL
```

ABEND_CODE
is the 4-character abend code.

LOCAL
indicates whether we should retry the schedule request on the local region.

Values for the parameter are:

```
NO
YES
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SYSID
is the 4-character sysid of the region to which the schedule request should be routed.

SHRR gate, ROUTE_REQUEST function

The ROUTE_REQUEST function of the SHRR gate is used to identify a target region to which a schedule request should be routed.

Input Parameters

REQUEST_BUFFER
is a buffer used to hold the schedule request which is to be routed.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
NO_REQUEST_FOUND
```

NO_SYSTEM
REQUEST_BUFFER_TOO_SMALL

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SYSID
is the 4-character sysid of the region to which the schedule request should be routed.

SHRT gate, INQUIRE_EXIT_PROGRAM function

The INQUIRE_EXIT_PROGRAM function of the SHRT gate is used to return the name of the distributed routing exit program, initially named on the DSRTPGM system initialisation parameter.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND

PROGRAM_NAME
The name of the distributed routing exit program.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SHRT gate, SET_EXIT_PROGRAM function

The SET_EXIT_PROGRAM function of the SHRT gate is used to alter the distributed routing exit program, initially named on the DSRTPGM system initialisation parameter. The sysid of the local system is passed during CICS(R) initialisation.

Input Parameters

PROGRAM_NAME
is the 8-character exit program name.

LOCAL_SYSID
Optional Parameter

is the 4-character local sysid.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Scheduler Services Domain's generic gates

Table 69 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 69. Scheduler Domain's generic gates

Gate	Trace	Function	Format
DMDM	SH 0101 SH 0102	PRE_INITIALISE INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM
XMAC	SH 0121 SH 0122	INIT_XM_CLIENT BIND_XM_CLIENT RELEASE_XM_CLIENT	XMAC
TISR	SH 0701 SH 0702	NOTIFY	TISR
KETI	SH 0701 SH 0702	NOTIFY_RESET	KETI

When invoked for the DMDM INITIALIZE_DOMAIN function scheduler services obtains its anchor block and initializes its various classes. This would include starting the scheduler services system task , CSHY and obtaining the name of the distributed routing exit program named on the DSRTPGM system initialization parameter.

When invoked by transaction manager via the XMAC generic gate, for INIT_XM_CLIENT SH domain obtains a user token in order to set up the correct transaction environment. For BIND_XM_CLIENT SH domain initializes recoverable resources, which includes setting the RM work token and logging a backout request for this UOW. SH domain also determines the name of the program to be invoked on the initial program link.

When invoked for the RMRO PERFORM_PREPARE function SH domain prepares to commit the pending request for the UOW by adding them to the local request queue (LRQ). On receipt of the RMRO PERFORM_COMMIT the schedule requests for this UOW are committed or destroyed, depending upon whether we are committing forwards or backwards.

When invoked for the RMDE DELIVER_RECOVERY function SH domain recreates the pending request queues and in the case of inflight UOWs attempts to retry the associated BTS activation.

Scheduler services makes use of the TISR functions, REQUEST_ NOTIFY_INTERVAL and NOTIFY to deal with delayed schedule requests i.e. EXEC CICS(R) DEFINE TIMER calls.

The KETI interface is used when the time is adjusted, causing the time at which delayed schedule requests are to expire to be recalculated.

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

"Transaction manager domain's generic formats" on page 1999

"Timer domain's generic formats" on page 1790

"Kernel domain generic formats" on page 1244

Scheduler domain's call-back gates

Table 70 summarizes the domain's call-back gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 70. Scheduler domain's call-back gates

Gate	Trace	Function	Format
RMDE	SH 0131 SH 0132	START_DELIVERY DELIVER_RECOVERY END_DELIVERY	RMDE
RMKP	SH 0131 SH 0132	TAKE_KEYPOINT	RMKP
RMRO	SH 0131 SH 0132	PERFORM_PREPARE PERFORM_COMMIT START_BACKOUT DELIVER_BACKOUT_DATA END_BACKOUT PERFORM_SHUNT PERFORM_UNSHUNT	RMRO

When invoked for the RMRO PERFORM_PREPARE function SH domain prepares to commit the pending request for the UOW by adding them to the local request queue (LRQ). On receipt of the RMRO PERFORM_COMMIT the schedule requests for this UOW are committed or destroyed, depending upon whether we are committing forwards or backwards.

When invoked for the RMDE DELIVER_RECOVERY function SH domain recreates the pending request queues and in the case of inflight UOWs attempts to retry the associated BTS activation.

For descriptions of these functions and their input and output parameters, refer to descriptions of the following call-back formats:

"Recovery manager domain call-back formats" on page 1599

Modules

Module	Function
DFHSHDM	Handles the following requests: PRE_INITIALIZE INITIALIZE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN
DFHSHDUF	Formats the SH domain control blocks
DFHSHOFI	Initializes the SH domain object factory class.
DFHSHPR	Handles the following requests: ADD_PENDING_REQUEST DELETE_PENDING_REQUEST SET_BOUND_REQUEST
DFHSHRE1	Initializes the SH domain request class.

Module	Function
DFHSHRM	Handles the following requests: PERFORM_PREPARE PERFORM_COMMIT START_BACKOUT DELIVER_BACKOUT END_BACKOUT PERFORM_SHUNT PERFORM_UNSHUNT TAKE_KEYPOINT START_DELIVERY DELIVER_RECOVERY END_DELIVERY
DFHSHRQ	Handles the following requests: PERFORM_RESTART_DREDGE PERFORM_REGULAR_DREDGE PERFORM_SHUTDOWN
DFHSHRQ1	Initializes the SH domain request queue class.
DFHSHRR	Handles the following requests: ROUTE_REQUEST RECEIVE_REUEST RETRY_REQUEST
DFHSHRRP	The SH domain request receiving program, the back-end to SH domain DPL requests.
DFHSHRSP	The SH domain request sending program, the front-end to SH domain DPL requests.
DFHSHRT	Handles the following requests: SET_EXIT_PROGRAM INQUIRE_EXIT_PROGRAM
DFHSHRT1	Initializes the SH domain request routing class.
DFHSHRT2	Invokes the distributed routing exit program, named on the DSRTPGM system initialization parameter.
DFHSHSY	Implements the SH domain system task, CSHY.
DFHSHTI	Handles the following requests: NOTIFY NOTIFY_RESET
DFHSHTRI	Interprets SH domain trace entries
DFHSHVP1	Initializes the SH domain variable length storage class.
DFHSHXM	Handles the following requests: INIT_XM_CLIENT BIND_XM_CLIENT RELEASE_XM_CLIENT

Chapter 104. Java Virtual Machine Domain (SJ)

The JVM domain provides services that are used by Java virtual machines in the CICS environment.

Java Virtual Machine Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the SJ domain.

SJCC gate, ADD_TO_ACTIVE_JVMSET function

The ADD_TO_ACTIVE_JVMSET function of the SJCC gate is used to add a new JVM to the set of JVMs that use the active shared class cache (the JVMset), and also to automatically start the shared class cache if autostart is enabled and the shared class cache is not started.

Input Parameters

SJTCB_TOKEN
The token of the TCB on which the new JVM is to be built.

Output Parameters

REASON
The values for the parameter are:
AUTOSTART_DISABLED
INVALID_CC_STATE

JVMSET_TOKEN
The token of the JVMset.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJCC gate, REGISTER_JAVA_VERSION function

The REGISTER_JAVA_VERSION function of the SJCC gate is called before the first JVM runs in CICS, to register the version of Java in use.

Input Parameters

SJTCB_TOKEN
The token of the TCB on which the JVM is starting.

Output Parameters

REASON
The values for the parameter are:
INVALID_JAVA_VERSION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJCC gate, RELOAD_CLASSCACHE function

The RELOAD_CLASSCACHE function of the SJCC gate is used to reload the shared class cache.

Input Parameters

CACHE_SIZE
Optional Parameter

The size of the shared class cache.

Output Parameters

REASON
The values for the parameter are:
INVALID_PROFILE_NAME
NOT_STARTED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJCC gate, START_CLASSCACHE function

The START_CLASSCACHE function of the SJCC gate is used to start the shared class cache.

Input Parameters

CACHE_SIZE
Optional Parameter

The size of the shared class cache.

Output Parameters

REASON
The values for the parameter are:
INVALID_PROFILE_NAME
NOT_STOPPED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJCC gate, STOP_CLASSCACHE function

The STOP_CLASSCACHE function of the SJCC gate is used to stop the shared class cache.

Input Parameters

AUTOSTART
Optional Parameter

The autostart status that is to be set for the shared class cache, to determine whether or not it will restart automatically when a JVM requests its use.

Values for the parameter are:
DISABLED
ENABLED

TERMINATE
Optional Parameter

The type of termination that is to be attempted for the shared class cache and the JVMs that are using it. When PHASEOUT is specified, the supporting TCBs for the JVMs will be marked for deletion at the termination of their current task (if any). If PURGE or FORCEPURGE is specified, then premature termination of those tasks is initiated. When all JVMs that are using the shared class cache have been terminated, the shared class cache is also terminated.

Values for the parameter are:
FORCEPURGE
PHASEOUT
PURGE

Output Parameters

REASON
The values for the parameter are:
ALREADY_STOPPED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJDS gate, DELETE_THREADED_TCB function

The DELETE_THREADED_TCB function deletes a T8 TCB from the THRD pool.

Input parameters

TCB_TOKEN
A token that represents the TCB.

MODENAME
The mode of the TCB.

Output parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

ERROR_TERMINATING_ENCLAVE

TRANSACTION_ABENDED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJJS gate, CREATE_JVMSERVER function

The CREATE_JVMSERVER function creates a JVMSERVER resource.

Input parameters

ENABLESTATUS
Optional parameter

The status of the JVMSERVER resource.

JVMPROFILE
The JVM profile that the JVM server uses during initialization.

JVMSERVER
The name of the JVMSERVER resource.

LERUNOPTS
The program that defines the runtime options for the Language Environment enclave.

RESOURCE_SIGNATURE
The resource signature of the JVMSERVER resource.

THREADLIMIT
Optional parameter

The maximum number of threads that are allowed in the Language Environment enclave.

WARM_RESTART
Optional parameter

Indicates whether the JVMSERVER resource is to be recovered from the catalog during a warm restart of CICS.

Output parameters

REASON
The following values are returned when RESPONSE is DISASTER:

- ABEND
- DIRECTORY_ERROR
- DUPLICATE
- INSUFFICIENT_STORAGE
- INSUFFICIENT_THREADS
- INTERNAL_ERROR
- SEVERE_ERROR
- THREADS_LIMITED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJJS gate, COMPLETE_JVMSERVER function

The COMPLETE_JVMSERVER function completes the installation of the JVMSERVER resource.

Input parameters

ENABLESTATUS
Optional parameter

The status of the JVMSERVER resource.

JVMPROFILE
Optional parameter

The JVM profile that the JVM server uses during initialization.

JVMSERVER
The name of the JVMSERVER resource.

LERUNOPTS
Optional parameter

The program that defines the runtime options for the Language Environment enclave.

RESOURCE_SIGNATURE
Optional parameter

The resource signature of the JVMSERVER resource.

THREADLIMIT
Optional parameter

The maximum number of threads that are allowed in the Language Environment enclave.

Output parameters

REASON

The following values are returned when RESPONSE is DISASTER:

```
ABEND
ACTIVATE_TP_FAILED
CREATE_ENCLAVE_FAILED
DIRECTORY_ERROR
INSUFFICIENT_STORAGE
INTERNAL_ERROR
LE_RUNOPTS_LOAD_ERROR
LE_RUNOPTS_TOO_LONG
SEVERE_ERROR
```

The following values are returned when RESPONSE is EXCEPTION:

```
JVMSERVER_NOT_FOUND
NOT_AUTHORIZED
```

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJJS gate, DISCARD_JVMSERVER function

The DISCARD_JVMSERVER function discards a JVMSERVER resource.

Input parameters

ENABLESTATUS

Optional parameter

The status of the JVMSERVER resource.

JVMPROFILE

Optional parameter

The JVM profile that the JVM server uses during initialization.

JVMSERVER

The name of the JVMSERVER resource.

LERUNOPTS

Optional parameter

The program that defines the runtime options for the Language Environment enclave.

RESOURCE_SIGNATURE

Optional parameter

The resource signature of the JVMSERVER resource.

THREADLIMIT

Optional parameter

The maximum number of threads that are allowed in the Language Environment enclave.

Output parameters

REASON

The following values are returned when RESPONSE is DISASTER:

```
ABEND
DIRECTORY_ERROR
INTERNAL_ERROR
NOT_DISABLED
SEVERE_ERROR
```

The following values are returned when RESPONSE is EXCEPTION:

JVMSERVER_NOT_FOUND
NOT_AUTHORIZED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJJS gate, END_BROWSE_JVMSERVER function

The END_BROWSE_JVMSERVER function ends the browse operation for JVMSERVER resources.

Input parameters

BROWSE_TOKEN
The token for the browse operation.

Output parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
INVALID_BROWSE_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJJS gate, GET_NEXT_JVMSERVER function

The GET_NEXT_JVMSERVER function returns the next name in the browse specified by the browse token and returns the attributes associated with the JVMSERVER resource.

Input parameters

BROWSE_TOKEN
The token that identifies the requested browse of JVMSERVER resources.

RESET
Optional parameter

Reset the browse operation.

RESOURCE_SIGNATURE
Optional parameter

The resource signature of a JVMSERVER resource.

Output parameters

ENABLESTATUS
Optional parameter

The status of the JVMSERVER resource.

JVMPROFILE
Optional parameter

The JVM profile that the JVM server uses during initialization.

JVMSERVER
The name of a JVMSERVER resource.

LERUNOPTS
Optional parameter

The program that defines the runtime options for the Language Environment enclave.

REASON
The following values are returned when RESPONSE is EXCEPTION:

BROWSE_END

INVALID_BROWSE_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

THREADLIMIT
Optional parameter

The maximum number of threads that are allowed in the Language Environment enclave.

SJJS gate, INQUIRE_JVMSERVER function

The INQUIRE_JVMSERVER function inquires on a JVMSERVER resource.

Input parameters

JVMSERVER
The name of the JVMSERVER resource.

RESOURCE_SIGNATURE
Optional parameter

The resource signature of the JVMSERVER resource.

Output parameters

ENABLESTATUS
Optional parameter

The status of the JVMSERVER resource.

JVMPROFILE
Optional parameter

The JVM profile that the JVM server uses during initialization.

LERUNOPTS
Optional parameter

The program that defines the runtime options for the Language Environment enclave.

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
DIRECTORY_ERROR
INTERNAL_ERROR
SEVERE_ERROR

The following values are returned when RESPONSE is EXCEPTION:
JVMSERVER_NOT_FOUND
NOT_AUTHORIZED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

THREADLIMIT
Optional parameter

The maximum number of threads that are allowed in the Language Environment enclave.

SJJS gate, MARK_THREAD_DELETED function

The MARK_THREAD_DELETED function deletes a thread when the CICS dispatcher deletes the associated T8 TCB.

Input parameters

TCB_TOKEN
A token that represents the T8 TCB.

Output parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJJS gate, RESOLVE_ALL_JVMSERVERS function

The RESOLVE_ALL_JVMSERVERS function runs the CJSR transaction for all JVMSERVER resources that are in the enabling state.

Input parameters

JVMSERVER
Optional parameter

The name of the JVMSERVER resource.

Output parameters

REASON
The following values are returned when RESPONSE is DISASTER:

`ABEND`

`CREATE_ENCLAVE_FAILED`

`DIRECTORY_ERROR`

`INTERNAL_ERROR`

`SEVERE_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJJS gate, SET_JVMSERVER function

The SET_JVMSERVER function sets the attributes of a JVMSERVER resource.

Input parameters

ENABLESTATUS
Optional parameter

The status of the JVMSERVER resource.

JVMSERVER
The name of the JVMSERVER resource.

THREADLIMIT
Optional parameter

The maximum number of threads that are allowed in the Language Environment enclave.

Output parameters

REASON

The following values are returned when RESPONSE is DISASTER:

- ABEND
- DIRECTORY_ERROR
- INTERNAL_ERROR
- SEVERE_ERROR

The following values are returned when RESPONSE is EXCEPTION:

- JVMSERVER_NOT_FOUND
- NOT_AUTHORIZED
- WRONG_STATE
- INSUFFICIENT_THREADS
- THREADS_LIMITED
- CREATE_ENCLAVE_FAILED
- INVALID_THREADLIMIT
- JVMSERVER_IN_USE

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJJS gate, START_BROWSE_JVMSERVER function

The START_BROWSE_JVMSERVER function starts to browse installed JVMSERVER resources.

Input parameters

None.

Output parameters

BROWSE_TOKEN

The browse token for the browse operation.

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJIN gate, DESTROY_SHAREDCC function

The DESTROY_SHAREDCC function of the SJIN gate destroys a shared class cache.

Input Parameters

GENERATION

The generation number of the Shared Class Cache to be destroyed.

Output Parameters

REASON

The values for the parameter are:

- JVM_PROFILE_INVALID
- JVM_PROFILE_MISSING
- JVM_START_FAILURE
- SYSTEM_PROPERTIES_INVALID
- SYSTEM_PROPERTIES_MISSING

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJIN gate, INITIALIZE_JVM function

Initialize a new Java Virtual Machine without invoking a user program.

Input Parameters

EXEC_KEY
The values for the parameter are:
`CICS`
`USER`

JVM_PROFILE_NAME
The name of the JVM profile to be used to initialize the new JVM.

Output Parameters

REASON
The values for the parameter are:
`AUTOSTART_DISABLED`
`JVM_POOL_DISABLED`
`JVM_PROFILE_INVALID`
`JVM_PROFILE_MISSING`
`JVM_START_FAILURE`
`SYSTEM_PROPERTIES_MISSING`
`SYSTEM_PROPERTIES_INVALID`

ABEND_CODE
The CICS abend code returned if an abend occurs.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJIN gate, INITIALIZE_SHAREDCC function

The INITIALIZE_SHAREDCC function of the SJIN gate starts a new shared class cache.

Input Parameters

SJVMS_TOKEN
The token of the SJVMS control block.

Output Parameters

REASON
The values for the parameter are:
`JVM_PROFILE_INVALID`
`JVM_PROFILE_MISSING`
`JVM_START_FAILURE`
`SYSTEM_PROPERTIES_INVALID`
`SYSTEM_PROPERTIES_MISSING`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJIN gate, INVOKE_GC function

The INVOKE_GC function of the SJIN gate is used to invoke Garbage Collection in the JVM via the System.gc() method.

Input Parameters

SJTCB_TOKEN
The token of the TCB for the JVM in which GC is to be invoked.

Output Parameters

REASON
The values for the parameter are:
`SJTCB_TOKEN_INVALID`

ABEND_CODE
The CICS abend code returned if an abend occurs.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJIN gate, INVOKE_JAVA_PROGRAM function

The INVOKE_JAVA_PROGRAM function of the SJIN gate is used to invoke a user Java program.

Input Parameters

EXEC_KEY
The EXEC key of the JVM.

Values for the parameter are:
`CICS`
`USER`

JVM_PROFILE_NAME
The name of the JVM profile to be used for the JVM.

PROGRAM
The program name of the program to be invoked.

TRANSACTION
The transaction id of the current transaction.

USER_CLASS
The name of the main class in the Java program that is to run in the JVM.

Output Parameters

REASON
The values for the parameter are:
`AUTOSTART_DISABLED`
`JVM_POOL_DISABLED`
`JVM_PROFILE_INVALID`
`JVM_PROFILE_MISSING`
`JVM_START_FAILURE`
`SYSTEM_PROPERTIES_INVALID`
`SYSTEM_PROPERTIES_MISSING`
`TRANSACTION_ABENDED`
`USER_CLASS_NOT_FOUND`

ABEND_CODE
The CICS abend code returned if an abend occurs.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

|
SJIN gate, UPDATE_JVMSERVER_PROFILE function

| The UPDATE_JVMSERVER_PROFILE function updates the current profile for the
| JVM server profile.

Input parameters

JVM_PROFILE_NAME
: The name of the JVM profile that initializes the JVM server.

EXEC_KEY
: The EXEC key of the JVM. The values for the parameter are CICS or USER.

REMOVE
: Optional parameter

  Remove the JVM profile.

Output parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:

  `PROFILE_NOT_IN_USE`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJIS gate, DELETE_INACTIVE_JVMS function

The DELETE_INACTIVE_JVMS function of the SJIS gate is used when MVS storage is constrained, and CICS needs to delete JVMs in the JVM pool that are not currently in use, together with their TCBs.

Output Parameters

REASON
: The values for the parameter are:

```
END_OF_BROWSE
INSUFFICIENT_STORAGE
INVALID_BROWSE_TOKEN
JVM_LEVEL0_TRACE_OVERFLOW
JVM_LEVEL1_TRACE_OVERFLOW
JVM_LEVEL2_TRACE_OVERFLOW
JVM_NOT_FOUND
JVM_USER_TRACE_OVERFLOW
JVMPROFILE_NOT_FOUND
PURGE_FAILED
```

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJIS gate, END_BROWSE_JVM function

The END_BROWSE_JVM function of the SJIS gate ends the browse of the JVMs in the JVM pool.

Input Parameters

BROWSE_TOKEN
: A pointer to the JVM_ID (JVM token) of the last JVM that was found by the browse.

Output Parameters

REASON
: The values for the parameter are:

```
END_OF_BROWSE
INSUFFICIENT_STORAGE
```

INVALID_BROWSE_TOKEN
JVM_LEVEL0_TRACE_OVERFLOW
JVM_LEVEL1_TRACE_OVERFLOW
JVM_LEVEL2_TRACE_OVERFLOW
JVM_NOT_FOUND
JVM_USER_TRACE_OVERFLOW
JVMPROFILE_NOT_FOUND
PURGE_FAILED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJIS gate, END_BROWSE_JVMPROFILE function

The END_BROWSE_JVMPROFILE function of the SJIS gate ends the browse of the JVM profiles.

Input Parameters

BROWSE_TOKEN
A pointer to the JVM_ID (JVM token) of the last JVM that was found by the browse.

Output Parameters

REASON
The values for the parameter are:
END_OF_BROWSE
INSUFFICIENT_STORAGE
INVALID_BROWSE_TOKEN
JVM_LEVEL0_TRACE_OVERFLOW
JVM_LEVEL1_TRACE_OVERFLOW
JVM_LEVEL2_TRACE_OVERFLOW
JVM_NOT_FOUND
JVM_USER_TRACE_OVERFLOW
JVMPROFILE_NOT_FOUND
PURGE_FAILED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJIS gate, GET_NEXT_JVM function

The GET_NEXT_JVM function of the SJIS gate returns the next JVM in the JVM pool. The JVMs are ordered by their JVM tokens.

Input Parameters

BROWSE_TOKEN
A pointer to the JVM_ID (JVM token) of the last JVM that was found by the browse.

Output Parameters

REASON
The values for the parameter are:
END_OF_BROWSE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

AGE
Optional Parameter

The number of seconds since the JVM was initialized.

ALLOC_AGE
Optional Parameter

The number of seconds for which the JVM has been allocated to its task (zero if the JVM is not currently allocated to a task).

CLASSCACHE
Optional Parameter

Indicates whether the JVM uses the shared class cache.

Values for the parameter are:
`NO`
`YES`

EXEC_KEY
Optional Parameter

The EXEC key of the JVM.

Values for the parameter are:
`CICS`
`USER`

JVM_ID
Optional Parameter

The JVM token, a value that identifies the JVM.

JVMPROFILE_NAME
Optional Parameter

This parameter is obsolete from Java 5 onwards, and always returns a blank field.

PHASING_OUT
Optional Parameter

Indicates whether the JVM is being phased out (that is, it has been marked for deletion, but is still being used by a task).

Values for the parameter are:
`NO`
`YES`

REUSE_STATUS
Optional Parameter

The reuse characteristics of the JVM.

Values for the parameter are:
`NOREUSE`
`RESET`
`REUSE`

TRANNUM
Optional Parameter

The task to which the JVM is allocated (zero if the JVM is not currently allocated to a task).

SJIS gate, GET_NEXT_JVMPROFILE function

The GET_NEXT_JVMPROFILE function of the SJIS gate returns the next JVM profile. The JVM profiles are returned in alphabetical order.

Input Parameters

BROWSE_TOKEN
A pointer to the JVM_ID (JVM token) of the last JVM that was found by the browse.

JVMPROFILE_PATH_NAME
is a buffer which is used by the JVM domain to return the full path name of the z/OS UNIX file for the JVM profile (up to 240 characters).

Output Parameters

REASON
The values for the parameter are:

```
END_OF_BROWSE
INVALID_BROWSE_TOKEN
```

CLASSCACHE
Indicates whether the JVM uses the shared class cache.

Values for the parameter are:

```
NO
YES
```

JVMPROFILE_NAME
This parameter is obsolete from Java 5 onwards, and always returns a blank field.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

REUSE_STATUS
The reuse characteristics of the JVM.

Values for the parameter are:

```
NOREUSE
RESET
REUSE
```

SJIS gate, INQUIRE_CLASSCACHE function

The INQUIRE_CLASSCACHE function of the SJIS gate is used to retrieve information about the shared class cache in the CICS region.

Output Parameters

REASON
The values for the parameter are:

```
END_OF_BROWSE
INSUFFICIENT_STORAGE
INVALID_BROWSE_TOKEN
JVM_LEVEL0_TRACE_OVERFLOW
JVM_LEVEL1_TRACE_OVERFLOW
JVM_LEVEL2_TRACE_OVERFLOW
JVM_NOT_FOUND
JVM_USER_TRACE_OVERFLOW
JVMPROFILE_NOT_FOUND
PURGE_FAILED
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACTIVE_JVMS
Optional Parameter

The number of JVMs in the CICS region that are using the current shared class cache or a shared class cache that is phasing out.

AUTOSTART
Optional Parameter

The status of autostart for the shared class cache.

Values for the parameter are:
`DISABLED`
`ENABLED`

CACHE_FREE
Optional Parameter

The amount of free space in the shared class cache.

CACHE_SIZE
Optional Parameter

The size of the shared class cache, in bytes.

JVMPROFILE_NAME
Optional Parameter

This parameter is obsolete from Java 5 onwards, and always returns a blank field.

PHASINGOUT_JVMS
Optional Parameter

The number of JVMs that are using an old shared class cache (or the current shared class cache, if its status is STOPPED) and are being phased out.

PHASINGOUT_JVMSETS
Optional Parameter

The number of old shared class caches that are still present in the region because they are waiting for JVMs that are using them to be phased out (including the current shared class cache, if its status is STOPPED).

REUSE_STATUS
Optional Parameter

The reuse characteristics of the JVM.

Values for the parameter are:
`NOREUSE`
`RESET`
`REUSE`
`UNKNOWN`

START_ABSTIME
Optional Parameter

The absolute date and time at which the current shared class cache was started (ABSTIME format).

START_DATE
Optional Parameter

The date on which the current shared class cache was started.

START_TIME
Optional Parameter

The time at which the current shared class cache was started.

STARTED_STATUS
Optional Parameter

The status of the current shared class cache (STARTING, STARTED, RELOADING or STOPPED).

Values for the parameter are:
`RELOADING`
`STARTED`
`STARTING`
`STOPPED`

SJIS gate, INQUIRE_JVM function

The INQUIRE_JVM function of the SJIS gate is used to identify and retrieve information about the JVMs in the JVM pool.

Input Parameters

JVM_ID
The JVM token, a value that identifies the JVM.

Output Parameters

REASON
The values for the parameter are:
`JVM_NOT_FOUND`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

AGE
Optional Parameter

The number of seconds since the JVM was initialized.

ALLOC_AGE
Optional Parameter

The number of seconds for which the JVM has been allocated to its task (zero if the JVM is not currently allocated to a task).

CLASSCACHE
Optional Parameter

Indicates whether the JVM uses the shared class cache.

Values for the parameter are:
`NO`
`YES`

EXEC_KEY
Optional Parameter

The EXEC key of the JVM.

Values for the parameter are:
`CICS`
`USER`

JVMPROFILE_NAME
Optional Parameter

This parameter is obsolete from Java 5 onwards, and always returns a blank field.

PHASING_OUT
Optional Parameter

Indicates whether the JVM is being phased out (that is, it has been marked for deletion, but is still being used by a task).

Values for the parameter are:
`NO`
`YES`

REUSE_STATUS
Optional Parameter

The reuse characteristics of the JVM.

Values for the parameter are:

```
NOREUSE
RESET
REUSE
```

TRANNUM
Optional Parameter

The task to which the JVM is allocated (zero if the JVM is not currently allocated to a task).

SJIS gate, INQUIRE_JVMPOOL function

The INQUIRE_JVMPOOL function of the SJIS gate is used to retrieve information about the JVM pool.

Input Parameters

JVM_LEVEL0_TRACE_BUFFER
Optional parameter

A buffer which is used by the JVM domain to return the JVM trace options that have been set for JVM Level 0 trace (up to 240 characters).

JVM_LEVEL1_TRACE_BUFFER
Optional parameter

A buffer which is used by the JVM domain to return the JVM trace options that have been set for JVM Level 1 trace (up to 240 characters).

JVM_LEVEL2_TRACE_BUFFER
Optional parameter

A buffer which is used by the JVM domain to return the JVM trace options that have been set for JVM Level 2 trace (up to 240 characters).

JVM_USER_TRACE_BUFFER
Optional parameter

A buffer which is used by the JVM domain to return the JVM trace options that have been set for JVM User trace (up to 240 characters).

| **JVMPROFILE_DIR_BLOCK**
| Optional parameter

| A block that contains the name of the JVM profile directory.

Output Parameters

REASON
The following values for returned when RESPONSE is DISASTER:

```
INSUFFICIENT_STORAGE
```

The following values are returned when RESPONSE is EXCEPTION:

```
JVM_LEVEL0_TRACE_OVERFLOW
JVM_LEVEL1_TRACE_OVERFLOW
JVM_LEVEL2_TRACE_OVERFLOW
JVM_USER_TRACE_OVERFLOW
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PHASINGOUT
Optional Parameter

The number of JVMs that are currently being phased out; that is, they have been marked for deletion, but are still being used by a task.

STATUS
Optional Parameter

The status of the JVM pool; that is, whether it can service new requests or not.

Values for the parameter are:
`DISABLED`
`ENABLED`

TOTAL
Optional Parameter

The total number of JVMs in the JVM pool.

SJIS gate, INQUIRE_JVMPROFILE function

The INQUIRE_JVMPROFILE function of the SJIS gate is used to retrieve information about JVM profiles that have been used during the lifetime of this CICS region.

Input Parameters

JVMPROFILE_NAME
This parameter is obsolete from Java 5 onwards, and always returns a blank field.

JVMPROFILE_PATH_NAME
is a buffer that is used by the JVM domain to return the full path name of the z/OS UNIX file for the JVM profile (up to 240 characters).

Output Parameters

REASON
The values for the parameter are:
`JVMPROFILE_NOT_FOUND`

CLASSCACHE
Indicates whether the JVM uses the shared class cache.

Values for the parameter are:
`NO`
`YES`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

REUSE_STATUS
The reuse characteristics of the JVM.

Values for the parameter are:
`NOREUSE`
`RESET`
`REUSE`

SJIN gate, PERFORM_JVMPOOL function

The PERFORM_JVMPOOL function of the SJIS gate is used to initialize or terminate Java virtual machines (JVM)s in the JVM pool.

Input Parameters

EXEC_KEY
Optional Parameter.

For INITIALIZE, this is the EXEC key of the JVMs to be started.

The values for the parameter are:
`CICS`
`USER`

INITIALIZE
Optional Parameter.

Initialize a number of new JVMs.

Values for the parameter are:
START

JVMCOUNT
Optional Parameter.

For INITIALIZE, this is the number of JVMs to be started.

JVMPROFILE_NAME
Optional Parameter

This parameter is obsolete from Java 5 onwards.

TERMINATE
Optional Parameter

Terminate the entire JVM pool, or a subset of it depending on the JVMPROFILE parameter. When PHASEOUT is specified, the supporting TCBs for the JVMs will be marked for deletion at the termination of their current task (if any). If PURGE or FORCEPURGE is specified, then premature termination of those tasks is initiated.

Values for the parameter are:

FORCEPURGE

PHASEOUT

PURGE

Output Parameters

REASON
The values for the parameter are:
`CJPI_ATTACH_FAILED`
`EXCESS_JVMCOUNT`
`JVMPOOL_DISABLED`
`PURGE_FAILED`

ABEND_CODE
The CICS abend code returned if an abend occurs.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJIS gate, SET_CLASSCACHE function

The SET_CLASSCACHE function of the SJIS gate is used to set attributes of the shared class cache.

Input Parameters

AUTOSTART
Optional Parameter

The autostart status that is to be set for the shared class cache, to determine whether or not it will restart automatically when a JVM requests its use.

Values for the parameter are:
`DISABLED`
`ENABLED`

CACHE_SIZE
Optional Parameter

The size of the shared class cache.

INITIAL_START
Optional Parameter

Specifies whether or not the shared class cache will start automatically at CICS initialization.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The values for the parameter are:
`END_OF_BROWSE`
`INSUFFICIENT_STORAGE`
`INVALID_BROWSE_TOKEN`
`JVM_LEVEL0_TRACE_OVERFLOW`
`JVM_LEVEL1_TRACE_OVERFLOW`
`JVM_LEVEL2_TRACE_OVERFLOW`
`JVM_NOT_FOUND`
`JVM_USER_TRACE_OVERFLOW`
`JVMPROFILE_NOT_FOUND`
`PURGE_FAILED`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJIS gate, SET_JVMPOOL function

The SET_JVMPOOL function of the SJIS gate is used to set the status of the JVM pool, or to set JVM trace options for the JVM pool, or to terminate the JVM pool.

Input Parameters

JVM_LEVEL0_TRACE_BLOCK
Optional Parameter

is a buffer containing the JVM trace options (up to 240 characters) that are to be set for JVM Level 0 trace.

JVM_LEVEL1_TRACE_BLOCK
Optional Parameter

is a buffer containing the JVM trace options (up to 240 characters) that are to be set for JVM Level 1 trace.

JVM_LEVEL2_TRACE_BLOCK
Optional Parameter

is a buffer containing the JVM trace options (up to 240 characters) that are to be set for JVM Level 2 trace.

JVM_USER_TRACE_BLOCK
Optional Parameter

is a buffer containing the JVM trace options (up to 240 characters) that are to be set for JVM User trace.

STATUS
Optional Parameter

The overall status of the JVM pool.

Values for the parameter are:
`DISABLED`
`ENABLED`

TERMINATE
Optional Parameter

The type of termination that is to apply for all JVMs. When PHASEOUT is specified, the supporting TCBs for the JVMs will be marked for deletion at the termination of their current task (if any). If PURGE or FORCEPURGE is specified, then premature termination of those tasks is initiated.

Values for the parameter are:
`FORCEPURGE`
`PHASEOUT`
`PURGE`

Output Parameters

REASON
The values for the parameter are:
`PURGE_FAILED`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJIS gate, SET_JVMPROFILEDIR function

The SET_JVMPROFILEDIR function of the SJIS gate is used to set the z/OS UNIX directory where CICS will look for JVM profiles.

Input Parameters

JVMPROFILE_DIR_BLOCK
is a buffer containing the full path of the z/OS UNIX directory where CICS will look for JVM profiles (up to 240 characters).

Output Parameters

REASON
The values for the parameter are:
`END_OF_BROWSE`
`INSUFFICIENT_STORAGE`
`INVALID_BROWSE_TOKEN`
`JVM_LEVEL0_TRACE_OVERFLOW`
`JVM_LEVEL1_TRACE_OVERFLOW`
`JVM_LEVEL2_TRACE_OVERFLOW`
`JVM_NOT_FOUND`
`JVM_USER_TRACE_OVERFLOW`
`JVMPROFILE_NOT_FOUND`
`PURGE_FAILED`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJIS gate, START_BROWSE_JVM function

The START_BROWSE_JVM function of the SJIS gate starts a browse of the JVMs in the JVM pool.

Output Parameters

REASON
: The values for the parameter are:
  - END_OF_BROWSE
  - INSUFFICIENT_STORAGE
  - INVALID_BROWSE_TOKEN
  - JVM_LEVEL0_TRACE_OVERFLOW
  - JVM_LEVEL1_TRACE_OVERFLOW
  - JVM_LEVEL2_TRACE_OVERFLOW
  - JVM_NOT_FOUND
  - JVM_USER_TRACE_OVERFLOW
  - JVMPROFILE_NOT_FOUND
  - PURGE_FAILED

BROWSE_TOKEN
: A pointer to the JVM_ID (JVM token) of the first JVM that is to be browsed.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJIS gate, START_BROWSE_JVMPROFILE function

The START_BROWSE_JVMPROFILE function of the SJIS gate starts a browse of the JVM profiles that have been used during the lifetime of this CICS region.

Output Parameters

REASON
: The values for the parameter are:
  - END_OF_BROWSE
  - INSUFFICIENT_STORAGE
  - INVALID_BROWSE_TOKEN
  - JVM_LEVEL0_TRACE_OVERFLOW
  - JVM_LEVEL1_TRACE_OVERFLOW
  - JVM_LEVEL2_TRACE_OVERFLOW
  - JVM_NOT_FOUND
  - JVM_USER_TRACE_OVERFLOW
  - JVMPROFILE_NOT_FOUND
  - PURGE_FAILED

BROWSE_TOKEN
: A pointer to the JVM_ID (JVM token) of the first JVM that is to be browsed.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SJTH gate, INVOKE_JAVA_PROGRAM function

The INVOKE_JAVA_PROGRAM function changes TCB mode to a T8 TCB and calls the specified user Java class on a JVM server.

Input parameters

JVMSERVER
: The name of a JVMSERVER resource.

JVM_TOKEN
Optional parameter

A token that represents the JVM.

USER_CLASS
A user Java class.

Output parameters

ABEND_CODE
The CICS abend code that is returned if an abend occurs.

REASON
The following values are returned when RESPONSE is EXCEPTION:

ATTACH_THREAD_FAILED

DETACH_THREAD_FAILED

JVM_THREW_EXCEPTION

JVMSERVER_NOT_ENABLED

JVMSERVER_NOT_FOUND

METHOD_NOT_FOUND

TRANSACTION_ABENDED

USER_CLASS_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

JVM domain's generic gates

Table 71 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 71. JVM domain's generic gates

Gate	Trace	Functions	Format
SJDM	SJ 0000 SJ 0001	INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM
SJIN	SJ 0200 SJ 0201	NOTIFY_DELETE_TCB	DSAT
SJSM	SJ 0900 SJ 0901	MVS_STORAGE_NOTIFY	SMNT
SJST	SJ 0400 SJ 0401	COLLECT_STATISTICS COLLECT_RESOURCE_STATS	STST

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

"Dispatcher domain's generic formats" on page 1031

"Storage manager domain generic formats" on page 1709

"Statistics domain's generic formats" on page 1777

Modules

Module	Function

DFHSJCS	An internal module which handles the following C subroutines called by SJIN:
	`sjcsbld (sjcs_build_jvm)`
	`sjcsdes (sjcs_destroy_jvm)`
	`sjcscall (sjcs_call_java_method)`
	`sjcsrset (sjcs_reset_jvm_output_streams)`

DFHSJDM	Handles requests associated with the DMDM generic gate.
DFHSJDS	Handles the dispatcher callback to delete TCBs and pthreads.
DFHSJIN	Handles requests associated with the SJIN gate.
DFHSJIS	Handles requests associated with the SJIS gate.
DFHSJJS	Handles JVMSERVER resources.
DFHSJPJP	An internal module that handles the following C subroutine called by SJIN: `sjpjp_process_jvm_profile`
DFHSJSM	Handles MVS storage notifications and takes action to reduce the usage of MVS storage if required.
DFHSJTH	Handles JVM server threads.

Exits

Two user-replaceable programs are used by the SJ domain:

1. DFHJVMRO which is loaded by the SJ domain and used to set user-specified options for an Language Environment enclave in which a JVM is to be started.
2. DFHJVMAT which can be called during the startup of a single-use JVM (one with REUSE=NO or the older option Xresettable=NO in its JVM profile), and allows users to interrogate and possibly alter environment variables in order to modify the starting JVM's properties.

See the *CICS Customization Guide* for further details.

Chapter 105. Storage Manager Domain (SM)

The storage manager domain manages virtual storage requests.

Storage Manager Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the SM domain.

SMAD gate, ADD_SUBPOOL function

The ADD_SUBPOOL function of the SMAD gate is used to create a new subpool with given attributes.

Input Parameters

BOUNDARY
is the boundary on which all elements within the subpool must be aligned. The boundary must be a power of two in the range 8 through 4096.

ELEMENT_CHAIN
indicates whether a chain of the addresses and lengths of the elements is to be kept.

Values for the parameter are:
NO
YES

ELEMENT_TYPE
indicates whether the subpool elements are of fixed or variable length.

Values for the parameter are:
FIXED
VARIABLE

INITIAL_FREE
is the size of the initial free storage area for the subpool.

LOCATION
specifies whether all elements within the subpool must be allocated below the maximum 24-bit address, or may be allocated anywhere.

Values for the parameter are:
ANY
BELOW

SUBPOOL_NAME
is the 8-character name by which the subpool is known.

USAGE
indicates whether the subpool is for task or domain use.

Values for the parameter are:
DOMAIN
TASK

ACCESS
Optional Parameter

The type of storage access required.

Values for the parameter are:
CICS
READ_ONLY

USER

FIXED_LENGTH

Optional Parameter

is the element length for a fixed-length subpool.

LOCK_POOL

Optional Parameter

Indicates if access to the subpool is to be controlled by a lock.

Values for the parameter are:

NO
YES

STORAGE_CHECK

Optional Parameter

indicates whether storage zone checking is to be enabled for this subpool.

Values for the parameter are:

NO
YES

Output Parameters

REASON

The following values are returned when RESPONSE is EXCEPTION:

INSUFFICIENT_STORAGE

The following values are returned when RESPONSE is INVALID:

DUPLICATE_SUBPOOL_NAME
INVALID_BOUNDARY
INVALID_FIXED_LENGTH
INVALID_INITIAL_FREE
INVALID_SUBPOOL_NAME
LOCK_FAILED

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SUBPOOL_TOKEN

is the token identifying the newly created subpool.

DSA_NAME

Optional Parameter

is the name of the CICS dynamic storage area (DSA) in which the subpool resides.

Values for the parameter are:

CDSA
ECDSA
ERDSA
ESDSA
EUDSA
RDSA
SDSA
UDSA

SMAD gate, DELETE_SUBPOOL function

The DELETE_SUBPOOL function of the SMAD gate is used to delete a subpool.

Input Parameters

SUBPOOL_TOKEN
is the token identifying the subpool to be deleted.

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
`INVALID_SUBPOOL_TOKEN`
`NOT_SUBPOOL_OWNER`
`SUBPOOL_NOT_EMPTY`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SMAD gate, END_SUBPOOL_BROWSE function

The END_SUBPOOL_BROWSE function of the SMAD gate is used to end a browse of the storage manager domain subpools.

Input Parameters

BROWSE_TOKEN
is the token identifying the browse operation.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SMAD gate, GET_NEXT_SUBPOOL function

The GET_NEXT_SUBPOOL function of the SMAD gate is used in a storage manager domain subpool browse to get the next subpool.

Input Parameters

BROWSE_TOKEN
is the token identifying the browse operation.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`BROWSE_END`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SUBPOOL_NAME
is name of the subpool returned by the browse.

DSA_NAME
Optional Parameter

is the name of the CICS dynamic storage area (DSA) in which the subpool resides.

Values for the parameter are:
`CDSA`
`ECDSA`
`ERDSA`
`ESDSA`
`EUDSA`

RDSA
SDSA
UDSA

SMAD gate, INQUIRE_SUBPOOL function

The INQUIRE_SUBPOOL function of the SMAD gate is used to inquire about a storage manager domain subpool.

Input Parameters

SUBPOOL_NAME
is the 8-character name by which the subpool is known.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
SUBPOOL_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSA_NAME
Optional Parameter

is the name of the CICS dynamic storage area (DSA) in which the subpool resides.

Values for the parameter are:
CDSA
ECDSA
ERDSA
ESDSA
EUDSA
RDSA
SDSA
UDSA

SMAD gate, START_SUBPOOL_BROWSE function

The START_SUBPOOL_BROWSE function of the SMAD gate is used to start a browse of the storage manager domain subpools.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
INSUFFICIENT_STORAGE

BROWSE_TOKEN
is the token identifying the browse operation.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SMAR gate, ALLOCATE_TRANSACTION_STG function

The ALLOCATE_TRANSACTION_STG function of the SMAR gate is used at task initialization to add the four task lifetime storage subpools.

Input Parameters

ISOLATE
: indicates whether CICS is to isolate the transaction's user-key task-lifetime storage to provide application-to-application protection, as specified by the ISOLATE attribute on the associated TRANSACTION resource definition.

  Values for the parameter are:
  `NO`
  `YES`

STORAGE_CLEAR
: indicates whether task lifetime storage should be cleared to zeros when it is freemained.

  Values for the parameter are:
  `NO`
  `YES`

STORAGE_FREEZE
: indicates whether or not task-lifetime storage freemains should be delayed until task termination.

  Values for the parameter are:
  `NO`
  `YES`

TASK_DATAKEY
: indicates the storage key for the task-lifetime storage and program-related storage (for all programs that run under the transaction) for the transaction, as specified by the TASKDATAKEY attribute on the associated TRANSACTION resource definition.

  Values for the parameter are:
  `CICS`
  `USER`

TASK_DATALOC
: indicates the location of task data for the transaction, as specified by the TASKDATALOC attribute on the associated TRANSACTION resource definition.

  Values for the parameter are:
  `ANY`
  `BELOW`

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `INSUFFICIENT_STORAGE`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SMAR gate, RELEASE_TRANSACTION_STG function

The RELEASE_TRANSACTION_STG function of the SMAR gate is used at task termination to freemain all remaining task-lifetime storage and deletes the four task lifetime subpools.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:

`ABEND`
`DEACTIVATE_FAILURE`
`INSUFFICIENT_STORAGE`

The following values are returned when RESPONSE is EXCEPTION:
`STORAGE_VIOLATION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SMCK gate, CHECK_STORAGE function

The CHECK_STORAGE function of the SMCK gate is used to check the storage check zones of task lifetime storage and the storage accounting areas (SAAs) of terminal storage for consistency.

Input Parameters

TASK_STORAGE
specifies whether the storage check zones of task lifetime storage are to be checked for the current task or all tasks, or is not to be checked.

Values for the parameter are:
`CURRENT_TASK`
`NO`

TP_STORAGE
specifies whether the SAAs of terminal storage are to be checked for the current terminal, or is not to be checked.

Values for the parameter are:
`CURRENT_TERMINAL`
`NO`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`INVALID_FUNCTION`
`LOOP`
`STORAGE_VIOLATION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SMCK gate, RECOVER_STORAGE function

The RECOVER_STORAGE function of the SMCK gate is used to recover storage.

Input Parameters

TASK_STORAGE
specifies whether the storage check zones of task lifetime storage are to be checked for the current task or all tasks, or is not to be checked.

Values for the parameter are:
`CURRENT_TASK`
`NO`

TP_STORAGE
specifies whether the SAAs of terminal storage are to be checked for the current terminal, or is not to be checked.

Values for the parameter are:
`CURRENT_TERMINAL`
`NO`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`INVALID_FUNCTION`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`STORAGE_NOT_RECOVERED`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SMGF gate, FREEMAIN function

The FREEMAIN function of the SMGF gate is used to release an element of storage within a subpool.

Input Parameters

ADDRESS
is the address of the element to be released.

STORAGE_CLASS
Optional Parameter

identifies the class of storage that is being released.

Values for the parameter are:
`CICS`
`CICS24`
`TASK`
`TASK24`
`TASK31`
`USER`
`USER24`

SUBPOOL_TOKEN
Optional Parameter

is a token identifying the subpool within which the element is to be allocated.

FREE_LENGTH
Optional Parameter

is the length of the element to be released.

LOCK_POOL
Optional Parameter

Indicates if access to the subpool is controlled by a lock.

Values for the parameter are:
`NO`
`YES`

REMARK
Optional Parameter

is an optional 8-character field that is used to identify the FREEMAIN operation for problem determination. This field is highlighted when the FREEMAIN trace is interpreted. Typically, it is the name of the control block whose storage is being obtained.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

```
ABEND
DEACTIVATE_FAILURE
LOOP
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_ADDRESS
INVALID_FREE_LENGTH
INVALID_STORAGE_CLASS
INVALID_SUBPOOL_TOKEN
NO_FREE_LENGTH
NOT_SUBPOOL_OWNER
SUBPOOL_EMPTY
SUBPOOL_LOCK_FAILED
SUBPOOL_UNLOCK_FAILED
```

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SMGF gate, GETMAIN function

The GETMAIN function of the SMGF gate is used to allocate an element of storage from a subpool.

Input Parameters

STORAGE_CLASS

Optional Parameter

identifies the class of storage that is being allocated.

Values for the parameter are:

```
CICS
CICS24
TASK
TASK24
TASK31
USER
USER24
```

SUBPOOL_TOKEN

Optional Parameter

is a token identifying the subpool within which the element is to be allocated.

SUSPEND

If there is insufficient storage to satisfy the request, SUSPEND(YES) causes the caller to be suspended until the request can be satisfied, and SUSPEND(NO) causes REASON to be set to INSUFFICIENT_STORAGE.

Values for the parameter are:

```
NO
YES
```

GET_LENGTH

Optional Parameter

is the length of the storage requested.

INITIAL_IMAGE
Optional Parameter

is an optional byte value to which every byte in the new element is set.

LOCK_POOL
Optional Parameter

Indicates if access to the subpool is to be controlled by a lock.

Values for the parameter are:

    NO
    YES

REMARK
Optional Parameter

is an optional 8-character field that is used to identify the GETMAIN operation for problem determination. This field is highlighted when the GETMAIN trace is interpreted. Typically, it is the name of the control block whose storage is being obtained.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

    ABEND
    ACTIVATE_FAILURE
    LOOP

The following values are returned when RESPONSE is EXCEPTION:

    INSUFFICIENT_STORAGE

The following values are returned when RESPONSE is INVALID:

    INVALID_GET_LENGTH
    INVALID_INITIAL_IMAGE
    INVALID_STORAGE_CLASS
    INVALID_SUBPOOL_TOKEN
    NO_GET_LENGTH
    NOT_SUBPOOL_OWNER
    SUBPOOL_LOCK_FAILED
    SUBPOOL_UNLOCK_FAILED

ADDRESS
is the address of the new element.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ELEMENT_LENGTH
Optional Parameter

is the actual length of the new element (when it has been rounded up to a multiple of the boundary for the subpool).

SMGF gate, INQUIRE_ELEMENT_LENGTH function

The INQUIRE_ELEMENT_LENGTH function of the SMGF gate is used to return the length of an element of storage whose address is known.

Input Parameters

ADDRESS
is the address of the element under inquiry.

STORAGE_CLASS
Optional Parameter

identifies the class of storage that is under inquiry.

Values for the parameter are:
`CICS`
`CICS24`
`TASK`
`TASK24`
`TASK31`
`USER`
`USER24`

SUBPOOL_TOKEN
Optional Parameter

is a token identifying the subpool within which the element is allocated.

LOCK_POOL
Optional Parameter

Indicates if access to the subpool is to be controlled by a lock.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`ADDRESS_NOT_FOUND`

The following values are returned when RESPONSE is INVALID:
`INVALID_STORAGE_CLASS`
`INVALID_SUBPOOL_TOKEN`
`SUBPOOL_LOCK_FAILED`
`SUBPOOL_UNLOCK_FAILED`

ELEMENT_LENGTH
is the length of the element.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SMMC gate, FREEMAIN function

The FREEMAIN function of the SMMC gate is used to release an element of storage.

Input Parameters

ADDRESS
is the address of the element to be released.

CALLER
Optional Parameter

Indicates the caller of the function.

Values for the parameter are:
`EXEC`

MACRO
SYSTEM

EXEC_KEY
Optional Parameter

is the execution key of the program issuing the EXEC FREEMAIN request.

Values for the parameter are:
CICS
USER

REMARK
Optional Parameter

is an optional 8-character field that is used to identify the GETMAIN operation for problem determination. This field is highlighted when the GETMAIN trace is interpreted. Typically, it is the name of the control block whose storage is being obtained.

STORAGE_CLASS
Optional Parameter

identifies the class of storage that is being allocated.

Values for the parameter are:
CICS
CICS24
CICS24_SAA
CONTROL
LINE
SHARED_CICS
SHARED_CICS24
SHARED_CICS24_SAA
SHARED_USER
SHARED_USER24
TACLE
TASK
TASK24
TEMPSTG
TERMINAL
TERMINAL24
TRANSDATA
USER
USER24

TCTTE_ADDRESS
Optional Parameter

is an optional field that must be specified for GETMAIN requests for the TERMINAL storage class.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
DEACTIVATE_FAILURE

The following values are returned when RESPONSE is EXCEPTION:
INVALID_EXEC_KEY

The following values are returned when RESPONSE is INVALID:
INVALID_ADDRESS
NO_TCTTE_ADDRESS

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SMMC gate, FREEMAIN_ALL_TERMINAL function

The FREEMAIN_ALL_TERMINAL function of the SMMC gate is used to release all terminal storage.

Input Parameters

TCTTE_ADDRESS
is an optional field that must be specified for GETMAIN requests for the TERMINAL storage class.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
```
ABEND
ACTIVATE_FAILURE
DEACTIVATE_FAILURE
LOOP
STORAGE_VIOLATION
```
The following values are returned when RESPONSE is EXCEPTION:
```
INSUFFICIENT_STORAGE
```
The following values are returned when RESPONSE is EXCEPTION:
```
INVALID_ADDRESS
INVALID_EXEC_KEY
INVALID_FUNCTION
INVALID_GET_LENGTH
INVALID_STORAGE_CLASS
NO_TCTTE_ADDRESS
```
The following values are returned when RESPONSE is EXCEPTION:
```
INVALID_DSA_NAME
NO_TRANSACTION_ENVIRONMENT
```
RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SMMC gate, GETMAIN function

The GETMAIN function of the SMMC gate is used to allocate an element of storage.

Input Parameters

GET_LENGTH
is the length of the storage requested.

STORAGE_CLASS
identifies the class of storage that is being allocated.

Values for the parameter are:
```
CICS
CICS24
CICS24_SAA
CONTROL
LINE
SHARED_CICS
```

SHARED_CICS24
SHARED_CICS24_SAA
SHARED_USER
SHARED_USER24
TACLE
TASK
TASK24
TEMPSTG
TERMINAL
TERMINAL24
TRANSDATA
USER
USER24

SUSPEND

If there is insufficient storage to satisfy the request, SUSPEND(YES) causes the caller to be suspended until the request can be satisfied, and SUSPEND(NO) causes REASON to be set to INSUFFICIENT_STORAGE.

Values for the parameter are:
NO
YES

CALLER

Optional Parameter

Indicates the caller of the function.

Values for the parameter are:
EXEC
MACRO
SYSTEM

INITIAL_IMAGE

Optional Parameter

is an optional byte value to which every byte in the new element is set.

REMARK

Optional Parameter

is an optional 8-character field that is used to identify the GETMAIN operation for problem determination. This field is highlighted when the GETMAIN trace is interpreted. Typically, it is the name of the control block whose storage is being obtained.

TCTTE_ADDRESS

Optional Parameter

is an optional field that must be specified for GETMAIN requests for the TERMINAL storage class.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:
ACTIVATE_FAILURE

The following values are returned when RESPONSE is EXCEPTION:
INSUFFICIENT_STORAGE
INVALID_GET_LENGTH

The following values are returned when RESPONSE is INVALID:
INVALID_STORAGE_CLASS
NO_TCTTE_ADDRESS

ADDRESS
is the address of the new element.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SMMC gate, INITIALISE function

The INITIALIZE function of the SMMC gate is used to perform macro-compatibility interface initialization.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`ACTIVATE_FAILURE`
`DEACTIVATE_FAILURE`
`LOOP`
`STORAGE_VIOLATION`

The following values are returned when RESPONSE is EXCEPTION:
`INSUFFICIENT_STORAGE`

The following values are returned when RESPONSE is EXCEPTION:
`INVALID_ADDRESS`
`INVALID_EXEC_KEY`
`INVALID_FUNCTION`
`INVALID_GET_LENGTH`
`INVALID_STORAGE_CLASS`
`NO_TCTTE_ADDRESS`

The following values are returned when RESPONSE is EXCEPTION:
`INVALID_DSA_NAME`
`NO_TRANSACTION_ENVIRONMENT`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SMMC gate, INQUIRE_ELEMENT_LENGTH function

The INQUIRE_ELEMENT_LENGTH function of the SMMC gate is used to obtain the start address and length of the storage element that contains the address that was specified on the input to the call. This function only searches the current task's task-lifetime storage for the required storage element.

Input Parameters

ADDRESS
is the address of the element to be released.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`INVALID_ADDRESS`

ELEMENT_LENGTH
is the actual length of the new element (when it has been rounded up to a multiple of the boundary for the subpool).

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ELEMENT_ADDRESS
Optional Parameter

is the start address of the element that contains the input address.

SMMC gate, INQUIRE_TASK_STORAGE function

The INQUIRE_TASK_STORAGE function of the SMMC gate is used to obtain details of all the task-lifetime storage associated with the current task (if the input parameter TRANSACTION_NUMBER is omitted from the call) or for the specified task.

Input Parameters

ELEMENT_BUFFER
is a buffer in which the storage manager lists the start addresses of all the specified task's task-lifetime storage.

LENGTH_BUFFER
is a buffer in which the storage manager lists the lengths of all the specified task's task-lifetime storage.

DSA_NAME
Optional Parameter

is the name of the DSA whose size is being inquired on.

TRANSACTION_NUMBER
Optional Parameter

indicates the transaction that you want to obtain storage details about. If this parameter is omitted, the current task is assumed.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`INSUFFICIENT_STORAGE`
`INVALID_DSA_NAME`
`NO_TRANSACTION_ENVIRONMENT`

NUMBER_OF_ELEMENTS
is the number of elements in each buffer.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SMSR gate, INQ_TRANSACTION_ISOLATION function

The INQUIRE_TRANSACTION_ISOLATION function of the SMSR gate is used to inquire whether transaction isolation is active in the CICS region. This value is initially set by the TRANISO system initialization parameter.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`INSUFFICIENT_STORAGE`
`INVALID_DSA_LIMIT`

INVALID_DSA_SIZE
INVALID_ELEMENT

The following values are returned when RESPONSE is INVALID:
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TRANSACTION_ISOLATION
indicates if transaction isolation is active.

Values for the parameter are:
ACTIVE
INACTIVE

SMSR gate, INQUIRE_ACCESS function

The INQUIRE_ACCESS function of the SMSR gate is used to return the access key of an element of storage.

Input Parameters

ELEMENT_ADDRESS
The start address of the storage element.

ELEMENT_LENGTH
is the length of the storage element.

ACCESS_TOKEN
Optional Parameter

The access token for the element of storage (returned by the INQUIRE_ACCESS_TOKEN function).

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
INVALID_ELEMENT

ACCESS
The type of access for the storage element.

Values for the parameter are:
CICS
READ_ONLY
USER

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSA_EXTENT_END
Optional Parameter

The end address of the DSA extent that contains the input address.

DSA_EXTENT_START
Optional Parameter

The start address of the DSA extent that contains the input address.

DSA_NAME
Optional Parameter

The name of the dynamic storage area (DSA) in which the subpool resides.

Values for the parameter are:
CDSA

ECDSA
ERDSA
ESDSA
EUDSA
RDSA
SDSA
UDSA

SMSR gate, INQUIRE_ACCESS_TOKEN function

The INQUIRE_ACCESS_TOKEN function of the SMSR gate is used to return the access token for a storage element.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
INSUFFICIENT_STORAGE
INVALID_DSA_LIMIT
INVALID_DSA_SIZE
INVALID_ELEMENT

The following values are returned when RESPONSE is INVALID:
INVALID_FUNCTION

ACCESS_TOKEN
is the access token for the storage element.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SMSR gate, INQUIRE_DSA_LIMIT function

The INQUIRE_DSA_LIMIT function of the SMSR gate is used to return the DSA storage limits above (EDSA) and below (DSA) the 16MB line. These limits are the maximum amounts of storage that CICS can use for all the DSAs above and below the 16MB line.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
INSUFFICIENT_STORAGE
INVALID_DSA_LIMIT
INVALID_DSA_SIZE
INVALID_ELEMENT

The following values are returned when RESPONSE is INVALID:
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSA_LIMIT
Optional Parameter

indicates the DSA storage limit.

EDSA_LIMIT
Optional Parameter

indicates the EDSA storage limit.

SMSR gate, INQUIRE_DSA_SIZE function

The INQUIRE_DSA_SIZE function of the SMSR gate is used to return the size of the CICS DSAs.

Input Parameters

DSA_NAME
is the name of the DSA whose size is being inquired on.

Values for the parameter are:
`CDSA`
`ECDSA`
`ERDSA`
`ESDSA`
`EUDSA`
`RDSA`
`SDSA`
`UDSA`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`INSUFFICIENT_STORAGE`
`INVALID_DSA_LIMIT`
`INVALID_DSA_SIZE`
`INVALID_ELEMENT`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`

DSA_SIZE
is the size of the DSA.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SMSR gate, INQUIRE_ISOLATION_TOKEN function

The INQUIRE_ISOLATION_TOKEN function of the SMSR gate is used to return an isolation token which can be used on SWITCH_SUBSPACE calls.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`INSUFFICIENT_STORAGE`
`INVALID_DSA_LIMIT`

INVALID_DSA_SIZE
INVALID_ELEMENT

The following values are returned when RESPONSE is INVALID:
INVALID_FUNCTION

ISOLATION_TOKEN
an isolation token which can be used on SWITCH_SUBSPACE calls.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SMSR gate, INQUIRE_REENTRANT_PROGRAM function

The INQUIRE_REENTRANT_PROGRAM function of the SMSR gate is used to return whether the read-only DSAs, RDSA and ERDSA, have been allocated from read-only key-0 protected storage or CICS-key storage, as set by the RENTPGM system initialization parameter.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
INSUFFICIENT_STORAGE
INVALID_DSA_LIMIT
INVALID_DSA_SIZE
INVALID_ELEMENT

The following values are returned when RESPONSE is INVALID:
INVALID_FUNCTION

REENTRANT_PROGRAM
indicates whether the dynamic storage read-only DSAs have been allocated from read-only key-0 protected storage

Values for the parameter are:
NOPROTECT
PROTECT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SMSR gate, INQUIRE_SHORT_ON_STORAGE function

The INQUIRE_SHORT_ON_STORAGE function of the SMSR gate is used to return whether or not CICS is currently short-on-storage.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
INSUFFICIENT_STORAGE
INVALID_DSA_LIMIT
INVALID_DSA_SIZE
INVALID_ELEMENT

The following values are returned when RESPONSE is INVALID:
    `INVALID_FUNCTION`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

`SOS_ABOVE_THE_LINE`
indicates whether or not CICS is short-on-storage above the 16MB line.

Values for the parameter are:
    `NO`
    `YES`

`SOS_BELOW_THE_LINE`
indicates whether or not CICS is short-on-storage below the 16MB line.

Values for the parameter are:
    `NO`
    `YES`

SMSR gate, INQUIRE_STORAGE_PROTECT function

The INQUIRE_STORAGE_PROTECT function of the SMSR gate is used to return the current value of the storage protection option.

Output Parameters

`REASON`
The following values are returned when RESPONSE is DISASTER:
    `ABEND`
    `LOOP`

The following values are returned when RESPONSE is EXCEPTION:
    `INSUFFICIENT_STORAGE`
    `INVALID_DSA_LIMIT`
    `INVALID_DSA_SIZE`
    `INVALID_ELEMENT`

The following values are returned when RESPONSE is INVALID:
    `INVALID_FUNCTION`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

`STORAGE_PROTECT`
is the current storage protection mode.

Values for the parameter are:
    `NO`
    `YES`

SMSR gate, SET_DSA_LIMIT function

The SET_DSA_LIMIT function of the SMSR gate is used to set the DSA storage limits above (EDSA) and below (DSA) the 16MB line. These limits are the maximum amounts of storage that CICS can use for all the DSAs above and below the 16MB line.

Input Parameters

`DSA_LIMIT`
Optional Parameter

indicates the DSA storage limit required.

EDSA_LIMIT
Optional Parameter

indicates the EDSA storage limit required.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`INSUFFICIENT_STORAGE`
`INVALID_DSA_LIMIT`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SMSR gate, SET_DSA_SIZE function

The SET_DSA_SIZE function of the SMSR gate is used to set the size of the CICS dynamic storage areas (DSAs).

Input Parameters

DSA_NAME
is the name of the DSA whose size is set.

Values for the parameter are:
`CDSA`
`ECDSA`
`ERDSA`
`ESDSA`
`EUDSA`
`RDSA`
`SDSA`
`UDSA`

DSA_SIZE
is the size of the DSA.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`INVALID_DSA_SIZE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SMSR gate, SET_REENTRANT_PROGRAM function

The SET_REENTRANT_PROGRAM function of the SMSR gate is used to set the reentrant program option for the RDSA and the ERDSA.

Input Parameters

REENTRANT_PROGRAM
is the reentrant program option for the RDSA and the ERDSA.

Values for the parameter are:
`NOPROTECT`
`PROTECT`

Output Parameters

`REASON`
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `LOOP`

  The following values are returned when RESPONSE is EXCEPTION:
  `INSUFFICIENT_STORAGE`
  `INVALID_DSA_LIMIT`
  `INVALID_DSA_SIZE`
  `INVALID_ELEMENT`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_FUNCTION`

`RESPONSE`
: Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

SMSR gate, SET_STORAGE_PROTECT function

The SET_STORAGE_PROTECT function of the SMSR gate is used to set the storage protection option.

Input Parameters

`STORAGE_PROTECT`
: A binary value indicating if storage protection is required.

  Values for the parameter are:
  `NO`
  `YES`

Output Parameters

`REASON`
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `LOOP`

  The following values are returned when RESPONSE is EXCEPTION:
  `INSUFFICIENT_STORAGE`
  `INVALID_DSA_LIMIT`
  `INVALID_DSA_SIZE`
  `INVALID_ELEMENT`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_FUNCTION`

`RESPONSE`
: Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

SMSR gate, SET_STORAGE_RECOVERY function

The SET_STORAGE_RECOVERY function of the SMSR gate is used to set the storage recovery option.

Input Parameters

`RECOVERY`
: is the value to which the storage recovery option is to be set.

  Values for the parameter are:
  `NO`

YES

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`INSUFFICIENT_STORAGE`
`INVALID_DSA_LIMIT`
`INVALID_DSA_SIZE`
`INVALID_ELEMENT`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SMSR gate, SET_TRANSACTION_ISOLATION function

The SET_TRANSACTION_ISOLATION function of the SMSR gate is used to set whether or not you want transaction isolation in your CICS region. This value is initially set by the TRANISO system initialization parameter.

Input Parameters

TRANSACTION_ISOLATION
indicates whether or not transaction isolation is active in your CICS region.

Values for the parameter are:
`ACTIVE`
`INACTIVE`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`INSUFFICIENT_STORAGE`
`INVALID_DSA_LIMIT`
`INVALID_DSA_SIZE`
`INVALID_ELEMENT`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SMSR gate, SWITCH_SUBSPACE function

The SWITCH_SUBSPACE function of the SMSR gate is used to change a task's subspace.

Input Parameters

SPACE
: indicates the type of subspace you want this task to execute in.

  Values for the parameter are:
  `BASESPACE`
  `RESET_SPACE`
  `SUBSPACE`

ISOLATION_TOKEN
: Optional Parameter

  an isolation token which can be returned from an INQUIRE_ISOLATION_TOKEN call.

TRANSACTION_TOKEN
: Optional Parameter

  a transaction manager token (which can be returned from an XMIQ INQUIRE_TRANSACTION_TOKEN call) that represents the task whose subspace you want to change.

WORK_REGISTER
: Optional Parameter

  a work register.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `LOOP`

  The following values are returned when RESPONSE is EXCEPTION:
  `INSUFFICIENT_STORAGE`
  `INVALID_DSA_LIMIT`
  `INVALID_DSA_SIZE`
  `INVALID_ELEMENT`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_FUNCTION`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SMSR gate, UPDATE_SUBSPACE_TCB_INFO function

The UPDATE_SUBSPACE_TCB_INFO function informs SM of the deletion of open TCBs which are associated with subspaces.

Input Parameters

OPEN_TCBS_DELETED
: is a 32-bit string indicating the mode(s) of deleted TCB(s).

SUBSPACE_TOKEN
: indicates the subspace which is associated with the deleted TCBs.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `LOOP`

  The following values are returned when RESPONSE is EXCEPTION:

INSUFFICIENT_STORAGE
INVALID_DSA_LIMIT
INVALID_DSA_SIZE
INVALID_ELEMENT

The following values are returned when RESPONSE is INVALID:
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

S2AD gate, ADD_SUBPOOL function

The ADD_SUBPOOL function of the S2AD gate is used to create a new subpool with given attributes.

Input Parameters

ELEMENT_CHAIN
indicates whether a chain of the addresses and lengths of the elements is to be kept.

Values for the parameter are:
NO
YES

ELEMENT_TYPE
indicates whether the subpool elements are of fixed or variable length.

Values for the parameter are:
FIXED
VARIABLE

INITIAL_FREE
is the size of the initial free storage area for the subpool.

LOCATION
specifies whether all elements within the subpool are private or shared.

Values for the parameter are:
PRIVATE
SHARED

SUBPOOL_NAME
is the 8-character name by which the subpool is known.

USAGE
indicates whether the subpool is for task or domain use.

Values for the parameter are:
DOMAIN
TASK

ACCESS
Optional Parameter

The type of storage access required.

Values for the parameter are:
CICS
USER

FIXED_LENGTH
Optional Parameter

is the element length for a fixed-length subpool.

LOCK_POOL
Optional Parameter

Indicates if access to the subpool is to be controlled by a lock.

Values for the parameter are:
`NO`
`YES`

STORAGE_CHECK
Optional Parameter

indicates whether storage zone checking is to be enabled for this subpool.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`INSUFFICIENT_STORAGE`

The following values are returned when RESPONSE is INVALID:
`DUPLICATE_SUBPOOL_NAME`
`INVALID_FIXED_LENGTH`
`INVALID_INITIAL_FREE`
`INVALID_SUBPOOL_NAME`
`LOCK_FAILED`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SUBPOOL_TOKEN
is the token identifying the newly created subpool.

DSA_NAME
Optional Parameter

is the name of the CICS dynamic storage area (DSA) in which the subpool resides.

Values for the parameter are:
`GCDSA`

S2AD gate, DELETE_SUBPOOL function

The DELETE_SUBPOOL function of the S2AD gate is used to delete a subpool.

Input Parameters

SUBPOOL_TOKEN
is the token identifying the subpool to be deleted.

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
`INVALID_SUBPOOL_TOKEN`
`NOT_SUBPOOL_OWNER`
`SUBPOOL_NOT_EMPTY`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

S2AD gate, END_SUBPOOL_BROWSE function

The END_SUBPOOL_BROWSE function of the S2AD gate is used to end a browse of the storage manager domain subpools.

Input Parameters

BROWSE_TOKEN
is the token identifying the browse operation.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

S2AD gate, GET_NEXT_SUBPOOL function

The GET_NEXT_SUBPOOL function of the S2AD gate is used in a storage manager domain subpool browse to get the next subpool.

Input Parameters

BROWSE_TOKEN
is the token identifying the browse operation.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`BROWSE_END`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SUBPOOL_NAME
is name of the subpool returned by the browse.

DSA_NAME
Optional Parameter

is the name of the CICS dynamic storage area (DSA) in which the subpool resides.

Values for the parameter are:
`GCDSA`

S2AD gate, INQUIRE_SUBPOOL function

The INQUIRE_SUBPOOL function of the S2AD gate is used to inquire about a storage manager domain subpool.

Input Parameters

SUBPOOL_NAME
is the 8-character name by which the subpool is known.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`SUBPOOL_NOT_FOUND`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DSA_NAME
Optional Parameter

is the name of the CICS dynamic storage area (DSA) in which the subpool resides.

Values for the parameter are:
`GCDSA`

S2AD gate, START_SUBPOOL_BROWSE function

The START_SUBPOOL_BROWSE function of the S2AD gate is used to start a browse of the storage manager domain subpools.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`INSUFFICIENT_STORAGE`

BROWSE_TOKEN
is the token identifying the browse operation.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

S2GF gate, FREEMAIN function

The FREEMAIN function of the S2GF gate is used to release an element of storage within a subpool.

Input Parameters

ADDRESS
is the 64-bit address of the element to be released.

STORAGE_CLASS
Optional Parameter

identifies the class of storage that is being released.

Values for the parameter are:
`CICS64`
`TASK64`
`USER64`

SUBPOOL_TOKEN
Optional Parameter

is a token identifying the subpool within which the element is to be allocated.

FREE_LENGTH
Optional Parameter

is the length of the element to be released.

LOCK_POOL
Optional Parameter

Indicates if access to the subpool is controlled by a lock.

Values for the parameter are:
`NO`
`YES`

REMARK
Optional Parameter

is an optional 8-character field that is used to identify the FREEMAIN operation for problem determination. This field is highlighted when the FREEMAIN trace is interpreted. Typically, it is the name of the control block whose storage is being released.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

```
ABEND
DEACTIVATE_FAILURE
LOOP
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_ADDRESS
INVALID_FREE_LENGTH
INVALID_STORAGE_CLASS
INVALID_SUBPOOL_TOKEN
NO_FREE_LENGTH
NOT_SUBPOOL_OWNER
SUBPOOL_EMPTY
SUBPOOL_LOCK_FAILED
SUBPOOL_UNLOCK_FAILED
```

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

S2GF gate, GETMAIN function

The GETMAIN function of the S2GF gate is used to allocate an element of storage from a subpool.

Input Parameters

STORAGE_CLASS

Optional Parameter

identifies the class of storage that is being allocated.

Values for the parameter are:

```
CICS64
TASK64
USER64
```

SUBPOOL_TOKEN

Optional Parameter

is a token identifying the subpool within which the element is to be allocated.

SUSPEND

If there is insufficient storage to satisfy the request, SUSPEND(YES) causes the caller to be suspended until the request can be satisfied, and SUSPEND(NO) causes REASON to be set to INSUFFICIENT_STORAGE.

Values for the parameter are:

```
NO
YES
```

GET_LENGTH

Optional Parameter

is the length of the storage requested.

INITIAL_IMAGE

Optional Parameter

is an optional byte value to which every byte in the new element is set.

LOCK_POOL
Optional Parameter

Indicates if access to the subpool is controlled by a lock.

Values for the parameter are:
`NO`
`YES`

REMARK
Optional Parameter

is an optional 8-character field that is used to identify the GETMAIN operation for problem determination. This field is highlighted when the GETMAIN trace is interpreted. Typically, it is the name of the control block whose storage is being obtained.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`ACTIVATE_FAILURE`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`INSUFFICIENT_STORAGE`

The following values are returned when RESPONSE is INVALID:
`INVALID_GET_LENGTH`
`INVALID_INITIAL_IMAGE`
`INVALID_STORAGE_CLASS`
`INVALID_SUBPOOL_TOKEN`
`NO_GET_LENGTH`
`NOT_SUBPOOL_OWNER`
`SUBPOOL_LOCK_FAILED`
`SUBPOOL_UNLOCK_FAILED`

ADDRESS
is the 64-bit address of the new element.

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

ELEMENT_LENGTH
Optional Parameter

is the length of the new element.

S2GF gate, INQUIRE_ELEMENT_LENGTH function

The INQUIRE_ELEMENT_LENGTH function of the S2GF gate is used to return the length of an element of storage whose address is known.

Input Parameters

ADDRESS
is the 64-bit address of the element under inquiry.

STORAGE_CLASS
Optional Parameter

identifies the class of storage that is under inquiry.

Values for the parameter are:

CICS64
TASK64
USER64

SUBPOOL_TOKEN
Optional Parameter

is a token identifying the subpool within which the element is allocated.

LOCK_POOL
Optional Parameter

Indicates if access to the subpool is controlled by a lock.

Values for the parameter are:
NO
YES

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
ADDRESS_NOT_FOUND

The following values are returned when RESPONSE is INVALID:
INVALID_STORAGE_CLASS
INVALID_SUBPOOL_TOKEN
SUBPOOL_LOCK_FAILED
SUBPOOL_UNLOCK_FAILED

ELEMENT_LENGTH
is the length of the element.

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

S2SR gate, COPY_ABOVE_BAR_TO_BELOW function

The COPY_ABOVE_BAR_TO_BELOW function of the S2SR gate is used to copy an area of storage from 64-bit storage to 31-bit storage.

Input Parameters

ABOVE_BAR_SOURCE
is the 64-bit address of the copy source area.

BELOW_BAR_TARGET
is the 31-bit address of the copy target area.

COPY_LENGTH
is the number of bytes to be copied.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

S2SR gate, COPY_BELOW_BAR_TO_ABOVE function

The COPY_BELOW_BAR_TO_ABOVE function of the S2SR gate is used to copy an area of storage from 31-bit storage to 64-bit storage.

Input Parameters

ABOVE_BAR_TARGET
is the 64-bit address of the copy target area.

BELOW_BAR_SOURCE
is the 31-bit address of the copy source area.

COPY_LENGTH
is the number of bytes to be copied.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Storage manager domain generic gates

Table 72 summarizes the generic gates in the domain. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 72. Storage manager domain generic gates

Gate	Trace	Functions	Format
DMDM	SM 0101 SM 0102	PRE_INITIALISE INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM
SMVN	SM 1401 SM 1402	DSAT_TASK_REPLY DSAT_PURGE_INHIBIT_QUERY	DSAT
STST	SM 0A01 SM 0A02	COLLECT_STATISTICS COLLECT_RESOURCE_STATS	STST

In preinitialization processing, the storage manager domain sets the initial storage options:

- The amount of storage to be allocated to the dynamic storage area
- The amount of storage to be allocated to the extended dynamic storage area
- The storage recovery option
- The state of the storage protect, transaction isolation and the reentrant program option.

For a cold start, the information comes from the system initialization parameters; for any other type of start, the information comes from the local catalog, but is then modified by any relevant system initialization parameters.

Storage manager domain also issues console messages during preinitialization to report the amount of storage allocated above and below the line for DSA use.

In initialization, quiesce, and termination processing, the storage manager domain performs only internal routines.

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

"Dispatcher domain's generic formats" on page 1031

"Statistics domain's generic formats" on page 1777

Storage manager domain generic formats

Table 73 describes the generic formats owned by the application domain and shows the functions performed on the calls.

Table 73. Storage manager domain generic formats

Format	Calling module	Function
SMNT	DFHSMSY DFHSJSM	STORAGE_NOTIFY MVS_STORAGE_NOTIFY

Note: In the descriptions of the formats that follow, the input parameters are input not to the Storage manager domain, but to the domain being called by the Storage manager domain. Similarly, the output parameters are output by the domain that was called by the Storage manager domain, in response to the call.

SMNT gate, MVS_STORAGE_NOTIFY function

The MVS_STORAGE_NOTIFY function of SMNT format is used to notify a domain when MVS storage usage becomes excessive, so that the target domain can take action to release MVS storage or to limit its future MVS storage requirements. It is also used to notify the domain when MVS storage is no longer constrained, so the domain can return to normal operation. There are different notifications for a breach of the threshold value for MVS storage, and for a breach of the reserved MVS storage cushion, the latter being a more serious condition.

Input Parameters

CUSHION

indicates the status of the reserved MVS storage cushion.

Values for the parameter are:

```
NEWLY_BREACHED
NEWLY_RESTORED
UNCHANGED
```

NEWLY_BREACHED indicates that the cushion has been partially freed to satisfy requirements for MVS storage since the last time the SM domain issued a MVS_STORAGE_NOTIFY. NEWLY_RESTORED indicates that CICS has managed to reallocate the reserved storage cushion since the last time the SM domain issued a MVS_STORAGE_NOTIFY. UNCHANGED indicates that since the last time the SM domain issued a MVS_STORAGE_NOTIFY, no change has occurred in the state of the cushion: it is still partially freed, or still intact.

THRESHOLD

indicates the relationship between MVS storage requirements and the threshold value for MVS storage.

Values for the parameter are:

```
NEWLY_BREACHED
NEWLY_RESTORED
UNCHANGED
```

NEWLY_BREACHED indicates that MVS storage requirements have increased above the threshold value since the last time the SM domain issued a MVS_STORAGE_NOTIFY. NEWLY_RESTORED indicates that MVS storage requirements have decreased below the threshold value since the last time the SM domain issued a MVS_STORAGE_NOTIFY. UNCHANGED indicates that since the last time the SM domain issued a MVS_STORAGE_NOTIFY, no change has occurred in the MVS storage requirements relative to the threshold value. That is, if the MVS storage requirements were previously above the threshold, they are still above the threshold, and if they were previously below the threshold, they are still below the threshold.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOCK_FAILED
LOOP
RESUME_FAILURE

The following values are returned when RESPONSE is INVALID:
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SMNT gate, STORAGE_NOTIFY function

The STORAGE_NOTIFY function of SMNT format is used to notify free storage above and below the 16 MB line.

Input Parameters

ALMOST_SOS_ABOVE
A binary value indicating whether a DSA above 16 MB could go short-on-storage (SOS) imminently; that is, a single GETMAIN could cause SOS.

Values for the parameter are:
NO
YES

DSAS_CONSTRAINED
indicates whether any DSA is currently constrained due to lack of free storage.

Values for the parameter are:
NO
YES

FREE_BYTES_CDSA
is the largest free area available (in bytes) in the CICS DSA below the 16 MB line (not including the cushion).

FREE_BYTES_ECDSA
is the largest free area available (in bytes) in the CICS DSA above the 16 MB line (not including the cushion).

FREE_BYTES_ERDSA
is the largest free area available (in bytes) in the read-only DSA above the 16 MB line (not including the cushion).

FREE_BYTES_ESDSA
is the largest free area available (in bytes) in the shared user-key DSA above the 16 MB line (not including the cushion).

FREE_BYTES_EUDSA
is the largest free area available (in bytes) in the user-key DSA above the 16 MB line (not including the cushion).

FREE_BYTES_RDSA
is the largest free area available (in bytes) in the read-only DSA below the 16 MB line (not including the cushion).

FREE_BYTES_SDSA
is the largest free area available (in bytes) in the shared user-key DSA below the 16 MB line (not including the cushion).

FREE_BYTES_UDSA
is the largest free area available (in bytes) in the user-key DSA below the 16 MB line (not including the cushion).

CDSA_FIXED
Optional Parameter

is a binary value indicating if the CICS DSA below the 16 MB line is fixed in size.

Values for the parameter are:
`NO`
`YES`

ECDSA_FIXED
Optional Parameter

is a binary value indicating if the CICS DSA above the 16 MB line is fixed in size.

Values for the parameter are:
`NO`
`YES`

ERDSA_FIXED
Optional Parameter

is a binary value indicating if the read-only CICS DSA above the 16 MB line is fixed in size.

Values for the parameter are:
`NO`
`YES`

ESDSA_FIXED
Optional Parameter

is a binary value indicating if shared user-key DSA above the 16 MB line is fixed in size.

Values for the parameter are:
`NO`
`YES`

EUDSA_FIXED
Optional Parameter

is a binary value indicating if the user-key DSA above the 16 MB line is fixed in size.

Values for the parameter are:
`NO`
`YES`

RDSA_FIXED
Optional Parameter

is a binary value indicating if the read-only CICS DSA below the 16 MB line is fixed in size.

Values for the parameter are:
`NO`
`YES`

SDSA_FIXED
Optional Parameter

is a binary value indicating if the shared user-key DSA below the 16 MB line is fixed in size.

Values for the parameter are:
`NO`
`YES`

UDSA_FIXED
Optional Parameter

is a binary value indicating if the user-key DSA below the 16 MB line line is fixed in size.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Modules

Module	Function
DFHSMAD	Handles the following requests: ADD_SUBPOOL DELETE_SUBPOOL START_SUBPOOL_BROWSE GET_NEXT_SUBPOOL END_SUBPOOL_BROWSE INQUIRE_SUBPOOL
DFHSMAR	Handles the following requests: ALLOCATE_TRANSACTION_STG RELEASE_TRANSACTION_STG
DFHSMCK	Handles the following requests: CHECK_STORAGE RECOVER_STORAGE
DFHSMDM	Handles the following requests: PRE_INITIALIZE INITIALIZE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN
DFHSMDUF	SM domain offline dump formatting routine
DFHSMGF	Handles the following requests: GETMAIN FREEMAIN INQUIRE_ELEMENT_LENGTH
DFHSMMCI	SM domain macro-compatibility interface INITIALISE function

Module	Function
DFHSMMC2	SM domain macro-compatibility interface which handles the following requests: FREEMAIN_ALL_TERMINAL INQUIRE_ELEMENT_LENGTH INQUIRE_TASK_STORAGE
DFHSMMF	SM domain macro-compatibility interface FREEMAIN function
DFHSMMG	SM domain macro-compatibility interface GETMAIN function
DFHSMSR	Handles the following requests: INQUIRE_ACCESS INQUIRE_ACCESS_TOKEN INQUIRE_DSA_LIMIT INQUIRE_DSA_SIZE INQUIRE_REENTRANT_PROGRAM INQUIRE_SHORT_ON_STORAGE INQUIRE_STORAGE_PROTECT INQUIRE_TRANSACTION_ISOLATION SET_DSA_LIMIT SET_REENTRANT_PROGRAM SET_STORAGE_RECOVERY SET_STORAGE_PROTECT SWITCH_SUBSPACE
DFHSMST	Handles the following requests: COLLECT_STATISTICS COLLECT_RESOURCE_STATS
DFHSMSVC	Gets DSAs
DFHSMSY	SM domain system task--issues STORAGE_NOTIFY requests
DFHSMTRI	Interprets SM domain trace entries
DFHSMVN	SM domain system task -- issues MVS_STORAGE_NOTIFY requests
DFHSMVP	Detects and manages MVS storage constraints

Chapter 106. Sockets Domain (SO)

The socket domain provides TCP/IP services to CICS. It includes a TCP/IP listener system task, the TCPIPSERVICE RDO resource to manage the listener and domain gates to operate on a TCP/IP connection.

Sockets Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the SO domain.

SOAD gate, ADD_REPLACE_TCPIPSERVICE function

The ADD_REPLACE_TCPIPSERVICE function is called at RDO time to install a tcpipservice definition. If the status is OPEN then the service is also opened using the SORD REGISTER function. A catalog entry is written to record the installed resource.

Input Parameters

BACKLOG
is the value of the backlog parameter passed to the TCP/IP listen function for this service. It specifies how many connection requests TCP/IP will queue for this service.

IPADDRESS
is the specific IP address that the listener will bind to for this service.

MAXDATA_LENGTH
is the maximum length of data that may be received by CICS.

PORTNUMBER
is the port number to listen on.

SOCKETCLOSE
is the value of receive timeout for this service.

SSL
specifies whether or not connections to this service are to be secured using the Secure Sockets Layer protcols.

Values for the parameter are:
`CLIENTAUTH`
`NO`
`YES`

STATUS
is either OPEN or CLOSED.

Values for the parameter are:
`CLOSED`
`OPEN`

TCPIPSERVICE_NAME
is the name of the tcpipservice.

URM_NAME
is the name of the user-replaceable program.

ATTACHSEC
Optional Parameter

is the level of attach-time security required for TCP/IP connections to CICS Clients.

AUTHENTICATION
Optional Parameter

is the authentication and identification scheme to be used for inbound TCP/IP connections

Values for the parameter are:
- ASSERTED
- AUTOMATIC
- AUTOREGISTER
- BASIC
- CERTIFICATE
- KERBEROS
- NONE

CERTIFICATE_LABEL
Optional Parameter

is the name of a certificate within the keyfile that this service will use to authenticate itself to clients with, if the SSL protocol is used.

CIPHER_SUITES
Optional Parameter

a string of up to 56 hexadecimal digits that is interpreted as a list of up to 28 2-digit cipher suite codes.

DNSGROUP
Optional Parameter

the group name with which CICS will register to Workload Manager, for connection optimization.

GRPCRITICAL
Optional Parameter

indicates if the service is a critical member of the DNS group.

Values for the parameter are:
- CRITICAL
- NONCRITICAL

NUMCIPHERS
Optional Parameter

the number of cipher suites specified in the CIPHER_SUITES parameter.

PRIVACY
Optional Parameter

indicates the level of SSL encryption required for inbound connections to this service that is specified by the CIPHERS attribute.

Values for the parameter are:
- NOTSUPPORTED
- REQUIRED
- SUPPORTED

PROTOCOL
Optional Parameter

the application level protocol used on the TCP/IP port.

TRANSACTION
Optional Parameter

is the tranid of the transaction to attach for each connection to this service.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

`CATALOG_ERROR`

The following values are returned when RESPONSE is EXCEPTION:

`AT_MAXSOCKETS`
`AUTHENTICATION_UNAVAILABLE`
`CERTIFICATE_INVALID`
`INVALID_NAME`
`INVALID_STATUS`
`PORT_IN_USE`
`PORT_NOTAUTH`
`SERVICE_OPEN`
`SSL_NOT_AVAILABLE`
`TCPIP_CLOSED`
`TCPIP_INACTIVE`
`UNKNOWN_IP_ADDRESS`
`UNSUPPORTED_CIPHER`

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOAD gate, DELETE_TCPIPSERVICE function

The DELETE_TCPIPSERVICE function is called at RDO time to remove an installed tcpipservice definition. If the status is OPEN then the tcpipservice is not removed. The catalog entry is removed for the discarded resource.

Input Parameters

TCPIPSERVICE_NAME

is the name of the tcpipservice.

Output Parameters

REASON

The following values are returned when RESPONSE is EXCEPTION:

`NOT_FOUND`
`SERVICE_OPEN`

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOCK gate, ACCEPT function

Accept a new connection on a listening socket.

Input Parameters

SOCKET_TOKEN

A token that is generated when a socket is created, and is used subsequently to identify the socket.

On this function, the token identifies the listening socket.

LIFETIME

Optional Parameter

The lifetime of the socket.

Values for the parameter are:

`PERSISTENT`

SHARED
TASK

TIMEOUT_VALUE

Optional Parameter

The interval after which a request will time out.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

ABEND
LOCK_FAILURE
LOOP
SOCKET_IN_USE

The following values are returned when RESPONSE is EXCEPTION:

ADDRESS_IN_USE
ADDRESS_NOT_AVAILABLE
ALREADY_ASSOCIATED
CLIENT_ERROR
CONNECTION_CLOSED
CONNECTION_REFUSED
INSUFFICIENT_STORAGE
INSUFFICIENT_THREADS
INVALID_OPTION
IO_ERROR
MISSING_OPTION
NEVER_ASSOCIATED
NO_CONNECTION
NO_SOCKET_AVAILABLE
NOT_AUTHORIZED
NOT_PENDING
NOTIFICATION_UNAVAILABLE
NOTIFIED
SCHEDULED
SSL_HANDSHAKE_ERROR
STATE_ERROR
TCP_NOT_ACTIVE
UNKNOWN_SESSION_TOKEN

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION

The following values are returned when RESPONSE is PURGED:

TASK_CANCELLED
TIMED_OUT

CLIENT_SOCKET_TOKEN

A token that is generated when a socket is created, and is used subsequently to identify the socket.

On this function, the token identifies the connection that has been accepted. On subsequent requests, the token is passed on the **SOCKET_TOKEN** parameter.

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOCK gate, BIND function

Bind a socket to an IP address and port number.

Input Parameters

IP_ADDRESS
: Optional Parameter

  The binary IP address of the target.

PORT
: Optional Parameter

  The binary port number of the target.

SOCKET_TOKEN
: A token that is generated when a socket is created, and is used subsequently to identify the socket.

MINIMUM_DATA_LENGTH
: Optional Parameter

  The minimum amount of data that must be received before the request is considered to be complete.

STRING_PORT
: Optional Parameter

  The port number of the target, expressed as a string.

TIMEOUT_VALUE
: Optional Parameter

  The interval after which a request will time out.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:

```
ABEND
LOCK_FAILURE
LOOP
SOCKET_IN_USE
```

The following values are returned when RESPONSE is EXCEPTION:

```
ADDRESS_IN_USE
ADDRESS_NOT_AVAILABLE
ALREADY_ASSOCIATED
CLIENT_ERROR
CONNECTION_CLOSED
CONNECTION_REFUSED
INSUFFICIENT_STORAGE
INSUFFICIENT_THREADS
INVALID_OPTION
IO_ERROR
MISSING_OPTION
NEVER_ASSOCIATED
NO_CONNECTION
NO_SOCKET_AVAILABLE
NOT_AUTHORIZED
NOT_PENDING
NOTIFICATION_UNAVAILABLE
NOTIFIED
SCHEDULED
SSL_HANDSHAKE_ERROR
```

STATE_ERROR
TCP_NOT_ACTIVE
UNKNOWN_SESSION_TOKEN

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

The following values are returned when RESPONSE is PURGED:
TASK_CANCELLED
TIMED_OUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOCK gate, CANCEL function

Cancel any outstanding asynchronous input or output on a socket.

Input Parameters

SOCKET_TOKEN
A token that is generated when a socket is created, and is used subsequently to identify the socket.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOCK_FAILURE
LOOP
SOCKET_IN_USE

The following values are returned when RESPONSE is EXCEPTION:
ADDRESS_IN_USE
ADDRESS_NOT_AVAILABLE
ALREADY_ASSOCIATED
CLIENT_ERROR
CONNECTION_CLOSED
CONNECTION_REFUSED
INSUFFICIENT_STORAGE
INSUFFICIENT_THREADS
INVALID_OPTION
IO_ERROR
MISSING_OPTION
NEVER_ASSOCIATED
NO_CONNECTION
NO_SOCKET_AVAILABLE
NOT_AUTHORIZED
NOT_PENDING
NOTIFICATION_UNAVAILABLE
NOTIFIED
SCHEDULED
SSL_HANDSHAKE_ERROR
STATE_ERROR
TCP_NOT_ACTIVE
UNKNOWN_SESSION_TOKEN

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION

The following values are returned when RESPONSE is PURGED:
TASK_CANCELLED
TIMED_OUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOCK gate, CLOSE function

The CLOSE function is called to close the socket connection to the TCP/IP client.

Input Parameters

CONDITIONAL
Optional Parameter

A binary value indicating whether a request to close a socket is conditional. A conditional request to close the socket will fail if the socket is in use.

Values for the parameter are:
NO
YES

SOCKET_TOKEN
A token that is generated when a socket is created, and is used subsequently to identify the socket.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOCK_FAILURE
LOOP
SOCKET_IN_USE

The following values are returned when RESPONSE is EXCEPTION:
ADDRESS_IN_USE
ADDRESS_NOT_AVAILABLE
ALREADY_ASSOCIATED
CLIENT_ERROR
CONNECTION_CLOSED
CONNECTION_REFUSED
INSUFFICIENT_STORAGE
INSUFFICIENT_THREADS
INVALID_OPTION
IO_ERROR
MISSING_OPTION
NEVER_ASSOCIATED
NO_CONNECTION
NO_SOCKET_AVAILABLE
NOT_AUTHORIZED
NOT_PENDING
NOTIFICATION_UNAVAILABLE
NOTIFIED
SCHEDULED
SSL_HANDSHAKE_ERROR
STATE_ERROR

TCP_NOT_ACTIVE
UNKNOWN_SESSION_TOKEN

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

The following values are returned when RESPONSE is PURGED:
TASK_CANCELLED
TIMED_OUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOCK gate, CONNECT function

Connect a socket to another host and port.

Input Parameters

SOCKET_TOKEN
A token that is generated when a socket is created, and is used subsequently to identify the socket.

CERTIFICATE_LABEL
Optional Parameter

The label of an X.509 certificate that is used during the SSL handshake for the connection.

CIPHER_COUNT
Optional Parameter

The number of cipher suites encoded in the **CIPHER_SUITES** parameter.

CIPHER_SUITES
Optional Parameter

A string of up to 56 hexadecimal digits that encodes a list of up to 28 2-digit cipher suite codes.

IP_ADDRESS
Optional Parameter

The binary IP address of the target.

PORT
Optional Parameter

The binary port number of the target.

SSL
Optional Parameter

A binary parameter that specifies whether the socket supports the secure sockets layer (SSL).

Values for the parameter are:
NO
YES

MINIMUM_DATA_LENGTH
Optional Parameter

The minimum amount of data that must be received before the request is considered to be complete.

STRING_PORT
Optional Parameter

The port number of the target, expressed as a string.

TIMEOUT_VALUE
Optional Parameter

The interval after which a request will time out.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOCK_FAILURE
LOOP
SOCKET_IN_USE

The following values are returned when RESPONSE is EXCEPTION:
ADDRESS_IN_USE
ADDRESS_NOT_AVAILABLE
ALREADY_ASSOCIATED
CLIENT_ERROR
CONNECTION_CLOSED
CONNECTION_REFUSED
INSUFFICIENT_STORAGE
INSUFFICIENT_THREADS
INVALID_OPTION
IO_ERROR
MISSING_OPTION
NEVER_ASSOCIATED
NO_CONNECTION
NO_SOCKET_AVAILABLE
NOT_AUTHORIZED
NOT_PENDING
NOTIFICATION_UNAVAILABLE
NOTIFIED
SCHEDULED
SSL_HANDSHAKE_ERROR
STATE_ERROR
TCP_NOT_ACTIVE
UNKNOWN_SESSION_TOKEN

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

The following values are returned when RESPONSE is PURGED:
TASK_CANCELLED
TIMED_OUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOCK gate, CREATE function

This function creates a new socket.

Input Parameters

LIFETIME
Optional Parameter

The lifetime of the socket.

Values for the parameter are:
PERSISTENT
SHARED
TASK

QUEUE_TIMEOUT
Optional Parameter

A parameter that indicates whether a request to create a socket will be queued if no sockets can be created immediately, and whether the request will be queued for ever or will time out.

Values for the parameter are:
FOREVER
NO
YES

QUEUE_TIMEOUT
Optional Parameter

A parameter that indicates whether a request to create a socket will be queued if no sockets can be created immediately, and whether the request will be queued for ever or will time out.

Values for the parameter are:
FOREVER
NO
YES

TIMEOUT_VALUE
Optional Parameter

The interval after which a request will time out.

TRANSPORT
Optional Parameter

The type of IP transport supported by the socket.

Values for the parameter are:
TCP
UDP

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOCK_FAILURE
LOOP
SOCKET_IN_USE

The following values are returned when RESPONSE is EXCEPTION:
ADDRESS_IN_USE
ADDRESS_NOT_AVAILABLE
ALREADY_ASSOCIATED
CLIENT_ERROR
CONNECTION_CLOSED
CONNECTION_REFUSED
INSUFFICIENT_STORAGE
INSUFFICIENT_THREADS
INVALID_OPTION
IO_ERROR
MISSING_OPTION
NEVER_ASSOCIATED

NO_CONNECTION
NO_SOCKET_AVAILABLE
NOT_AUTHORIZED
NOT_PENDING
NOTIFICATION_UNAVAILABLE
NOTIFIED
SCHEDULED
SSL_HANDSHAKE_ERROR
STATE_ERROR
TCP_NOT_ACTIVE
UNKNOWN_SESSION_TOKEN

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

The following values are returned when RESPONSE is PURGED:
TASK_CANCELLED
TIMED_OUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOCKET_TOKEN
A token that is generated when a socket is created, and is used subsequently to identify the socket.

SOCK gate, ESTABLISH function

This function associates the calling task with the socket.

Input Parameters

SOCKET_TOKEN
A token that is generated when a socket is created, and is used subsequently to identify the socket.

XM_STORE
Optional Parameter

A binary parameter that indicates whether the socket token is to be stored in the transaction's transaction manager block.

Values for the parameter are:
NO
YES

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOCK_FAILURE
LOOP
SOCKET_IN_USE

The following values are returned when RESPONSE is EXCEPTION:
ADDRESS_IN_USE
ADDRESS_NOT_AVAILABLE
ALREADY_ASSOCIATED
CLIENT_ERROR
CONNECTION_CLOSED
CONNECTION_REFUSED

INSUFFICIENT_STORAGE
INSUFFICIENT_THREADS
INVALID_OPTION
IO_ERROR
MISSING_OPTION
NEVER_ASSOCIATED
NO_CONNECTION
NO_SOCKET_AVAILABLE
NOT_AUTHORIZED
NOT_PENDING
NOTIFICATION_UNAVAILABLE
NOTIFIED
SCHEDULED
SSL_HANDSHAKE_ERROR
STATE_ERROR
TCP_NOT_ACTIVE
UNKNOWN_SESSION_TOKEN

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

The following values are returned when RESPONSE is PURGED:
TASK_CANCELLED
TIMED_OUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOCK gate, GET_DATA_LENGTH function

Return the numbrr of bytes of data that can be read on the socket.

Input Parameters

SOCKET_TOKEN
A token that is generated when a socket is created, and is used subsequently to identify the socket.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOCK_FAILURE
LOOP
SOCKET_IN_USE

The following values are returned when RESPONSE is EXCEPTION:
ADDRESS_IN_USE
ADDRESS_NOT_AVAILABLE
ALREADY_ASSOCIATED
CLIENT_ERROR
CONNECTION_CLOSED
CONNECTION_REFUSED
INSUFFICIENT_STORAGE
INSUFFICIENT_THREADS
INVALID_OPTION
IO_ERROR
MISSING_OPTION

NEVER_ASSOCIATED
NO_CONNECTION
NO_SOCKET_AVAILABLE
NOT_AUTHORIZED
NOT_PENDING
NOTIFICATION_UNAVAILABLE
NOTIFIED
SCHEDULED
SSL_HANDSHAKE_ERROR
STATE_ERROR
TCP_NOT_ACTIVE
UNKNOWN_SESSION_TOKEN

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

The following values are returned when RESPONSE is PURGED:
TASK_CANCELLED
TIMED_OUT

BYTES_AVAILABLE
The number of bytes of data that are available to be read.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOCK gate, GET_SOCKET_OPTS function

Return the attributes of a socket.

Input Parameters

SOCKET_TOKEN
A token that is generated when a socket is created, and is used subsequently to identify the socket.

LIFETIME
Optional Parameter

The lifetime of the socket.

Values for the parameter are:
PERSISTENT
SHARED
TASK

SO_LINGER
Optional Parameter

A sockets parameter that controls socket shutdown behavior, allowing the socket to shut down gracefully.

SO_REUSE_IP_ADDRESS
Optional Parameter

A binary parameter that specifies whether the socket can reuse an IP address.

Values for the parameter are:
NO
YES

TCP_NODELAY
Optional Parameter

A binary parameter that specifies whether to send small messages on the socket without buffering them first.

Values for the parameter are:
- NO
- YES

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:
- ABEND
- LOCK_FAILURE
- LOOP
- SOCKET_IN_USE

The following values are returned when RESPONSE is EXCEPTION:
- ADDRESS_IN_USE
- ADDRESS_NOT_AVAILABLE
- ALREADY_ASSOCIATED
- CLIENT_ERROR
- CONNECTION_CLOSED
- CONNECTION_REFUSED
- INSUFFICIENT_STORAGE
- INSUFFICIENT_THREADS
- INVALID_OPTION
- IO_ERROR
- MISSING_OPTION
- NEVER_ASSOCIATED
- NO_CONNECTION
- NO_SOCKET_AVAILABLE
- NOT_AUTHORIZED
- NOT_PENDING
- NOTIFICATION_UNAVAILABLE
- NOTIFIED
- SCHEDULED
- SSL_HANDSHAKE_ERROR
- STATE_ERROR
- TCP_NOT_ACTIVE
- UNKNOWN_SESSION_TOKEN

The following values are returned when RESPONSE is INVALID:
- INVALID_FORMAT
- INVALID_FUNCTION

The following values are returned when RESPONSE is PURGED:
- TASK_CANCELLED
- TIMED_OUT

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOCK gate, LISTEN function

The LISTEN function is the main routine for the SO domain listener task CSOL. When the listener task starts it branches into the LISTEN function of the SOCK gate. This allows the listener code to be written at the domain level rather than the task level.

Input Parameters

BACKLOG
The value of the backlog parameter for the TCP/IP listen function for the current TCPIPSERVICE. It specifies how many connection requests TCP/IP will queue for the service.

SOCKET_TOKEN
A token that is generated when a socket is created, and is used subsequently to identify the socket.

TIMEOUT_VALUE
Optional Parameter

The interval after which a request will time out.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

```
ABEND
LOCK_FAILURE
LOOP
SOCKET_IN_USE
```

The following values are returned when RESPONSE is EXCEPTION:

```
ADDRESS_IN_USE
ADDRESS_NOT_AVAILABLE
ALREADY_ASSOCIATED
CLIENT_ERROR
CONNECTION_CLOSED
CONNECTION_REFUSED
INSUFFICIENT_STORAGE
INSUFFICIENT_THREADS
INVALID_OPTION
IO_ERROR
MISSING_OPTION
NEVER_ASSOCIATED
NO_CONNECTION
NO_SOCKET_AVAILABLE
NOT_AUTHORIZED
NOT_PENDING
NOTIFICATION_UNAVAILABLE
NOTIFIED
SCHEDULED
SSL_HANDSHAKE_ERROR
STATE_ERROR
TCP_NOT_ACTIVE
UNKNOWN_SESSION_TOKEN
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
```

The following values are returned when RESPONSE is PURGED:

```
TASK_CANCELLED
TIMED_OUT
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOCK gate, RECEIVE function

The RECEIVE function receives a buffer of data from a TCP/IP connected client.

Input Parameters

CALLBACK_GATE
Optional Parameter

The gate at which the domain that requested the function will be notified when the request is complete.

IP_ADDRESS
Optional Parameter

The binary IP address of the target.

STRING_IP_ADDRESS
Optional Parameter

The IP address of the target, expressed as a string.

MINIMUM_DATA_LENGTH
Optional Parameter

The minimum amount of data that must be received before the request is considered to be complete.

PEEK
Optional Parameter

A binary parameter that indicates whether the read request should look at data without removing it from the socket's receive buffer.

Values for the parameter are:
`NO`
`YES`

PEEK_BUFFER
Optional Parameter

The buffer in which peek data is returned when PEEK(YES) is specified.

Values for the parameter are:
`NO`
`YES`

PORT
Optional Parameter

The binary port number of the target.

RECEIVE_BUFFER
The buffer that receives the data.

RECEIVE_TYPE
Optional Parameter

A parameter that specifies whether a receive request is asynchronous or synchronous.

Values for the parameter are:
`ASYNC`
`SYNC`

SOCKET_TOKEN
A token that is generated when a socket is created, and is used subsequently to identify the socket.

STRING_IP_ADDRESS
Optional Parameter

The IP address of the target, expressed as a string.

STRING_PORT

Optional Parameter

The port number of the target, expressed as a string.

TIMEOUT

Optional Parameter

Specifies how the timeout interval is determined. If the parameter is not specified or TIMEOUT(SOCKETCLOSE) is specified then the timeout is taken from the TCPIPSERVIEC definition. If TIMEOUT(DEFAULT) is specified then the timeout is 30 seconds.

Values for the parameter are:

```
DEFAULT
SOCKETCLOSE
```

TIMEOUT_VALUE

Optional Parameter

The interval after which a request will time out.

USER_TOKEN

Optional Parameter

A token that the caller supplies to identify the request. The token is returned to the user at the callback gate when the request is complete.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

```
ABEND
LOCK_FAILURE
LOOP
SOCKET_IN_USE
```

The following values are returned when RESPONSE is EXCEPTION:

```
ADDRESS_IN_USE
ADDRESS_NOT_AVAILABLE
ALREADY_ASSOCIATED
CLIENT_ERROR
CONNECTION_CLOSED
CONNECTION_REFUSED
INSUFFICIENT_STORAGE
INSUFFICIENT_THREADS
INVALID_OPTION
IO_ERROR
MISSING_OPTION
NEVER_ASSOCIATED
NO_CONNECTION
NO_SOCKET_AVAILABLE
NOT_AUTHORIZED
NOT_PENDING
NOTIFICATION_UNAVAILABLE
NOTIFIED
SCHEDULED
SSL_HANDSHAKE_ERROR
STATE_ERROR
TCP_NOT_ACTIVE
UNKNOWN_SESSION_TOKEN
```

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION

The following values are returned when RESPONSE is PURGED:
TASK_CANCELLED
TIMED_OUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOCK gate, RECEIVE_SSL_DATA function

The RECEIVE_SSL_DATA function is called to receive data from a connected TCP/IP client if the connection is secured using SSL.

Input Parameters

RECEIVE_BUFFER
The buffer that receives the data.

SOCKET_ADDR
The address of the socket.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOCK_FAILURE
LOOP
SOCKET_IN_USE

The following values are returned when RESPONSE is EXCEPTION:
ADDRESS_IN_USE
ADDRESS_NOT_AVAILABLE
ALREADY_ASSOCIATED
CLIENT_ERROR
CONNECTION_CLOSED
CONNECTION_REFUSED
INSUFFICIENT_STORAGE
INSUFFICIENT_THREADS
INVALID_OPTION
IO_ERROR
MISSING_OPTION
NEVER_ASSOCIATED
NO_CONNECTION
NO_SOCKET_AVAILABLE
NOT_AUTHORIZED
NOT_PENDING
NOTIFICATION_UNAVAILABLE
NOTIFIED
SCHEDULED
SSL_HANDSHAKE_ERROR
STATE_ERROR
TCP_NOT_ACTIVE
UNKNOWN_SESSION_TOKEN

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

The following values are returned when RESPONSE is PURGED:

`TASK_CANCELLED`
`TIMED_OUT`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOCK gate, RELINQUISH function

Relinquish a task's association with a persistent socket.

Input Parameters

SOCKET_TOKEN
A token that is generated when a socket is created, and is used subsequently to identify the socket.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

`ABEND`
`LOCK_FAILURE`
`LOOP`
`SOCKET_IN_USE`

The following values are returned when RESPONSE is EXCEPTION:

`ADDRESS_IN_USE`
`ADDRESS_NOT_AVAILABLE`
`ALREADY_ASSOCIATED`
`CLIENT_ERROR`
`CONNECTION_CLOSED`
`CONNECTION_REFUSED`
`INSUFFICIENT_STORAGE`
`INSUFFICIENT_THREADS`
`INVALID_OPTION`
`IO_ERROR`
`MISSING_OPTION`
`NEVER_ASSOCIATED`
`NO_CONNECTION`
`NO_SOCKET_AVAILABLE`
`NOT_AUTHORIZED`
`NOT_PENDING`
`NOTIFICATION_UNAVAILABLE`
`NOTIFIED`
`SCHEDULED`
`SSL_HANDSHAKE_ERROR`
`STATE_ERROR`
`TCP_NOT_ACTIVE`
`UNKNOWN_SESSION_TOKEN`

The following values are returned when RESPONSE is INVALID:

`INVALID_FORMAT`
`INVALID_FUNCTION`

The following values are returned when RESPONSE is PURGED:

`TASK_CANCELLED`
`TIMED_OUT`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOCK gate, RESERVE function

Reserve a task's association with a persistent socket.

Input Parameters

SOCKET_TOKEN
A token that is generated when a socket is created, and is used subsequently to identify the socket.

TRANNUM
The transaction number of the task.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

ABEND
LOCK_FAILURE
LOOP
SOCKET_IN_USE

The following values are returned when RESPONSE is EXCEPTION:

ADDRESS_IN_USE
ADDRESS_NOT_AVAILABLE
ALREADY_ASSOCIATED
CLIENT_ERROR
CONNECTION_CLOSED
CONNECTION_REFUSED
INSUFFICIENT_STORAGE
INSUFFICIENT_THREADS
INVALID_OPTION
IO_ERROR
MISSING_OPTION
NEVER_ASSOCIATED
NO_CONNECTION
NO_SOCKET_AVAILABLE
NOT_AUTHORIZED
NOT_PENDING
NOTIFICATION_UNAVAILABLE
NOTIFIED
SCHEDULED
SSL_HANDSHAKE_ERROR
STATE_ERROR
TCP_NOT_ACTIVE
UNKNOWN_SESSION_TOKEN

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION

The following values are returned when RESPONSE is PURGED:

TASK_CANCELLED
TIMED_OUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOCK gate, SCHEDULE_RECEIVER_TASK function

Schedule a new receiver task to be attached.

Input Parameters

SOCKET_TOKEN
A token that is generated when a socket is created, and is used subsequently to identify the socket.

Output Parameters

REASON
The following values are returned when RESPONSE is DISAPTER:

ABEND
LOCK_FAILURE
LOOP
SOCKET_IN_USE

The following values are returned when RESPONSE is EXCEPTION:

ADDRESS_IN_USE
ADDRESS_NOT_AVAILABLE
ALREADY_ASSOCIATED
CLIENT_ERROR
CONNECTION_CLOSED
CONNECTION_REFUSED
INSUFFICIENT_STORAGE
INSUFFICIENT_THREADS
INVALID_OPTION
IO_ERROR
MISSING_OPTION
NEVER_ASSOCIATED
NO_CONNECTION
NO_SOCKET_AVAILABLE
NOT_AUTHORIZED
NOT_PENDING
NOTIFICATION_UNAVAILABLE
NOTIFIED
SCHEDULED
SSL_HANDSHAKE_ERROR
STATE_ERROR
TCP_NOT_ACTIVE
UNKNOWN_SESSION_TOKEN

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION

The following values are returned when RESPONSE is PURGED:

TASK_CANCELLED
TIMED_OUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOCK gate, SEND function

The SEND function sends a buffer of data to a connected TCP/IP client.

Input Parameters

SEND_BUFFER
The buffer of data to be sent.

IP_ADDRESS
Optional Parameter

The binary IP address of the target.

PORT
Optional Parameter

The binary port number of the target.

SOCKET_TOKEN
A token that is generated when a socket is created, and is used subsequently to identify the socket.

STRING_IP_ADDRESS
Optional Parameter

The IP address of the target, expressed as a string.

STRING_PORT
Optional Parameter

The port number of the target, expressed as a string.

TIMEOUT_VALUE
Optional Parameter

The interval after which a request will time out.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

ABEND
LOCK_FAILURE
LOOP
SOCKET_IN_USE

The following values are returned when RESPONSE is EXCEPTION:

ADDRESS_IN_USE
ADDRESS_NOT_AVAILABLE
ALREADY_ASSOCIATED
CLIENT_ERROR
CONNECTION_CLOSED
CONNECTION_REFUSED
INSUFFICIENT_STORAGE
INSUFFICIENT_THREADS
INVALID_OPTION
IO_ERROR
MISSING_OPTION
NEVER_ASSOCIATED
NO_CONNECTION
NO_SOCKET_AVAILABLE
NOT_AUTHORIZED
NOT_PENDING
NOTIFICATION_UNAVAILABLE
NOTIFIED
SCHEDULED
SSL_HANDSHAKE_ERROR
STATE_ERROR
TCP_NOT_ACTIVE
UNKNOWN_SESSION_TOKEN

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
```

The following values are returned when RESPONSE is PURGED:

```
TASK_CANCELLED
TIMED_OUT
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOCK gate, SEND_SSL_DATA function

The SEND_SSL_DATA function is called to send data to a connected TCP/IP client if the connection is secured using SSL.

Input Parameters

SEND_BUFFER
The buffer of data to be sent.

SOCKET_ADDR
The address of the socket.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

```
ABEND
LOCK_FAILURE
LOOP
SOCKET_IN_USE
```

The following values are returned when RESPONSE is EXCEPTION:

```
ADDRESS_IN_USE
ADDRESS_NOT_AVAILABLE
ALREADY_ASSOCIATED
CLIENT_ERROR
CONNECTION_CLOSED
CONNECTION_REFUSED
INSUFFICIENT_STORAGE
INSUFFICIENT_THREADS
INVALID_OPTION
IO_ERROR
MISSING_OPTION
NEVER_ASSOCIATED
NO_CONNECTION
NO_SOCKET_AVAILABLE
NOT_AUTHORIZED
NOT_PENDING
NOTIFICATION_UNAVAILABLE
NOTIFIED
SCHEDULED
SSL_HANDSHAKE_ERROR
STATE_ERROR
TCP_NOT_ACTIVE
UNKNOWN_SESSION_TOKEN
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
```

The following values are returned when RESPONSE is PURGED:
`TASK_CANCELLED`
`TIMED_OUT`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOCK gate, SET_SOCKET_OPTS function

Set the attributes of a socket.

Input Parameters

SOCKET_TOKEN
A token that is generated when a socket is created, and is used subsequently to identify the socket.

SO_LINGER
Optional Parameter

A sockets parameter that controls socket shutdown behavior, allowing the socket to shut down gracefully.

SO_REUSE_IP_ADDRESS
Optional Parameter

A binary parameter that specifies whether the socket can reuse an IP address.

Values for the parameter are:
`NO`
`YES`

SSL
Optional Parameter

A binary parameter that specifies whether the socket supports the secure sockets layer (SSL).

Values for the parameter are:
`NO`
`YES`

TCP_NODELAY
Optional Parameter

A binary parameter that specifies whether to send small messages on the socket without buffering them first.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOCK_FAILURE`
`LOOP`
`SOCKET_IN_USE`

The following values are returned when RESPONSE is EXCEPTION:
`ADDRESS_IN_USE`
`ADDRESS_NOT_AVAILABLE`
`ALREADY_ASSOCIATED`
`CLIENT_ERROR`

CONNECTION_CLOSED
CONNECTION_REFUSED
INSUFFICIENT_STORAGE
INSUFFICIENT_THREADS
INVALID_OPTION
IO_ERROR
MISSING_OPTION
NEVER_ASSOCIATED
NO_CONNECTION
NO_SOCKET_AVAILABLE
NOT_AUTHORIZED
NOT_PENDING
NOTIFICATION_UNAVAILABLE
NOTIFIED
SCHEDULED
SSL_HANDSHAKE_ERROR
STATE_ERROR
TCP_NOT_ACTIVE
UNKNOWN_SESSION_TOKEN

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

The following values are returned when RESPONSE is PURGED:
TASK_CANCELLED
TIMED_OUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOCK gate, SURRENDER function

This function requests the owner of a dormant session table entry (STE) to surrender control of it so that its resources can be used by another transaction. A dormant STE is one that is between transactions: it is waiting for another client interaction in a persistent connection.

Input Parameters

STE_PTR
The address of the session table entry (STE).

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOCK_FAILURE
LOOP
SOCKET_IN_USE

The following values are returned when RESPONSE is EXCEPTION:
ADDRESS_IN_USE
ADDRESS_NOT_AVAILABLE
ALREADY_ASSOCIATED
CLIENT_ERROR
CONNECTION_CLOSED
CONNECTION_REFUSED
INSUFFICIENT_STORAGE

INSUFFICIENT_THREADS
INVALID_OPTION
IO_ERROR
MISSING_OPTION
NEVER_ASSOCIATED
NO_CONNECTION
NO_SOCKET_AVAILABLE
NOT_AUTHORIZED
NOT_PENDING
NOTIFICATION_UNAVAILABLE
NOTIFIED
SCHEDULED
SSL_HANDSHAKE_ERROR
STATE_ERROR
TCP_NOT_ACTIVE
UNKNOWN_SESSION_TOKEN

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

The following values are returned when RESPONSE is PURGED:
TASK_CANCELLED
TIMED_OUT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOIS gate, DELETE_CERTIFICATE_DATA function

The DELETE_CERTIFICATE_DATA deletes certificate data from the sockets repository.

Input Parameters

REPOSITORY_TOKEN
a token representing a certificate exported to the repository.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
CEEPIPI_ERROR
LISTENER_ATTACH_FAILURE
LOCK_FAILURE
LOOP

The following values are returned when RESPONSE is EXCEPTION:
AT_MAXSOCKETS
HOSTNAME_TRUNCATED
IIOPLISTENER_NO
IO_ERROR
MAXSOCKETS_HARD_LIMIT
REPOSITORY_ERROR
TCPIP_ALREADY_CLOSED
TCPIP_ALREADY_OPEN
TCPIP_UNAVAILABLE
UNKNOWN_CLIENT_ADDRESS
UNKNOWN_CLIENT_HOSTNAME

`UNKNOWN_LISTEN_TOKEN`
`UNKNOWN_SERVER_ADDRESS`
`UNKNOWN_SERVER_HOSTNAME`
`UNKNOWN_SESSION_TOKEN`
`UNKNOWN_SOCKET_TOKEN`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOIS gate, EXPORT_CERTIFICATE_DATA function

The EXPORT_CERTIFICATE_DATA function saves a certificate in the sockets repository.

Input Parameters

CERTIFICATE_INFORMATION
is a block representing the certificate.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`CEEPIPI_ERROR`
`LISTENER_ATTACH_FAILURE`
`LOCK_FAILURE`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`AT_MAXSOCKETS`
`HOSTNAME_TRUNCATED`
`IIOPLISTENER_NO`
`IO_ERROR`
`MAXSOCKETS_HARD_LIMIT`
`REPOSITORY_ERROR`
`TCPIP_ALREADY_CLOSED`
`TCPIP_ALREADY_OPEN`
`TCPIP_UNAVAILABLE`
`UNKNOWN_CLIENT_ADDRESS`
`UNKNOWN_CLIENT_HOSTNAME`
`UNKNOWN_LISTEN_TOKEN`
`UNKNOWN_SERVER_ADDRESS`
`UNKNOWN_SERVER_HOSTNAME`
`UNKNOWN_SESSION_TOKEN`
`UNKNOWN_SOCKET_TOKEN`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

REPOSITORY_TOKEN
Optional Parameter

is a token that represents the saves certificate data.

SOIS gate, IMPORT_CERTIFICATE_DATA function

The IMPORT_CERTIFICATE_DATA imports certificate data from the sockets repository.

Input Parameters

CERTIFICATE_INFORMATION
is a block representing the certificate.

REPOSITORY_TOKEN
Optional Parameter

a token representing a certificate exported to the repository.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

```
ABEND
CEEPIPI_ERROR
LISTENER_ATTACH_FAILURE
LOCK_FAILURE
LOOP
```

The following values are returned when RESPONSE is EXCEPTION:

```
AT_MAXSOCKETS
HOSTNAME_TRUNCATED
IIOPLISTENER_NO
IO_ERROR
MAXSOCKETS_HARD_LIMIT
REPOSITORY_ERROR
TCPIP_ALREADY_CLOSED
TCPIP_ALREADY_OPEN
TCPIP_UNAVAILABLE
UNKNOWN_CLIENT_ADDRESS
UNKNOWN_CLIENT_HOSTNAME
UNKNOWN_LISTEN_TOKEN
UNKNOWN_SERVER_ADDRESS
UNKNOWN_SERVER_HOSTNAME
UNKNOWN_SESSION_TOKEN
UNKNOWN_SOCKET_TOKEN
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CERTIFICATE_USERID
Optional Parameter

is the userid associated with the certificate.

SOIS gate, INITIALIZE_ENVIRONMENT function

The INITIALIZE_ENVIRONMENT function is called during SO domain startup to create and initialize the CEEPIPI Language Environment pre-initialized environment for invokcation of C functions.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

```
ABEND
CEEPIPI_ERROR
LISTENER_ATTACH_FAILURE
LOCK_FAILURE
LOOP
```

The following values are returned when RESPONSE is EXCEPTION:

```
AT_MAXSOCKETS
HOSTNAME_TRUNCATED
IIOPLISTENER_NO
IO_ERROR
MAXSOCKETS_HARD_LIMIT
REPOSITORY_ERROR
TCPIP_ALREADY_CLOSED
TCPIP_ALREADY_OPEN
TCPIP_UNAVAILABLE
UNKNOWN_CLIENT_ADDRESS
UNKNOWN_CLIENT_HOSTNAME
UNKNOWN_LISTEN_TOKEN
UNKNOWN_SERVER_ADDRESS
UNKNOWN_SERVER_HOSTNAME
UNKNOWN_SESSION_TOKEN
UNKNOWN_SOCKET_TOKEN
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
```

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOIS gate, INQUIRE function

The INQUIRE function is called by tasks that have been attached by the listener in response to a new TCP/IP connection. It provides TCP/IP and socket information about connection and the connected client.

Input Parameters

CLIENT_CERTIFICATE

Optional Parameter

is a buffer in which the X.509 certificate presented by the client is returned to the caller.

CLIENT_HOSTNAME

Optional Parameter

is a buffer in which the full hostname of the client is returned to the caller.

GENERIC_HOSTNAME

Optional Parameter

is a buffer in which the full generic hostname of the CICS region, as known to the DNS in a connection optimization environment, is returned to the caller.

LISTEN_TOKEN

Optional Parameter

is a token representing the opened tcpipservice.

LOCKHELD
Optional Parameter

A binary value that specifies whether the caller already holds the lock for searching the LTE chain.

Values for the parameter are:
`NO`
`YES`

SERVER_HOSTNAME
Optional Parameter

is a buffer in which the full hostname of the CICS region is returned to the caller.

SOCKET_ADDR
Optional Parameter

The address of the socket.

SOCKET_TOKEN
Optional Parameter

A token that represents the socket.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`CEEPIPI_ERROR`
`LISTENER_ATTACH_FAILURE`
`LOCK_FAILURE`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`AT_MAXSOCKETS`
`HOSTNAME_TRUNCATED`
`IIOPLISTENER_NO`
`IO_ERROR`
`MAXSOCKETS_HARD_LIMIT`
`REPOSITORY_ERROR`
`TCPIP_ALREADY_CLOSED`
`TCPIP_ALREADY_OPEN`
`TCPIP_UNAVAILABLE`
`UNKNOWN_CLIENT_ADDRESS`
`UNKNOWN_CLIENT_HOSTNAME`
`UNKNOWN_LISTEN_TOKEN`
`UNKNOWN_SERVER_ADDRESS`
`UNKNOWN_SERVER_HOSTNAME`
`UNKNOWN_SESSION_TOKEN`
`UNKNOWN_SOCKET_TOKEN`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACTSOCKETS
Optional Parameter

The number of sockets that are currently active

ATTACHSEC
Optional Parameter

The level of attach-time user security specified in the TCPIPSERVICE definition.

Values for the parameter are:
```
LOCAL
VERIFY
```
AUTHENTICATION
Optional Parameter

The authentication and identification scheme to be used for inbound TCP/IP connections

Values for the parameter are:
```
ASSERTED
AUTOMATIC
AUTOREGISTER
BASIC
CERTIFICATE
KERBEROS
NONE
```
CERTIFICATE_STATUS
Optional Parameter

The status of the X.509 certificate associated with the connection.

Values for the parameter are:
```
NONE
REGISTERED
UNREGISTERED
UNTRUSTED
```
CERTIFICATE_USERID
Optional Parameter

is the userid associated with the certificate.

CLIENT_BIN_IP_ADDRESS
Optional Parameter

is the 32 bit binary IP address of the client.

CLIENT_IP_ADDRESS
Optional Parameter

is the text representation of the IP address of the client.

CLIENT_IP_ADDRESS_LEN
Optional Parameter

is the length of the text representation of the client IP address.

CLIENT_IPFAMILY
Optional Parameter

is the format the client IP address.

CONNECTIONS
Optional Parameter

is either the number of connections for the service represented by the supplied LISTEN_TOKEN, or the total number of TCP/IP connections to all of of the currently active services.

DNS_STATUS
Optional Parameter

The Domain Name System (DNS) registration status of the TCPIPSERVICE.

Values for the parameter are:
`DEREGERROR`
`DEREGISTERED`
`NOTAPPLIC`
`REGERROR`
`REGISTERED`
`UNAVAILABLE`
`UNREGISTERED`

GROUP_NAME
Optional Parameter

The name of the dynamic DNS group that is registered with the MVS Work Load Manager for this service.

LISTENER_PORT
Optional Parameter

is the port number that the connection was received on.

LISTENER_STATUS
Optional Parameter

is the current status of the SO domain listener task.

Values for the parameter are:
`CLOSED`
`CLOSING`
`IMMCLOSE`
`IMMCLOSING`
`OPEN`
`OPENING`

MAXDATA_LENGTH
Optional Parameter

The maximum length of data that CICS will receive when operating as an HTTP server.

MAXSOCKETS
Optional Parameter

The value of the **MAXSOCKETS** system initialization parameter.

PEER_BIN_IP_ADDRESS
Optional Parameter

The binary IP address of the peer client or server.

PRIVACY
Optional Parameter

The level of SSL encryption required for inbound connections to this TCPIPSERVICE

Values for the parameter are:
`NOTSUPPORTED`
`REQUIRED`
`SUPPORTED`

PROTOCOL
Optional Parameter

The application level protocol used on the TCP/IP port.

Values for the parameter are:
`ECI`
`HTTP`

`IIOP`
`USER`

SERVER_BIN_IP_ADDRESS
Optional Parameter

is the 32 bit binary IP address of the CICS region.

SERVER_IP_ADDRESS
Optional Parameter

is the text representation of the IP address of the CICS region.

SERVER_IP_ADDRESS_LEN
Optional Parameter

is the length of the text representation of the server IP address.

SERVER_IPFAMILY
Optional Parameter

is the format the server IP address.

SSLTYPE
Optional Parameter

returns whether or not SSL is being used to secure this connection.

Values for the parameter are:
`CLIENTAUTH`
`NO`
`YES`

TCPIP_STATUS
Optional Parameter

The status of TCP/IP in the CICS region.

Values for the parameter are:
`CLOSED`
`CLOSING`
`IMMCLOSE`
`IMMCLOSING`
`OPEN`
`OPENING`

TCPIPSERVICE_NAME
Optional Parameter

is the name of the service that attached the task, or the name associated with the supplied LISTEN_TOKEN.

TRANSID
Optional Parameter

is the transaction ID associated with the service.

TSQ_PREFIX
Optional Parameter

is the TS queue prefix specified on the tcpipservice definition for this connection.

URM_NAME
Optional Parameter

is the name of the user-replaceable program specified on the tcpipservice definition for this connection.

USER_TOKEN
Optional Parameter

The user token associated with the connection.

VALIDATION_HASH
Optional Parameter

SOIS gate, INQUIRE_CONNECTION function

Return information about a TCP/IP connection.

Input Parameters

CLIENT_HOSTNAME
Optional Parameter

is a buffer in which the full hostname of the client is returned to the caller.

SERVER_HOSTNAME
Optional Parameter

is a buffer in which the full hostname of the CICS region is returned to the caller.

SOCKET_TOKEN
The token that represents the connection.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

```
ABEND
CEEPIPI_ERROR
LISTENER_ATTACH_FAILURE
LOCK_FAILURE
LOOP
```

The following values are returned when RESPONSE is EXCEPTION:

```
AT_MAXSOCKETS
HOSTNAME_TRUNCATED
IIOPLISTENER_NO
IO_ERROR
MAXSOCKETS_HARD_LIMIT
REPOSITORY_ERROR
TCPIP_ALREADY_CLOSED
TCPIP_ALREADY_OPEN
TCPIP_UNAVAILABLE
UNKNOWN_CLIENT_ADDRESS
UNKNOWN_CLIENT_HOSTNAME
UNKNOWN_LISTEN_TOKEN
UNKNOWN_SERVER_ADDRESS
UNKNOWN_SERVER_HOSTNAME
UNKNOWN_SESSION_TOKEN
UNKNOWN_SOCKET_TOKEN
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CLIENT_BIN_IP_ADDRESS
Optional Parameter

The binary IP address of the client.

CLIENT_BIN_PORT
Optional Parameter

The binary port number of the client.

CLIENT_IP_ADDRESS
Optional Parameter

The IP address of the client.

CLIENT_IP_ADDRESS_LEN
Optional Parameter

is the length of the text representation of the client IP address.

CLIENT_IPFAMILY
Optional Parameter

is the format the client IP address.

CLIENT_PORT
Optional Parameter

The port number of the client.

SERVER_BIN_IP_ADDRESS
Optional Parameter

The binary IP address of the server.

SERVER_BIN_PORT
Optional Parameter

The binary port number of the server.

SERVER_IP_ADDRESS
Optional Parameter

The IP address of the server.

SERVER_IP_ADDRESS_LEN
Optional Parameter

is the length of the text representation of the server IP address.

SERVER_IPFAMILY
Optional Parameter

is the format the server IP address.

SERVER_PORT
Optional Parameter

The port number of the server.

SOIS gate, INQUIRE_PARAMETERS function

Returns the current values of the parameters for the SO domain. The values might have changed from their initial values specified in the system initialization parameters.

Input Parameters

CIPHER_SUITES
Optional Parameter

A binary representation of the cipher suites used to encrypt data.

CRL_PROFILE
Optional Parameter

The current value of the **CRLPROFILE** system initialization parameter.

Output Parameters

REASON
The values for the parameter are:
ABEND

INVALID_CIPHERS
INVALID_FORMAT
INVALID_FUNCTION
LOOP

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CONFDATA
Optional Parameter

The current value of the **CONFDATA** system initialization parameter.

Values for the parameter are:
HIDETC
SHOW

ENCRYPTION
Optional Parameter

The current value of the **ENCRYPTION** system initialization parameter.

Values for the parameter are:
MEDIUM
STRONG
WEAK

IIOPLISTENER
Optional Parameter

The current value of the **IIOPLISTENER** system initialization parameter.

Values for the parameter are:
NO
YES

KEYRING
Optional Parameter

The current value of the **KEYRING** system initialization parameter.

MAXSOCKETS
Optional Parameter

The current value of the **MAXSOCKETS** system initialization parameter.

MAXSSLTCBS
Optional Parameter

The current value of the **MAXSSLTCBS** system initialization parameter.

SESSION_CACHE
Optional Parameter

The current value of the **SSLCACHE** system initialization parameter.

Values for the parameter are:
CICS
SYSPLEX

SSLDELAY
Optional Parameter

The current value of the **SSLDELAY** system initialization parameter.

TCPIP
Optional Parameter

The current value of the **TCPIP** system initialization parameter.

Values for the parameter are:
NO

YES

SOIS gate, INQUIRE_SOCKET_TOKEN function

Return the socket token for the current task.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

```
ABEND
CEEPIPI_ERROR
LISTENER_ATTACH_FAILURE
LOCK_FAILURE
LOOP
```

The following values are returned when RESPONSE is EXCEPTION:

```
AT_MAXSOCKETS
HOSTNAME_TRUNCATED
IIOPLISTENER_NO
IO_ERROR
MAXSOCKETS_HARD_LIMIT
REPOSITORY_ERROR
TCPIP_ALREADY_CLOSED
TCPIP_ALREADY_OPEN
TCPIP_UNAVAILABLE
UNKNOWN_CLIENT_ADDRESS
UNKNOWN_CLIENT_HOSTNAME
UNKNOWN_LISTEN_TOKEN
UNKNOWN_SERVER_ADDRESS
UNKNOWN_SERVER_HOSTNAME
UNKNOWN_SESSION_TOKEN
UNKNOWN_SOCKET_TOKEN
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
```

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOCKET_TOKEN

The socket token for the current task.

SOIS gate, INQUIRE_STATISTICS function

The INQUIRE_STATISTICS function returns gathered statistics about an open tcpipservice.

Input Parameters

LISTEN_TOKEN

is a token representing the opened tcpipservice.

RESET

is a value indicating if the statistics should be reset.

Values for the parameter are:

```
NO
YES
```

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

ABEND
CEEPIPI_ERROR
LISTENER_ATTACH_FAILURE
LOCK_FAILURE
LOOP

The following values are returned when RESPONSE is EXCEPTION:

AT_MAXSOCKETS
HOSTNAME_TRUNCATED
IIOPLISTENER_NO
IO_ERROR
MAXSOCKETS_HARD_LIMIT
REPOSITORY_ERROR
TCPIP_ALREADY_CLOSED
TCPIP_ALREADY_OPEN
TCPIP_UNAVAILABLE
UNKNOWN_CLIENT_ADDRESS
UNKNOWN_CLIENT_HOSTNAME
UNKNOWN_LISTEN_TOKEN
UNKNOWN_SERVER_ADDRESS
UNKNOWN_SERVER_HOSTNAME
UNKNOWN_SESSION_TOKEN
UNKNOWN_SOCKET_TOKEN

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ATTACH_COUNT

Optional Parameter

is the total number of tasks that have been attached to handle incoming connections.

PEAK_CONNECTIONS

Optional Parameter

is the high water mark for connections since that last reset.

RECV_BYTES

Optional Parameter

is the number of bytes received from TCP/IP.

RECV_COUNT

Optional Parameter

is the number of times TCP/IP receive has been called.

SEND_BYTES

Optional Parameter

is the number of bytes that have been sent to TCP/IP.

SEND_COUNT

Optional Parameter

is the number of times TCP/IP send has been called.

SOIS gate, SET function

The SET function is called to open, close or immediately close the SO domain within a region. This is called in response to a SET TCPIP operator or SPI command.

Input Parameters

ATTACHSEC
Optional Parameter

The level of attach-time user security required for this connection

Values for the parameter are:
LOCAL
VERIFY

MAXSOCKETS
Optional Parameter

The maximum number of IP sockets that can be managed by the CICS sockets domain. Used with **TCPIP_STATUS(OPEN)**

TCPIP_STATUS
Optional Parameter

The desired status of the domain.

Values for the parameter are:
CLOSED
IMMCLOSE
OPEN

TRACE_SUPPRESSION
Optional Parameter

A binary value indicating whether trace is to be suppressed.

Values for the parameter are:
NO
YES

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
CEEPIPI_ERROR
LISTENER_ATTACH_FAILURE
LOCK_FAILURE
LOOP

The following values are returned when RESPONSE is EXCEPTION:
AT_MAXSOCKETS
HOSTNAME_TRUNCATED
IIOPLISTENER_NO
IO_ERROR
MAXSOCKETS_HARD_LIMIT
REPOSITORY_ERROR
TCPIP_ALREADY_CLOSED
TCPIP_ALREADY_OPEN
TCPIP_UNAVAILABLE
UNKNOWN_CLIENT_ADDRESS
UNKNOWN_CLIENT_HOSTNAME
UNKNOWN_LISTEN_TOKEN

UNKNOWN_SERVER_ADDRESS
UNKNOWN_SERVER_HOSTNAME
UNKNOWN_SESSION_TOKEN
UNKNOWN_SOCKET_TOKEN

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

NEWMAXSOCKETS
Optional Parameter

The actual value of MAXSOCKETS. If the userid under which the CICS job is running does not have superuser authority, CICS might set the MAXSOCKETS limit to a smaller value than requested.

SOIS gate, SET_PARAMETERS function

The SET_PARAMETERS function is called during CICS initialization when the SIT is processed. It sets the startup parameters for the SO domain.

Input Parameters

CONFDATA
Optional Parameter

The value of the **CONFDATA** system initialization parameter.

Values for the parameter are:
HIDETC
SHOW

CRL_PROFILE
Optional Parameter

The value of the **CRLPROFILE** system initialization parameter.

ENCRYPTION
Optional Parameter

The value of the **ENCRYPTION** system initialization parameter.

IIOPLISTENER
Optional Parameter

The value of the **IIOPLISTENER** system initialization parameter.

Values for the parameter are:
NO
YES

KEYRING
Optional Parameter

The value of the **KEYRING** system initialization parameter.

MAXSOCKETS
Optional Parameter

The value of the **MAXSOCKETS** system initialization parameter.

MAXSSLTCBS
Optional Parameter

The value of the **MAXSSLTCBS** system initialization parameter.

SESSION_CACHE
Optional Parameter

The value of the **SSLCACHE** system initialization parameter.

Values for the parameter are:

```
CICS
SYSPLEX
```

SSLDELAY
Optional Parameter

The value of the **SSLCACHE** system initialization parameter.

TCPIP
Optional Parameter

The value of the **TCPIP** system initialization parameter.

Values for the parameter are:

```
YES
NO
```

Output Parameters

REASON
The values for the parameter are:

```
ABEND
INVALID_CIPHERS
INVALID_FORMAT
INVALID_FUNCTION
LOOP
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOIS gate, VALIDATE_CIPHERS function

This function accepts a string of cipher suites and removes any that are not supported.

Input Parameters

CIPHER_SUITES
The list of cipher suites to be validated.

Output Parameters

REASON
The values for the parameter are:

```
ABEND
INVALID_CIPHERS
INVALID_FORMAT
INVALID_FUNCTION
LOOP
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOIS gate, VERIFY_IP_ADDRESS function

This function verifies the format and value of an IP address, returning if required its char(16) value. It will return UNKNOWN_SERVER_ADDRESS is the input is not a correct IPv4 or IPv6 address format.

Input Parameters

SERVER_HOSTNAME
Optional Parameter

The host name of the target IP address.

SERVER_IP_ADDRESS
Optional Parameter

The target IP address.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

```
ABEND
CEEPIPI_ERROR
LISTENER_ATTACH_FAILURE
LOCK_FAILURE
LOOP
```

The following values are returned when RESPONSE is EXCEPTION:

```
AT_MAXSOCKETS
HOSTNAME_TRUNCATED
IIOPLISTENER_NO
IO_ERROR
MAXSOCKETS_HARD_LIMIT
REPOSITORY_ERROR
TCPIP_ALREADY_CLOSED
TCPIP_ALREADY_OPEN
TCPIP_UNAVAILABLE
UNKNOWN_CLIENT_ADDRESS
UNKNOWN_CLIENT_HOSTNAME
UNKNOWN_LISTEN_TOKEN
UNKNOWN_SERVER_ADDRESS
UNKNOWN_SERVER_HOSTNAME
UNKNOWN_SESSION_TOKEN
UNKNOWN_SOCKET_TOKEN
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SERVER_BIN_IP_ADDRESS
The binary form of the IP address.

SOLS gate, LISTEN function

This function listens for incoming connections. The ports to listen on are controlled by installing and opening TCPIPSERVICE definitions. The function is called from the system task CSOL that is attached by the socket domain at startup. It returns when TCP/IP is closed or CICS shuts down.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

```
ABEND
LOCK_FAILURE
```

LOOP

The following values are returned when RESPONSE is EXCEPTION:
CONNECTION_CLOSED

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SORD gate, DEREGISTER function

The DEREGISTER function is called to close a TCPIPSERVICE. The listener task closes the listening socket and no more connections to the port are permitted. Any tasks handling existing connections are allowed to end normally.

Input Parameters

LISTEN_TOKEN
is a token representing the opened tcpipservice.

DNSGROUPNAME
Optional Parameter

The group name with which CICS registers to Workload Manager, for connection optimization.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOCK_FAILURE
LOOP
UNKNOWN_POST_CODE

The following values are returned when RESPONSE is EXCEPTION:
AT_MAXSOCKETS
INSUFFICIENT_STORAGE
NOT_PERMITTED_TO_BIND
PORT_IN_USE
TCPIP_CLOSED
TCPIP_INACTIVE
TCPIP_SERVICE_ERROR
UNKNOWN_ADDRESS
UNKNOWN_LISTEN_TOKEN

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SORD gate, IMMCLOSE function

The IMMCLOSE function is called to immediately close a TCP/IP service. The listener task closes the listening socket and no more connections to the port are permitted. All existing connections are closed and any tasks handling them are abnormally ended.

Input Parameters

LISTEN_TOKEN
: is a token representing the opened TCP/IP service.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  ABEND
  LOCK_FAILURE
  LOOP
  UNKNOWN_POST_CODE

  The following values are returned when RESPONSE is EXCEPTION:
  AT_MAXSOCKETS
  INSUFFICIENT_STORAGE
  NOT_PERMITTED_TO_BIND
  PORT_IN_USE
  TCPIP_CLOSED
  TCPIP_INACTIVE
  TCPIP_SERVICE_ERROR
  UNKNOWN_ADDRESS
  UNKNOWN_LISTEN_TOKEN

  The following values are returned when RESPONSE is INVALID:
  INVALID_FORMAT
  INVALID_FUNCTION

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SORD gate, REGISTER function

The REGISTER function is called to open a tcpipservice. It registers all the parameters of the service with the listener task.

Input Parameters

AUTHENTICATION
: Optional Parameter

  The authentication and identification scheme to be used for inbound TCP/IP connections

  Values for the parameter are:
  ASSERTED
  AUTOMATIC
  AUTOREGISTER
  BASIC
  CERTIFICATE
  KERBEROS
  NONE

BACKLOG
: Optional Parameter

  The value of the backlog parameter passed to the TCP/IP listen function for this service. It specifies how many connection requests TCP/IP will queue for this service.

IPADDRESS
: is the specific IP address that the listener will bind to for this service.

PORT_NUMBER
is the TCP/IP port number to listen for new connection on.

RECV_TIMEOUT
specifies whether or not receives should timeout, and if so, after how long.

SERVICE_NAME
is the name of the tcpipservice.

SSL
specifies whether or not connections to this service are to be secured using the Secure Sockets Layer protcols.

Values for the parameter are:
`CLIENTAUTH`
`NO`
`YES`

TRANID
is the transaction ID that is to be attached when a new connection is made to the listening port.

URM
is the name of a user-replacable program that the handler transaction for this service will invoke during request processing.

ATTACHSEC
Optional Parameter

The level of attach-time user security specified in the TCPIPSERVICE definition.

CERTIFICATE_LABEL
Optional Parameter

is the name of a certificate within the keyfile that this service will use to authenticate itself to clients with, if the SSL protocol is used.

CIPHER_COUNT
Optional Parameter

The number of cipher suites encoded in the CIPHER_SUITES parameter.

CIPHER_SUITES
Optional Parameter

A binary representation of the cipher suites used to encrypt data.

DNSGROUPNAME
Optional Parameter

The group name with which CICS registers to Workload Manager, for connection optimization.

DNSGRPCRITICAL
Optional Parameter

A binary value indicating whether the TCPIPSERVICE is a critical member of the DNS group. When a critical TCPIPSERVICE closes or fails, CICS deregisters the group name from Workload Manager.

Values for the parameter are:
`CRITICAL`
`NONCRITICAL`

MAXDATA_LENGTH
Optional Parameter

The maximum length of data that CICS will receive when operating as an HTTP server.

PRIVACY
Optional Parameter

The level of SSL encryption required for inbound connections to this TCPIPSERVICE

Values for the parameter are:
`NOTSUPPORTED`
`REQUIRED`
`SUPPORTED`

PROTOCOL
Optional Parameter

The application level protocol used on the TCP/IP port.

Values for the parameter are:
`ECI`
`HTTP`
`IIOP`
`USER`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOCK_FAILURE`
`LOOP`
`UNKNOWN_POST_CODE`

The following values are returned when RESPONSE is EXCEPTION:
`AT_MAXSOCKETS`
`INSUFFICIENT_STORAGE`
`NOT_PERMITTED_TO_BIND`
`PORT_IN_USE`
`TCPIP_CLOSED`
`TCPIP_INACTIVE`
`TCPIP_SERVICE_ERROR`
`UNKNOWN_ADDRESS`
`UNKNOWN_LISTEN_TOKEN`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

LISTEN_TOKEN
is a token representing the opened tcpipservice. This is subsequently used to close the service.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SORD gate, REGISTER_NOTIFICATION function

This function is called by a client domain of the SO domain. After the registration call returns, the client domains SOCB notify gate may be driven asynchronously at any time a new TCP/IP connection arrives for a TCPIPSERVICE which has the PROTOCOL parameter set to the same as that registered by this call.

Input Parameters

CALLBACK_GATE
The gate at which the client domain is called back

PROTOCOL
The protocol for which the client domain wishes to be called back.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOCK_FAILURE`
`LOOP`
`UNKNOWN_POST_CODE`

The following values are returned when RESPONSE is EXCEPTION:
`AT_MAXSOCKETS`
`INSUFFICIENT_STORAGE`
`NOT_PERMITTED_TO_BIND`
`PORT_IN_USE`
`TCPIP_CLOSED`
`TCPIP_INACTIVE`
`TCPIP_SERVICE_ERROR`
`UNKNOWN_ADDRESS`
`UNKNOWN_LISTEN_TOKEN`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SORL gate, UPDATE_REVOCATION_LIST function

Update a certificate revocation list (CRL) in the LDAP server that is specified in the **CRLPROFILE** system initialization parameter.

Input Parameters

REVOCATION_LIST
The new certificate revocation list

LDAP_ADMIN_DN
Optional Parameter

The LDAP administrator distinguished name

LDAP_ADMIN_PW
Optional Parameter

The LDAP administrator password

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`INVALID_CRL`
`INVALID_FORMAT`
`INVALID_FUNCTION`
`LDAP_ERROR`
`LOOP`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOTB gate, END_BROWSE function

The END_BROWSE function is called by CEMT and the SPI to end browsing tcpipservices.

Input Parameters

BROWSE_TOKEN
is a token representing the browse.

Output Parameters

REASON
The values for the parameter are:
`INVALID_BROWSE_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOTB gate, GET_NEXT function

The GET_NEXT function is called by CEMT and the SPI for browsing tcpipservices. It returns information about an installed tcpipservice.

Input Parameters

BROWSE_TOKEN
is a token representing the browse.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`BROWSE_END`
`INVALID_BROWSE_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TCPIPSERVICE_NAME
is the name of the service that attached the task, or the name associated with the supplied LISTEN_TOKEN.

ATTACHSEC
Optional Parameter

The level of attach-time user security specified in the TCPIPSERVICE definition.

AUTHENTICATION
Optional Parameter

The authentication and identification scheme to be used for inbound TCP/IP connections

Values for the parameter are:
`ASSERTED`
`AUTOMATIC`
`AUTOREGISTER`
`BASIC`
`CERTIFICATE`
`KERBEROS`
`NONE`

BACKLOG
Optional Parameter

is the backlog value associated with the service.

CERTIFICATE_LABEL
Optional Parameter

is the certificate label associated with the service.

CIPHER_COUNT
Optional Parameter

The number of cipher suites encoded in the CIPHER_SUITES parameter.

CIPHER_SUITES
Optional Parameter

A binary representation of the cipher suites used to encrypt data.

CONNECTIONS
Optional Parameter

is either the number of connections for the service represented by the supplied LISTEN_TOKEN, or the total number of TCP/IP connections to all of of the currently active services.

DNSGROUP
Optional Parameter

The group name with which CICS registers to Workload Manager, for connection optimization.

DNSSTATUS
Optional Parameter

The Domain Name System (DNS) registration status of the TCPIPSERVICE.

Values for the parameter are:
- `DEREGERROR`
- `DEREGISTERED`
- `NOTAPPLIC`
- `REGERROR`
- `REGISTERED`
- `UNAVAILABLE`
- `UNREGISTERED`

GRPCRITICAL
Optional Parameter

A binary value indicating whether the TCPIPSERVICE is a critical member of the DNS group. When a critical TCPIPSERVICE closes or fails, CICS deregisters the group name from Workload Manager.

Values for the parameter are:
- `CRITICAL`
- `NONCRITICAL`

IPADDRESS
Optional Parameter

is the IP address that the service is bound to.

MAXDATA_LENGTH
Optional Parameter

The maximum length of data that CICS will receive when operating as an HTTP server.

PORT
Optional Parameter

is the port number associated with the service.

PRIVACY
Optional Parameter

The level of SSL encryption required for inbound connections to this TCPIPSERVICE

Values for the parameter are:
`NOTSUPPORTED`
`REQUIRED`
`SUPPORTED`

PROTOCOL
Optional Parameter

The application level protocol used on the TCP/IP port.

Values for the parameter are:
`ECI`
`HTTP`
`IIOP`
`USER`

SOCKETCLOSE
Optional Parameter

is the receive timeout value associated with the service.

SSL
Optional Parameter

is the SSL setting for the service.

Values for the parameter are:
`CLIAUTH`
`NO`
`YES`

STATUS
Optional Parameter

is the current status of the service.

Values for the parameter are:
`CLOSED`
`CLOSING`
`IMMCLOSING`
`OPEN`
`OPENING`

TRANSID
Optional Parameter

is the transaction ID associated with the service.

URM
Optional Parameter

is the name of the user-replaceable program associated with the service.

SOTB gate, INQUIRE_TCPIPSERVICE function

The INQUIRE_TCPIPSERVICE function is called by CEMT and the SPI for an INQUIRE TCPIPSERICE function. It returns information about an installed tcpipservice.

Input Parameters

TCPIPSERVICE_NAME
is the name of the tcpipservice.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `NOT_FOUND`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ATTACHSEC
: Optional Parameter

  The level of attach-time user security specified in the TCPIPSERVICE definition.

AUTHENTICATION
: Optional Parameter

  The authentication and identification scheme to be used for inbound TCP/IP connections

  Values for the parameter are:
  `ASSERTED`
  `AUTOMATIC`
  `AUTOREGISTER`
  `BASIC`
  `CERTIFICATE`
  `KERBEROS`
  `NONE`

BACKLOG
: Optional Parameter

  The value of the backlog parameter passed to the TCP/IP listen function for this service. It specifies how many connection requests TCP/IP will queue for this service.

CERTIFICATE_LABEL
: Optional Parameter

  is the certificate label associated with the service.

CIPHER_COUNT
: Optional Parameter

  The number of cipher suites encoded in the CIPHER_SUITES parameter.

CIPHER_SUITES
: Optional Parameter

  A binary representation of the cipher suites used to encrypt data.

CONNECTIONS
: Optional Parameter

  is either the number of connections for the service represented by the supplied LISTEN_TOKEN, or the total number of TCP/IP connections to all of of the currently active services.

DNSGROUP
: Optional Parameter

  The group name with which CICS registers to Workload Manager, for connection optimization.

DNSSTATUS
: Optional Parameter

  The Domain Name System (DNS) registration status of the TCPIPSERVICE.

  Values for the parameter are:

DEREGERROR
DEREGISTERED
NOTAPPLIC
REGERROR
REGISTERED
UNAVAILABLE
UNREGISTERED

GRPCRITICAL
Optional Parameter

A binary value indicating whether the TCPIPSERVICE is a critical member of the DNS group. When a critical TCPIPSERVICE closes or fails, CICS deregisters the group name from Workload Manager.

Values for the parameter are:
CRITICAL
NONCRITICAL

IPADDRESS
Optional Parameter

is the IP address that the service is bound to.

MAXDATA_LENGTH
Optional Parameter

The maximum length of data that CICS will receive when operating as an HTTP server.

PORT
Optional Parameter

is the port number associated with the service.

PRIVACY
Optional Parameter

The level of SSL encryption required for inbound connections to this TCPIPSERVICE

Values for the parameter are:
NOTSUPPORTED
REQUIRED
SUPPORTED

PROTOCOL
Optional Parameter

The application level protocol used on the TCP/IP port.

Values for the parameter are:
ECI
HTTP
IIOP
USER

SOCKETCLOSE
Optional Parameter

is the receive timeout value associated with the service.

SSL
Optional Parameter

is the SSL setting for the service.

Values for the parameter are:
CLIAUTH
NO

`YES`

STATUS

Optional Parameter

is the current status of the service.

Values for the parameter are:

`CLOSED`
`CLOSING`
`IMMCLOSING`
`OPEN`
`OPENING`

TRANSID

Optional Parameter

is the transaction ID associated with the service.

URM

Optional Parameter

is the name of the user-replaceable program associated with the service.

VALIDATION_HASH

Optional Parameter

SOTB gate, SET_TCPIPSERVICE function

The SET_TCPIPSERVICE function is called by CEMT and the SPI to set tcpipservice parameters.

Input Parameters

TCPIPSERVICE_NAME

is the name of the tcpipservice.

BACKLOG

Optional Parameter

is the value of the backlog parameter passed to the TCP/IP listen function for this service. It specifies how many connection requests TCP/IP will queue for this service.

DNSSTATUS

Optional Parameter

The state of the Workload Manager's Domain Name System (DNS) registration of this TCPIPSERVICE.

Values for the parameter are:

`DEREGISTERED`

MAXDATA_LENGTH

Optional Parameter

The maximum length of data that CICS will receive when operating as an HTTP server.

STATUS

Optional Parameter

is either OPEN or CLOSED.

Values for the parameter are:

`CLOSED`
`IMMCLOSED`
`OPEN`

URM

Optional Parameter

is the name of a user-replacable program that the handler transaction for this service will invoke during request processing.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- IIOPLISTENER_NO
- INVALID_STATUS
- NOT_FOUND
- PORT_IN_USE
- PORT_NOT_AUTHORISED
- TCPIP_CLOSED
- TCPIP_INACTIVE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SOTB gate, START_BROWSE function

The START_BROWSE function is called by CEMT and the SPI for an browsing tcpipservices.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- AT_MAXSOCKETS
- BROWSE_END
- IIOPLISTENER_NO
- INVALID_BROWSE_TOKEN
- INVALID_STATUS
- NOT_FOUND
- PORT_IN_USE
- PORT_NOT_AUTHORISED
- TCPIP_CLOSED
- TCPIP_INACTIVE
- UNKNOWN_IP_ADDRESS
- URM_NOT_POSSIBLE

BROWSE_TOKEN
is a token representing the browse.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Socket domain's generic gates

Table 74 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 74. Socket domain's generic gates

Gate	Trace	Functions	Format
SODM	SO 0101 SO 0102	INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM

Table 74. Socket domain's generic gates (continued)

Gate	Trace	Functions	Format
STST	SO 0A01 SO 0A02	COLLECT_STATISTICS COLLECT_RESOURCE_STATS	STST
SOXM	SO 0901 SO 0902	NQUIRE_DATA_LENGTH GET_DATA DESTROY_TOKEN	XMXM

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

"Statistics domain's generic formats" on page 1777

"Transaction manager domain's generic formats" on page 1999

Modules

Module	Function
DFHSOAD	Handles the following requests: ADD_REPLACE_TCPIPSERVICE DELETE_TCPIPSERVICE
DFHSOCK	Handles the following requests: LISTEN SEND RECEIVE CLOSE SEND_SSL_DATA RECV_SSL_DATA
DFHSODM	Handles the following requests: INITIALIZE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN
DFHSODUF	Formats the SO domain control blocks
DFHSOIS	Handles the following requests: INITIALIZE_ENVIRONMENT INQUIRE SET_PARAMETERS INQUIRE_STATISTICS VERIFY EXPORT_CERTIFICATE_DATA IMPORT_CERTIFICATE_DATA DELETE_CERTIFICATE_DATA | INET_PTON | INET_NTOP
DFHSORD	Handles the following requests: REGISTER DEREGISTER IMMCLOSE

Module	Function
DFHSOSE	Handles the following requests: INITIALIZE_SSL SECURE_SOC_INIT SECURE_SOC_READ SECURE_SOC_WRITE SECURE_SOC_CLOSE SECURE_SOC_RESET TERMINATE_SSL EXPORT_CERTIFICATE_DATA IMPORT_CERTIFICATE_DATA DELETE_CERTIFICATE_DATA
DFHSOTB	Handles the following requests: INQUIRE_TCPIPSERVICE START_BROWSE GET_NEXT END_BROWSE SET_TCPIPSERVICE
DFHSOTRI	Interprets SO domain trace entries

Chapter 107. Statistics Domain (ST)

The statistics domain controls the collection of resource statistics for a CICS system (the monitoring domain collects task statistics). The statistics domain collects data at user-specified intervals, at system quiesce or logical end of day, and when requested by the user, and writes it to the statistics data sets in SMF format. This can subsequently be used by the statistics offline utility to produce formatted reports.

Statistics domain's specific gates

The specific gates provide access for other domains to functions that are provided by the ST domain.

STST gate, COLLECT_RESOURCE_STATS function

The COLLECT_RESOURCE_STATS function of the STST format is used by the EXEC API to ask a domain to collect its monitoring data collection information.

Input Parameters

RESOURCE_STATISTICS_DATA
specifies the address and length of the area into which the requested statistics are to be placed.

LONG_RESOURCE_ID_DATA
Optional Parameter

specifies the address and length of the resource identifier.

RESID_TOKEN
Optional Parameter

a token representing the resource id required.

RESOURCE_ID
Optional Parameter

specifies the address and length of the resource identifier.

RESOURCE_ID_2
Optional Parameter

specifies the address and length of the resource identifier.

RESOURCE_ID_3
Optional Parameter

specifies the address and length of the resource identifier.

RESOURCE_TYPE
Optional Parameter

is the type of resource on which statistics are required.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`ID_NOT_FOUND`
`NOT_AVAILABLE`

TYPE_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LAST_RESET_TIME
Optional Parameter

indicates the time at which the statistics fields were last reset.

STST gate, COLLECT_STATISTICS function

The COLLECT_STATISTICS function of the STST format is used by the statistics domain to ask a domain to collect its statistics.

Input Parameters

DATA
indicates whether the domain being called is requested to return its statistics to the caller.

Values for the parameter are:
NO
YES

END_OF_DAY
indicates whether all statistics fields are to be reset.

Values for the parameter are:
NO
YES

RESET
indicates whether certain statistics fields are to be reset.

Values for the parameter are:
NO
YES

RESET_TIME
is the time of day to be used as the time at which the statistics fields were last reset.

RESOURCE_TYPE
Optional Parameter

indicates the resource in the AP domain on which statistics are to be collected.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
INCOMPLETE_DATA
NOT_AVAILABLE
TYPE_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STST gate, DISABLE_STATISTICS function

The DISABLE_STATISTICS function of the STST gate is used to disable statistics interval collections.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

STST gate, INQ_STATISTICS_OPTIONS function

The INQ_STATISTICS_OPTIONS function of the STST gate is used to return information associated with the statistics domain options.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

COLLECT
indicates whether interval statistics are being collected (and their counts reset).

Values for the parameter are:
`NO`
`YES`

EOD_TIME_OF_DAY
is the time of day at which end-of-day statistics are collected.

INTERVAL
is the interval at which statistics are being collected if COLLECT is YES.

NEXT_COLLECTION_TIME
is the time of the next collection of statistics. If COLLECT is YES, it is the earlier of the next interval collection time and the logical end-of-day time; if COLLECT is NO, it is the logical end-of-day time.

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

STST gate, RECORD_STATISTICS function

The RECORD_STATISTICS function of the STST gate is used to record statistics.

Input Parameters

STATISTICS_DATA
specifies the address and length of data requested.

STATISTICS_TYPE
indicates the type of statistics collection, either a normal collection or unsolicited.

Values for the parameter are:
`COLLECTION`
`USS`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is INVALID:

`INVALID_DATA_FORMAT`

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STST gate, REQUEST_STATISTICS function

The REQUEST_STATISTICS function of the STST gate is used to request a collection of statistics.

Input Parameters

REQUEST_TOKEN

uniquely identifies the collection of statistics requested by the caller.

RESET

indicates whether certain statistics fields are to be reset.

Values for the parameter are:

`NO`
`YES`

DOMAIN_TOKEN

Optional Parameter

identifies the domain from which the statistics are to be collected.

RESOURCE_TYPE

Optional Parameter

indicates the resource in the AP domain on which statistics are to be collected.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:

`INCOMPLETE_DATA`
`NOT_AVAILABLE`
`TYPE_NOT_FOUND`

The following values are returned when RESPONSE is INVALID:

`INVALID_RESET`

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STST gate, SET_STATISTICS_OPTIONS function

The SET_STATISTICS_OPTIONS function of the STST gate is used to set statistics options.

Input Parameters

COLLECT

Optional Parameter

indicates whether interval statistics are to be collected (and their counts reset).

Values for the parameter are:

`NO`
`YES`

COLLECT_UPDATE_ACTION
Optional Parameter

is the action to be taken when changing the COLLECT option value from NO to YES, or from YES to NO.

Values for the parameter are:
`NOACTION`
`RECORD_RESETNOW`
`RECORDNOW`
`RESETNOW`

EOD_TIME_OF_DAY
Optional Parameter

is the time of day at which end-of-day statistics are to be collected.

INTERVAL
Optional Parameter

is the interval at which statistics are to be collected if COLLECT is YES.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`COLL_ACTION_NO_UPDATE`

The following values are returned when RESPONSE is INVALID:
`INV_COLL_UPDATE_ACTION`
`INVALID_COLLECT`
`INVALID_EOD_TIME_OF_DAY`
`INVALID_INTERVAL`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STST gate, STATISTICS_COLLECTION function

The STATISTICS_COLLECTION function of the STST gate is used to initiate a collection of statistics.

Input Parameters

COLLECTION_TYPE
indicates whether this is an interval collection or end-of-day collection of statistics.

Values for the parameter are:
`EOD`
`INT`

DATA
indicates whether the domain being called is requested to return its statistics to the caller.

Values for the parameter are:
`NO`
`YES`

END_OF_DAY
indicates whether all statistics fields are to be reset.

Values for the parameter are:
`NO`
`YES`

RESET
indicates whether certain statistics fields are to be reset.

Values for the parameter are:
`NO`
`YES`

SYSTEM_TERMINATING
Optional Parameter

indicates whether this is the last collection for the CICS run.
YES is used for the end-of-day collection that is taken when CICS is shut down.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Statistics domain's generic gates

Table 75 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 75. Statistics domain's generic gates

Gate	Trace	Functions	Format
DMDM	ST 0001 ST 0002	INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM
TISR	ST 0005 ST 0006	NOTIFY	TISR

In initialization processing, the statistics domain sets the initial statistics options:
- Collecting interval
- Logical end of day
- Collecting status.

For a cold start, the collecting interval defaults to 3 hours, the logical end of day defaults to midnight, and the collecting status defaults to ON; for any other type of start, the information comes from the global catalog.

In quiesce processing, the statistics domain collects and records statistics from all other domains.

In termination processing, the statistics domain collects and records end-of-day statistics.

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

"Timer domain's generic formats" on page 1790

Statistics domain's generic gates

Table 75 on page 1776 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 76. Statistics domain's generic gates

Gate	Trace	Functions	Format
DMDM	ST 0001 ST 0002	INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM
TISR	ST 0005 ST 0006	NOTIFY	TISR

In initialization processing, the statistics domain sets the initial statistics options:

- Collecting interval
- Logical end of day
- Collecting status.

For a cold start, the collecting interval defaults to 3 hours, the logical end of day defaults to midnight, and the collecting status defaults to ON; for any other type of start, the information comes from the global catalog.

In quiesce processing, the statistics domain collects and records statistics from all other domains.

In termination processing, the statistics domain collects and records end-of-day statistics.

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

"Timer domain's generic formats" on page 1790

Statistics domain's generic formats

Table 77 describes the generic formats owned by the domain and shows the functions performed on the calls.

Table 77. Statistics domain's generic formats

Format	Calling module	Function
STST	DFHEIQMS DFHSTST	COLLECT_RESOURCE_STATS COLLECT_STATISTICS

Note: In the descriptions of the formats, the input parameters are input not to the statistics domain, but to the domain being called by the statistics domain. Similarly, the output parameters are output by the domain that was called by the statistics domain, in response to the call.

STST gate, COLLECT_RESOURCE_STATS function

The COLLECT_RESOURCE_STATS function of the STST format is used by the EXEC API to ask a domain to collect its monitoring data collection information.

Input Parameters

RESOURCE_STATISTICS_DATA
specifies the address and length of the area into which the requested statistics are to be placed.

LONG_RESOURCE_ID_DATA
Optional Parameter

specifies the address and length of the resource identifier.

RESID_TOKEN
Optional Parameter

a token representing the resource id required.

RESOURCE_ID
Optional Parameter

specifies the address and length of the resource identifier.

RESOURCE_ID_2
Optional Parameter

specifies the address and length of the resource identifier.

RESOURCE_ID_3
Optional Parameter

specifies the address and length of the resource identifier.

RESOURCE_TYPE
Optional Parameter

is the type of resource on which statistics are required.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
ID_NOT_FOUND
NOT_AVAILABLE
TYPE_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LAST_RESET_TIME
Optional Parameter

indicates the time at which the statistics fields were last reset.

STST gate, COLLECT_STATISTICS function

The COLLECT_STATISTICS function of the STST format is used by the statistics domain to ask a domain to collect its statistics.

Input Parameters

DATA
: indicates whether the domain being called is requested to return its statistics to the caller.

  Values for the parameter are:
  - NO
  - YES

END_OF_DAY
: indicates whether all statistics fields are to be reset.

  Values for the parameter are:
  - NO
  - YES

RESET
: indicates whether certain statistics fields are to be reset.

  Values for the parameter are:
  - NO
  - YES

RESET_TIME
: is the time of day to be used as the time at which the statistics fields were last reset.

RESOURCE_TYPE
: Optional Parameter

  indicates the resource in the AP domain on which statistics are to be collected.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  - ABEND
  - LOOP

  The following values are returned when RESPONSE is EXCEPTION:
  - INCOMPLETE_DATA
  - NOT_AVAILABLE
  - TYPE_NOT_FOUND

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Modules

Module	Function
DFHSTDBX	Handles the following requests: INITIALIZE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN
DFHSTDUF	Formats the ST domain control blocks in a CICS system dump
DFHSTST	Handles the following requests: INQ_STATISTICS_OPTIONS RECORD_STATISTICS REQUEST_STATISTICS SET_STATISTICS_OPTIONS STATISTICS_COLLECTION DISABLE_STATISTICS

Module	Function
DFHSTTI	Handles the NOTIFY request
DFHSTTRI	Interprets ST domain trace entries
DFHSTUE	Provides a SET_EXIT_STATUS routine to enable or disable a user exit.

Chapter 108. Timer Domain (TI)

The timer domain provides interval timing and alarm clock services for CICS domains. These are processes that cause an action to occur at some predetermined future time. This service (called "notifying") can be performed after a specific interval, at periodic intervals, at a specified time of day, or at a specific time of day every day.

Timer Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the TI domain.

TIMF gate, CONVERT_TIME function

This function converts a time value in any of a number of formats into the CICS ABSTIME format.

Input Parameters

DATE_STRING
A human-readable text string containing a date and time value in one of the following formats:
- RFC3339
- RFC1123
- RFC1036
- asctime()

TODCLOCK
The time of day expressed in the format of the z/Series Time-of-Day clock.

UTCTIME
The time expressed in the UTCtime format that is used in X.509 certificates.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP
SEVERE_ERROR

The following values are returned when RESPONSE is EXCEPTION:
DAYNUM_INVALID
GMT_INCORRECT
INVALID_ABSTIME
MONTH_INVALID
TIME_INVALID
UNSUPPORTED_FORMAT
WEEKDAY_INVALID
YEAR_INVALID

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

The following values are returned when RESPONSE is INVALID:
NO_INPUT_TIME

ABSTIME

The time specified in ABSTIME format consisting of an eight-byte packed decimal number containing the number of milliseconds since midnight on 1 January 1900. The parameter can be specified in the range -9435484800000 to +255611289599999, corresponding to years from 1601 to 9999 respectively.

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TIMF gate, FORMAT_TIME function

This function formats a time specified in ABSTIME format into one or more date or time formats.

Input Parameters

ABSTIME

A time specified in ABSTIME format consisting of an eight-byte packed decimal number containing the number of milliseconds since midnight on 1 January 1900. The parameter can be specified in the range -9435484800000 to +255611289599999, corresponding to years from 1601 to 9999 respectively.

ZONE

Optional Parameter

The time zone associated with the **ABSTIME** parameter.

Values for the parameter are:

GMT
LOCAL

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

ABEND
LOOP
SEVERE_ERROR

The following values are returned when RESPONSE is EXCEPTION:

DAYNUM_INVALID
GMT_INCORRECT
INVALID_ABSTIME
MONTH_INVALID
TIME_INVALID
UNSUPPORTED_FORMAT
WEEKDAY_INVALID
YEAR_INVALID

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION

The following values are returned when RESPONSE is INVALID:

NO_INPUT_TIME

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BINARY_DAY

Optional Parameter

The day of the month, expressed as a binary number.

BINARY_DAY_OF_YEAR
: Optional Parameter

  The day of the year, expressed as a binary number.

BINARY_HOUR
: Optional Parameter

  The hours portion of the time in `hh:mm:ss.ddd` format, expressed as a binary number.

BINARY_MILLISECOND
: Optional Parameter

  The fractional seconds portion of the time in `hh:mm:ss.ddd` format, expressed as a binary number.

BINARY_MINUTE
: Optional Parameter

  The minute section of the time , expressed as a binary number.

BINARY_MONTH
: Optional Parameter

  The month of the year, expressed as a binary number.

BINARY_SECOND
: Optional Parameter

  The seconds portion of the time in `hh:mm:ss.ddd` format, expressed as a binary number.

BINARY_YEAR
: Optional Parameter

  The year, expressed as a binary number.

DAY
: Optional Parameter

  The day of the month.

DAY_OF_YEAR
: Optional Parameter

  The day of the year.

HOUR
: Optional Parameter

  The hours portion of the time in `hh:mm:ss.ddd` format.

JULIAN_DATE
: Optional Parameter

  The Julian date

MILLISECOND
: Optional Parameter

  The fractional seconds portion of the time in `hh:mm:ss.ddd` format, expressed as a binary number.

MINUTE
: Optional Parameter

  The minutes portion of the time in `hh:mm:ss.ddd` format, expressed as a binary number.

MONTH
: Optional Parameter

  The month of the year

RFC1123_DATE
: Optional Parameter

The date in RFC1123 format.

RFC3339_DATE
Optional Parameter

The date in RFC3339 format.

SECOND
Optional Parameter

The whole seconds portion of the time in `hh:mm:ss.ddd` format, expressed as a binary number.

TIMER_UNITS
Optional Parameter

The time expressed in zSeries timer units (1/300 second).

WEEKDAY_NUMBER
Optional Parameter

The index of the day within the week. Sunday has an index of 0.

YEAR
Optional Parameter

The year.

TIMF gate, INQUIRE_TIME function

This function returns the current time in one or more formats.

Input Parameters

ZONE
Optional Parameter

The time zone for which the time is to be returned.

Values for the parameter are:

```
GMT
LOCAL
```

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

```
ABEND
LOOP
SEVERE_ERROR
```

The following values are returned when RESPONSE is EXCEPTION:

```
DAYNUM_INVALID
GMT_INCORRECT
INVALID_ABSTIME
MONTH_INVALID
TIME_INVALID
UNSUPPORTED_FORMAT
WEEKDAY_INVALID
YEAR_INVALID
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
```

The following values are returned when RESPONSE is INVALID:

```
NO_INPUT_TIME
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ABSTIME
A time specified in ABSTIME format consisting of an eight-byte packed decimal number containing the number of milliseconds since midnight on 1 January 1900. The parameter can be specified in the range -9435484800000 to +255611289599999, corresponding to years from 1601 to 9999 respectively.

BINARY_DAY
Optional Parameter

The day of the month, expressed as a binary number.

BINARY_DAY_OF_YEAR
Optional Parameter

The day of the year, expressed as a binary number.

BINARY_HOUR
Optional Parameter

The hours portion of the time in `hh:mm:ss.ddd` format, expressed as a binary number.

BINARY_MILLISECOND
Optional Parameter

The fractional seconds portion of the time in `hh:mm:ss.ddd` format, expressed as a binary number.

BINARY_MINUTE
Optional Parameter

The minute section of the time , expressed as a binary number.

BINARY_MONTH
Optional Parameter

The month of the year, expressed as a binary number.

BINARY_SECOND
Optional Parameter

The seconds portion of the time in `hh:mm:ss.ddd` format, expressed as a binary number.

BINARY_YEAR
Optional Parameter

The year, expressed as a binary number.

DAY
Optional Parameter

The day of the month.

DAY_OF_YEAR
Optional Parameter

The day of the year.

HOUR
Optional Parameter

The hours portion of the time in `hh:mm:ss.ddd` format.

JULIAN_DATE
Optional Parameter

The Julian date

MILLISECOND
Optional Parameter

The fractional seconds portion of the time in `hh:mm:ss.ddd` format, expressed as a binary number.

`MINUTE`
Optional Parameter

The minutes portion of the time in `hh:mm:ss.ddd` format, expressed as a binary number.

`MONTH`
Optional Parameter

The month of the year

`RFC1123_DATE`
Optional Parameter

The date in RFC1123 format.

`RFC3339_DATE`
Optional Parameter

The date in RFC3339 format.

`SECOND`
Optional Parameter

The whole seconds portion of the time in `hh:mm:ss.ddd` format, expressed as a binary number.

`TIMER_UNITS`
Optional Parameter

The time expressed in zSeries timer units (1/300 second).

`TODCLOCK`
Optional Parameter

The time of day expressed in the format of the z/Series Time-of-Day clock.

`WEEKDAY_NUMBER`
Optional Parameter

The index of the day within the week. Sunday has an index of 0.

`YEAR`
Optional Parameter

The year.

TISR gate, CANCEL function

The CANCEL function of the TISR gate is used to cancel a timer request that has already been initiated by one of these functions:

Input Parameters

`TIMER_TOKEN`
is the token that was returned when the timer request was made.

Output Parameters

`REASON`
The values for the parameter are:
`REQUEST_NOT_FOUND`
`TOO_LATE`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

TISR gate, INQUIRE_EXPIRATION_TOKEN function

The INQUIRE_EXPIRATION_TOKEN function of the TISR gate is used by the dispatcher domain during its initialization.

Output Parameters

EXPIRATION_TOKEN
is a token used during initialization of the dispatcher domain.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TISR gate, REQUEST_NOTIFY_INTERVAL function

The REQUEST_NOTIFY_INTERVAL function of the TISR gate is used to request the timer domain to notify the calling domain after a specified real interval of time. The calling domain can request a NOTIFY on a one-off basis or periodically, and can specify the type of NOTIFY to be expected.

Input Parameters

DOMAIN_TOKEN
is a token that is to be passed as a parameter on the NOTIFY call.

NOTIFY_TYPE
specifies whether the attached task or the timer task is to be used to notify the calling domain after the specified interval of time.

Values for the parameter are:
ATTACHED_TASK
TIMER_TASK

PERIODIC_NOTIFY
specifies whether the requested NOTIFY is to be repeated at the specified interval until canceled (YES), or is to be just a one-off NOTIFY (NO).

Values for the parameter are:
NO
YES

STCK_INTERVAL
specifies an interval as a doubleword binary interval in stored clock (STCK) format, where bit 51 of the doubleword represents 1 microsecond.

ATTACH_MODE
Optional Parameter

is the optional TCB mode in which the attached NOTIFY task is to run.

Values for the parameter are:
CO
FO
QR
RO

ATTACH_PRIORITY
Optional Parameter

defines the priority, in the range 0 through 255, at which the requested NOTIFY task is to be attached.

ATTACH_TASK_TIMEOUT
Optional Parameter

defines the value, in seconds, of a wait in the attached task after which the dispatcher causes a time-out.

ORIGIN_DATE
Optional Parameter

defines the date from which the timer domain is to start the interval timing for this request. This parameter is mandatory if ORIGIN_TIME has been specified. It holds the origin date as MMDDYYYY.

ORIGIN_TIME
Optional Parameter

defines the local time of day from which the timer domain is to start the interval timing for this request. The value in decimal digits is specified in the form HHMMSS:

HH	Hours in the range 00 through 23
MM	Minutes in the range 00 through 59
SS	Seconds in the range 00 through 59

Output Parameters

REASON
The values for the parameter are:
`INVALID_INTERVAL`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TIMER_TOKEN
is the token that is returned by the timer domain. The timer token may be used to cancel the NOTIFY request.

TISR gate, REQUEST_NOTIFY_TIME_OF_DAY function

The REQUEST_NOTIFY_TIME_OF_DAY function of the TISR gate is used to inform the timer domain that an alarm call is required from the timer domain (that is, a NOTIFY) at the specified time of day. The calling domain can request a NOTIFY on a one-off basis or daily, and the type of NOTIFY to be expected.

Input Parameters

DOMAIN_TOKEN
is a token that is to be passed as a parameter on the NOTIFY call.

NOTIFY_TYPE
specifies whether the attached task or the timer task is to be used to notify the calling domain after the specified interval of time.

Values for the parameter are:
`ATTACHED_TASK`
`TIMER_TASK`

PERIODIC_NOTIFY
specifies whether the requested NOTIFY is to be repeated at the specified interval until canceled (YES), or is to be just a one-off NOTIFY (NO).

Values for the parameter are:
`NO`
`YES`

REQUESTED_TIME
is the time of day at which the NOTIFY function is to be invoked. The value is specified in the form HHMMSS.

ATTACH_MODE
Optional Parameter

is the optional TCB mode in which the attached NOTIFY task is to run.

Values for the parameter are:
`CO`
`FO`
`QR`
`RO`

`ATTACH_PRIORITY`
Optional Parameter

defines the priority, in the range 0 through 255, at which the requested NOTIFY task is to be attached.

`ATTACH_TASK_TIMEOUT`
Optional Parameter

defines the value, in seconds, of a wait in the attached task after which the dispatcher causes a time-out.

Output Parameters

`REASON`
The values for the parameter are:
`TOO_LATE`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

`TIMER_TOKEN`
is the token that is returned by the timer domain. The timer token may be used to cancel the NOTIFY request.

Timer domain's generic gates

Table 78 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 78. Timer domain's generic gates

Gate	Trace	Functions	Format
DMDM	TI 0001 TI 0002	INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM

In initialization and quiesce processing, the timer domain performs only internal routines.

The timer domain does no termination processing.

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

Timer domain's generic formats

Table 79 describes the generic formats owned by the application domain and shows the functions performed on the calls.

Table 79. Timer domain's generic formats

Format	Calling module	Function
TISR	DFHTISR	NOTIFY

Note: In the descriptions of the formats that follow, the input parameters are input not to the timer domain, but to the domain being called by the timer domain. Similarly, the output parameters are output by the domain that was called by the timer domain, in response to the call.

TISR gate, NOTIFY function

The NOTIFY function of the TISR format is used by the timer domain itself to notify a domain after its requested interval or time has expired.

Input Parameters

DOMAIN_TOKEN
is a token that is to be passed as a parameter on the NOTIFY call.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

Modules

Module	Function
DFHTIDM	Handles the following requests: INITIALIZE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN
DFHTIDUF	Formats the timer domain's control blocks
DFHTISR	Handles the following requests: REQUEST_NOTIFY_INTERVAL REQUEST_NOTIFY_TIME_OF_DAY CANCEL INQUIRE_EXPIRATION_TOKEN
DFHTITRI	Interprets timer domain trace entries

Chapter 109. Trace Domain (TR)

The trace domain is used by CICS system code and user application programs to record details of the sequence of events occurring in the system. The basic unit of information created for this purpose is called a *trace entry*. The trace domain can put trace entries to any combination of three possible destinations:

Trace Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the TR domain.

TRFT gate, TRACE_PUT function

This function is invoked to write a feature trace entry to the active trace destinations.

Input Parameters

FEATURE_TRACE_TOKEN
A token that the feature uses to identify itself to the CICS trace domain.

POINT_ID
is a number, unique within the calling domain, that identifies the trace entries made from this call.

DATA1
DATA2
DATA3
DATA4
DATA5
DATA6
DATA7
Optional Parameter

BLOCK descriptions of up to seven areas to be included in the data section of the trace entry. They appear in numerical order in the entry, each preceded by a 2-byte length field.
The maximum total length of data that can be traced in one call is as described below:

```
Length of trace table block              4096
less length of trace table block header  -   24
less length of trace entry header        -   32
                                         ------
Maximum space for data + length fields     4040
For each DATA field specified, 2 bytes must be
subtracted to allow for the length field.
Maximum space for actual data  =  4040 - (2 * n)
where 'n' is the number of DATA fields specified.
```

EXCEPTION_TRACE
Optional Parameter

A binary value indicating whether the trace entry is for an exception trace.

Values for the parameter are:
NO
YES

RETURN_ADDR
Optional Parameter

is used by DFHTRP to give a return address in the trace entry from the calling module rather than in DFHTRP.

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
DEREGISTERED_FEATURE
INV_FEATURE_TRACE_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TRPT gate, TRACE_PUT function

This function is invoked to write a trace entry to the active trace destinations.

Input Parameters

POINT_ID
is a number, unique within the calling domain, that identifies the trace entries made from this call.

DATA1
DATA2
DATA3
DATA4
DATA5
DATA6
DATA7
Optional Parameter

are BLOCK descriptions of up to seven areas to be included in the data section of the trace entry. They appear in numerical order in the entry, each preceded by a 2-byte length field.
The maximum total length of data that can be traced in one call is as described below:

```
Length of trace table block              4096
less length of trace table block header  -   24
less length of trace entry header        -   32
                                         ------
Maximum space for data + length fields     4040
For each DATA field specified, 2 bytes must be
subtracted to allow for the length field.
Maximum space for actual data  =  4040 - (2 * n)
where 'n' is the number of DATA fields specified.
```

DOMAIN_TOKEN
Optional Parameter

A token that identifies the calling domain to the trace domain.

RETURN_ADDR
Optional Parameter

is used by DFHTRP to give a return address in the trace entry from the calling module rather than in DFHTRP.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TRSR gate, ACTIVATE_TRAP function

The ACTIVATE_TRAP function of the TRSR gate is used to activate the FE global trap/trace exit (DFHTRAP).

Output Parameters

REASON
: The values for the parameter are:
  `DFHTRAP_NOT_FOUND`
  `DFHTRAP_UNUSABLE`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TRSR gate, DEACTIVATE_TRAP function

The DEACTIVATE_TRAP function of the TRSR gate is used to deactivate the FE global trap/trace exit (DFHTRAP).

Output Parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

REASON
: Optional Parameter

  The values for the parameter are:
  `AUX_TRACE_STOPPED`
  `CANT_GET_AUX_BUFFER`
  `CANT_GET_GTF_BUFFER`
  `DFHTRAO_NOT_AVAILABLE`
  `DFHTRAP_NOT_FOUND`
  `DFHTRAP_UNUSABLE`
  `INVALID_AUTOSWITCH_STATUS`
  `INVALID_TABLE_SIZE`
  `NO_SPACE`
  `OPEN_FAILED`

TRSR gate, INQUIRE_AUXILIARY_TRACE function

The INQUIRE_AUXILIARY_TRACE function of the TRSR gate is used to return the current state of the auxiliary trace.

Output Parameters

AUTOSWITCH_STATUS
: Indicates whether or not an automatic switch to the inactive CICS auxiliary extent is to occur once only when the current extent fills up, or that such automatic switching should occur "continuously" whenever the current extent fills up.

  Values for the parameter are:
  `CONTINUOUS`
  `OFF`
  `ONCE`

AUXILIARY_STATUS
: Indicates the current status of auxiliary trace.

  Values for the parameter are:
  `PAUSED`

STARTED
STOPPED

EXTENT
indicates the currently active CICS auxiliary trace extent; that is, the extent that is already in use or is used if CICS auxiliary tracing is started.

Values for the parameter are:
DFHAUXT
DFHBUXT

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

REASON
Optional Parameter

The values for the parameter are:
AUX_TRACE_STOPPED
CANT_GET_AUX_BUFFER
CANT_GET_GTF_BUFFER
DFHTRAO_NOT_AVAILABLE
DFHTRAP_NOT_FOUND
DFHTRAP_UNUSABLE
INVALID_AUTOSWITCH_STATUS
INVALID_TABLE_SIZE
NO_SPACE
OPEN_FAILED

TRSR gate, INQUIRE_GTF_TRACE function

The INQUIRE_GTF_TRACE function of the TRSR gate is used to return the current state of the GTF trace.

Output Parameters

GTF_STATUS
indicates whether CICS tracing to GTF is active (STARTED) or inactive (STOPPED).

Values for the parameter are:
STARTED
STOPPED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

REASON
Optional Parameter

The values for the parameter are:
AUX_TRACE_STOPPED
CANT_GET_AUX_BUFFER
CANT_GET_GTF_BUFFER
DFHTRAO_NOT_AVAILABLE
DFHTRAP_NOT_FOUND
DFHTRAP_UNUSABLE
INVALID_AUTOSWITCH_STATUS
INVALID_TABLE_SIZE
NO_SPACE
OPEN_FAILED

TRSR gate, INQUIRE_INTERNAL_TRACE function

The INQUIRE_INTERNAL_TRACE function of the TRSR gate is used to return the status of the internal trace and the current size of the internal trace table.

Output Parameters

INTERNAL_STATUS
indicates whether internal trace is active (STARTED) or inactive (STOPPED).

Values for the parameter are:
STARTED
STOPPED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TABLE_SIZE
is the size of the current internal trace table in KB (KB equals 1024 bytes).

REASON
Optional Parameter

The values for the parameter are:
AUX_TRACE_STOPPED
CANT_GET_AUX_BUFFER
CANT_GET_GTF_BUFFER
DFHTRAO_NOT_AVAILABLE
DFHTRAP_NOT_FOUND
DFHTRAP_UNUSABLE
INVALID_AUTOSWITCH_STATUS
INVALID_TABLE_SIZE
NO_SPACE
OPEN_FAILED

TRSR gate, PAUSE_AUXILIARY_TRACE function

The PAUSE_AUXILIARY_TRACE function of the TRSR gate is used to stop auxiliary tracing without closing the currently active extent.

Output Parameters

REASON
The values for the parameter are:
AUX_TRACE_STOPPED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TRSR gate, SET_AUX_TRACE_AUTOSWITCH function

The SET_AUX_TRACE_AUTOSWITCH function of the TRSR gate is used to allow the autoswitch facility for the CICS auxiliary trace data set to be enabled or disabled.

Input Parameters

AUTOSWITCH_STATUS
Indicates whether or not an automatic switch to the inactive CICS auxiliary extent is to occur once only when the current extent fills up, or that such automatic switching should occur "continuously" whenever the current extent fills up.

Values for the parameter are:

CONTINUOUS
OFF
ONCE

Output Parameters

REASON
The values for the parameter are:
INVALID_AUTOSWITCH_STATUS

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TRSR gate, SET_INTERNAL_TABLE_SIZE function

The SET_INTERNAL_TABLE_SIZE function of the TRSR gate is used to change the size of the internal trace table during a CICS(R) run.

Input Parameters

TABLE_SIZE
is the required table size, specified as a number of KB (KB equals 1024 bytes). This is rounded up to the nearest multiple of 4KB. The lower limit is 16KB. The upper limit is set only by the amount of storage available. If the table is being made larger, the existing table is freed and a variable MVS GETMAIN issued for the required size. The actual length of the new table can be determined by issuing an INQUIRE_INTERNAL_TRACE command. If the table is being made smaller, part of the existing table is freed.

Output Parameters

REASON
The values for the parameter are:
INVALID_TABLE_SIZE
NO_SPACE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TRSR gate, START_AUXILIARY_TRACE function

The START_AUXILIARY_TRACE function of the TRSR gate is used to open the current auxiliary trace extent (if it is closed) and start tracing to it.

Output Parameters

REASON
The values for the parameter are:
CANT_GET_AUX_BUFFER
DFHTRAO_NOT_AVAILABLE
OPEN_FAILED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TRSR gate, START_GTF_TRACE function

The START_GTF_TRACE function of the TRSR gate is used to start the tracing of CICS activity to GTF. It is the responsibility of the user to ensure that GTF has been started in MVS with at least TRACE=USR. If it has not, CICS issues the GTF calls but they are ignored by GTF.

Output Parameters

REASON
: The values for the parameter are:
  `CANT_GET_GTF_BUFFER`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TRSR gate, START_INTERNAL_TRACE function

The START_INTERNAL_TRACE function of the TRSR gate is used to activate tracing to the internal trace table.

Output Parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

REASON
: Optional Parameter

  The values for the parameter are:
  `AUX_TRACE_STOPPED`
  `CANT_GET_AUX_BUFFER`
  `CANT_GET_GTF_BUFFER`
  `DFHTRAO_NOT_AVAILABLE`
  `DFHTRAP_NOT_FOUND`
  `DFHTRAP_UNUSABLE`
  `INVALID_AUTOSWITCH_STATUS`
  `INVALID_TABLE_SIZE`
  `NO_SPACE`
  `OPEN_FAILED`

TRSR gate, STOP_AUXILIARY_TRACE function

The STOP_AUXILIARY_TRACE function of the TRSR gate is used to stop auxiliary tracing and close the currently active auxiliary trace extent.

Output Parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

REASON
: Optional Parameter

  The values for the parameter are:
  `AUX_TRACE_STOPPED`
  `CANT_GET_AUX_BUFFER`
  `CANT_GET_GTF_BUFFER`
  `DFHTRAO_NOT_AVAILABLE`
  `DFHTRAP_NOT_FOUND`
  `DFHTRAP_UNUSABLE`
  `INVALID_AUTOSWITCH_STATUS`
  `INVALID_TABLE_SIZE`
  `NO_SPACE`
  `OPEN_FAILED`

TRSR gate, STOP_GTF_TRACE function

The STOP_GTF_TRACE function of the TRSR gate is used to stop tracing of CICS activity to GTF.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

REASON
Optional Parameter

The values for the parameter are:
```
AUX_TRACE_STOPPED
CANT_GET_AUX_BUFFER
CANT_GET_GTF_BUFFER
DFHTRAO_NOT_AVAILABLE
DFHTRAP_NOT_FOUND
DFHTRAP_UNUSABLE
INVALID_AUTOSWITCH_STATUS
INVALID_TABLE_SIZE
NO_SPACE
OPEN_FAILED
```

TRSR gate, STOP_INTERNAL_TRACE function

The STOP_INTERNAL_TRACE function of the TRSR gate is used to deactivate tracing to the internal trace table.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

REASON
Optional Parameter

The values for the parameter are:
```
AUX_TRACE_STOPPED
CANT_GET_AUX_BUFFER
CANT_GET_GTF_BUFFER
DFHTRAO_NOT_AVAILABLE
DFHTRAP_NOT_FOUND
DFHTRAP_UNUSABLE
INVALID_AUTOSWITCH_STATUS
INVALID_TABLE_SIZE
NO_SPACE
OPEN_FAILED
```

TRSR gate, SWITCH_AUXILIARY_EXTENTS function

The SWITCH_AUXILIARY_EXTENTS function of the TRSR gate allows switching from one auxiliary trace extent to the other.

Output Parameters

REASON
The values for the parameter are:
```
OPEN_FAILED
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Trace domain's generic gates

Table 80 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 80. Trace domain's generic gates

Gate	Trace	Functions	Format
DMDM	ST 0001 ST 0002	PRE_INITIALIZE INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM
KETI	TR 0201 TR 0202	NOTIFY_RESET	KETI

In preinitialization processing, the trace domain establishes the initial tracing status:

- A suitably sized internal trace table is created.
- If internal tracing or GTF tracing is required, set on the trace master flag.
- If required, start internal tracing and CICS GTF tracing.
- As required, set the auxiliary tracing switch status to 'started' or 'stopped'.

The information always comes from the system initialization parameters - trace domain is always cold started.

In initialization processing, the trace domain starts auxiliary tracing if it is required.

The trace domain does no quiesce processing.

In termination processing, the trace domain stops auxiliary tracing if it is active.

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

"Kernel domain generic formats" on page 1244

Modules

Module	Function
	DFHTRDM Part of the DFHSIP load module. DFHTRPT DFHTRPX Processes, within the calling domain, all TRACE_PUT requests that do not require special handling. Part of the DFHSIP load module. DFHTRSR Processes requests to the TRSR and KETI gates of the trace domain. Part of the DFHSIP load module. DFHTRSU Processes domain subroutine requests of format TRSU. Part of the DFHSIP load module. DFHTRAO Auxiliary trace output subroutines for interfacing with BSAM. Loaded separately below the 16MB line when auxiliary trace is started. DFHTRAP FE global trap/trace exit program. Loaded separately above the 16MB line when the trap is activated.

Module	Function
DFHTRAO	Auxiliary trace output subroutines for interfacing with BSAM. Loaded separately below the 16MB line when auxiliary trace is started.
DFHTRAP	FE global trap/trace exit program. Loaded separately above the 16MB line when the trap is activated.
DFHTRDM	Processes requests to the DMDM gate of the trace domain. Part of the DFHSIP load module.
DFHTRPT	Processes requests to the TRPT gate of the trace domain. Part of the DFHSIP load module.
DFHTRPX	Processes, within the calling domain, all TRACE_PUT requests that do not require special handling. Part of the DFHSIP load module.
DFHTRSR	Processes requests to the TRSR and KETI gates of the trace domain. Part of the DFHSIP load module.
DFHTRSU	Processes domain subroutine requests of format TRSU. Part of the DFHSIP load module.

Chapter 110. Temporary Storage Domain (TS)

The temporary storage domain manages temporary storage requests.

Temporary Storage Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the TS domain.

TSAD gate, ADD_REPLACE_TSMODEL function

Add or replace a temporary storage model

Input Parameters

MAIN
A binary value that specifies whether queues matching this model are to be held in main storage. If **MAIN(NO)** is specified, the queues are held in auxiliary main storage.

Values for the parameter are:
NO
YES

PREFIX
The character string that is to be used as the prefix for this model. The prefix may be up to 16 characters in length.

RECOVERABLE
A binary value that specifies whether queues matching this model are to be recoverable.

Values for the parameter are:
NO
YES

SECURITY
A binary value that specifies whether security checking is to be performed for queues matching this model.

Values for the parameter are:
NO
YES

TSMODEL_NAME
The name of the temporary storage model.

POOL_NAME
Optional Parameter

The 8-character name of the shared TS pool associated with the model.

REMOTE_PREFIX
Optional Parameter

The character string that is to be used as the prefix on the remote system. The prefix may be up to 16 characters in length.

SYSID
Optional Parameter

The name of the to the remote system where the temporary storage queue resides.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  DUPLICATE_PREFIX
  INVALID_NAME
  INVALID_PREFIX
  INVALID_REMOTE_PREFIX
  RDO_DISABLED

DUPLICATE_PREFIX_NAME
: When **REASON(DUPLICATE_PREFIX)** is returned, the name of the existing prefix that clashes with the prefix for this model.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TSAD gate, DELETE_TSMODEL function

Delete a temporary storage model.

Input Parameters

TSMODEL_NAME
: The name of the model to be deleted.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  NOT_FOUND
  RDO_DISABLED

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TSAD gate, INITIALISE function

Initialize temporary storage models from the catalog.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  DUPLICATE_PREFIX
  INVALID_NAME
  INVALID_PREFIX
  INVALID_REMOTE_PREFIX
  NOT_FOUND
  RDO_DISABLED

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TSBR gate, CHECK_PREFIX function

Checks whether there are any queues with the prefix provided.

Input Parameters

PREFIX
: The queue prefix to be checked.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  - DUPLICATE
  - NOT_FOUND

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TSBR gate, END_BROWSE function

Ends the browse.

Input Parameters

BROWSE_TOKEN
: A token that identifies the browse session.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  - BROWSE_END
  - DUPLICATE
  - NOT_FOUND
  - QUEUE_NOT_FOUND

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TSBR gate, GET_NEXT function

Returns information about the next queue in the browse.

Input Parameters

BROWSE_TOKEN
: A token that represents the browse session.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  - BROWSE_END

QUEUE_NAME
: is the name of the queue.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CREATION_TIME
: Optional Parameter

  is the time at which the queue was created.

LAST_REFERENCED_TIME
: Optional Parameter

  is the time at which the queue was last referenced.

MAXIMUM_ITEM_LENGTH
: Optional Parameter

  is the length of the longest item in the queue.

MINIMUM_ITEM_LENGTH
Optional Parameter

is the length of the shortest item in the queue.

RECOVERABLE
Optional Parameter

returns whether the queue is recoverable or not.

Values for the parameter are:
NO
YES

STORAGE_TYPE
Optional Parameter

indicates whether the queue is held in main or auxiliary storage.

Values for the parameter are:
AUXILIARY
MAIN

TOTAL_ITEMS
Optional Parameter

is the total number of items in the queue on completion of the operation.

TOTAL_LENGTH
Optional Parameter

is the sum of the lengths of all the items in the queue.

TRANSID
Optional Parameter

is the id of the transaction whcih created the queue.

TSBR gate, INQUIRE_QUEUE function

Input Parameters

QUEUE_NAME
is the name of the queue being created or appended to.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
QUEUE_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CREATION_TIME
Optional Parameter

is the time at which the queue was created.

LAST_REFERENCED_TIME
Optional Parameter

is the time at which the queue was last referenced.

MAXIMUM_ITEM_LENGTH
Optional Parameter

is the length of the longest item in the queue.

MINIMUM_ITEM_LENGTH
Optional Parameter

is the length of the shortest item in the queue.

QUEUE_TYPE
Optional Parameter

The type of queue.

Values for the parameter are:
CICS
USER

RECOVERABLE
Optional Parameter

returns whether the queue is recoverable or not.

Values for the parameter are:
NO
YES

STORAGE_TYPE
Optional Parameter

indicates whether the queue is held in main or auxiliary storage.

Values for the parameter are:
AUXILIARY
MAIN

TOTAL_ITEMS
Optional Parameter

is the total number of items in the queue on completion of the operation.

TOTAL_LENGTH
Optional Parameter

is the sum of the lengths of all the items in the queue.

TRANSID
Optional Parameter

is the id of the transaction whcih created the queue.

TSBR gate, START_BROWSE function

Input Parameters

QUEUE_NAME
Optional Parameter

is the name of the queue being created or appended to.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
BROWSE_END
DUPLICATE
NOT_FOUND
QUEUE_NOT_FOUND

BROWSE_TOKEN
A token that represents the browse session.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TSMB gate, END_BROWSE function

End the browse operation on the set of temporary storage models.

Input Parameters

BROWSE_TOKEN
: See “The **BROWSE_TOKEN** parameter on domain interfaces” on page 9

Output Parameters

REASON
: The values for the parameter are:
  `INVALID_BROWSE_TOKEN`

RESPONSE
: Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

TSMB gate, GET_NEXT function

In a browse operation, return information about a temporary storage model.

Input Parameters

BROWSE_TOKEN
: See “The **BROWSE_TOKEN** parameter on domain interfaces” on page 9

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `BROWSE_END`
  `INVALID_BROWSE_TOKEN`

RESPONSE
: Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

TSMODEL_NAME
: The name of the temporary storage model.

MAIN
: Optional Parameter

  A binary value that indicates whether the temporary storage queues that match this model are to be held in main storage. If MAIN(NO) is specified, the queues are held on auxiliary storage.

  Values for the parameter are:
  `NO`
  `YES`

POOL_NAME
: Optional Parameter

  The name of the shared temporary storage pool uses with the model.

PREFIX
: Optional Parameter

  The character string used as a prefix for queues that match the temporary storage model.

RECOVERABLE
: Optional Parameter

  A binary value that indicates whether the queue is recoverable.

  Values for the parameter are:
  `NO`
  `YES`

REMOTE_PREFIX
: Optional Parameter

The character string used as a prefix on a remote system for queues that match the temporary storage model.

SECURITY
Optional Parameter

A binary value that indicates whether security checking is to be performed for queues that match this model.

Values for the parameter are:
`NO`
`YES`

SYSID
Optional Parameter

The name of the connection to the remote system where the temporary storage queue resides.

TSMB gate, INQUIRE_TSMODEL function

Inquire on the attributes of a TS model.

Input Parameters

TSMODEL_NAME
The name of the temporary storage model.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`NOT_FOUND`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MAIN
A binary value that specifies whether queues matching this model are to be held in main storage. If **MAIN(NO)** is specified, the queues are held in auxiliary main storage.

Values for the parameter are:
`NO`
`YES`

POOL_NAME
Optional Parameter

The 8-character name of the shared TS pool associated with the model.

PREFIX
The character string that is to be used as the prefix for this model. The prefix may be up to 16 characters in length.

RECOVERABLE
A binary value that specifies whether queues matching this model are to be recoverable.

Values for the parameter are:
`NO`
`YES`

REMOTE_PREFIX
Optional Parameter

The character string that is to be used as the prefix on the remote system. The prefix may be up to 16 characters in length.

SECURITY
A binary value that specifies whether security checking is to be performed for queues matching this model.

Values for the parameter are:
`NO`
`YES`

SYSID
Optional Parameter

The name of the to the remote system where the temporary storage queue resides.

TSMB gate, MATCH function

Find model which is the best match with the queue name provided.

Input Parameters

QUEUE_NAME
The name of the queue to be matched with temporary storage models.

SEARCH
Optional Parameter

Specifies whether the search is confined to temporary storage models, or extended to the cache of models for the current unit of work.

Values for the parameter are:
`MODELS_ONLY`
`UOW_CACHE`

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`BROWSE_END`
`INVALID_BROWSE_TOKEN`
`NOT_FOUND`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

MAIN
Optional Parameter

A binary value that indicates whether the temporary storage queues that match this model are to be held in main storage. If MAIN(NO) is specified, the queues are held on auxiliary storage.

Values for the parameter are:
`NO`
`YES`

POOL_NAME
Optional Parameter

The name of the shared temporary storage pool uses with the model.

POOL_TOKEN
Optional Parameter

A token that identifies the temporary storage pool associated with the pool name.

PREFIX
Optional Parameter

The character string used as a prefix for queues that match the temporary storage model.

RECOVERABLE
Optional Parameter

A binary value that indicates whether the queue is recoverable.

Values for the parameter are:
`NO`
`YES`

REMOTE_NAME
Optional Parameter

The name of the temporay storage queue on the remote system.

REMOTE_PREFIX
Optional Parameter

The character string that is used as the prefix on the remote system.

SECURITY
Optional Parameter

A binary value that indicates whether security checking is to be performed for queues that match this model.

Values for the parameter are:
`NO`
`YES`

SYSID
Optional Parameter

The name of the connection to the remote system where the temporary storage queue resides.

TSMODEL_NAME
Optional Parameter

The name of the matching temporary storage model.

TSMB gate, START_BROWSE function

Start a browse operation on temporary storage models.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`BROWSE_END`
`INVALID_BROWSE_TOKEN`
`NOT_FOUND`

BROWSE_TOKEN
See “The **BROWSE_TOKEN** parameter on domain interfaces” on page 9

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

TSPT gate, GET function

This function retrieves the first item in a "put" queue.

Input Parameters

ITEM_BUFFER
: specifies the address (item_buffer_p) and maximum length (item_buffer_m) of the data area into which the data will be read. The actual data length is returned in item_buffer_n.

QUEUE_NAME
: is the name of the queue being created or appended to.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  - INVALID_QUEUE_NAME
  - INVALID_QUEUE_TYPE
  - IO_ERROR
  - QUEUE_NOT_FOUND

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FMH
: Optional Parameter

  indicates whether the data contains an FMH.

  Values for the parameter are:
  - NO
  - YES

TSPT gate, GET_RELEASE function

This function retrieves and deletes the first item in a "put" queue. If the queue has one item, the queue is deleted.

Input Parameters

ITEM_BUFFER
: specifies the address (item_buffer_p) and maximum length (item_buffer_m) of the data area into which the data will be read. The actual data length is returned in item_buffer_n.

QUEUE_NAME
: is the name of the queue being created or appended to.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  - INVALID_QUEUE_NAME
  - INVALID_QUEUE_TYPE
  - IO_ERROR
  - LOCKED
  - QUEUE_DELETED
  - QUEUE_NOT_FOUND

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FMH
: Optional Parameter

  indicates whether the data contains an FMH.

  Values for the parameter are:

`NO`
`YES`

TSPT gate, GET_RELEASE_SET function

This function retrieves the first item in a "put" queue into set storage and then deletes it. If the queue has one item, the queue is deleted.

Input Parameters

`QUEUE_NAME`
is the name of the queue being created or appended to.

Output Parameters

`REASON`
The following values are returned when RESPONSE is EXCEPTION:
`INVALID_QUEUE_NAME`
`INVALID_QUEUE_TYPE`
`IO_ERROR`
`LOCKED`
`QUEUE_DELETED`
`QUEUE_NOT_FOUND`

`ITEM_DATA`
returns the address and length of the item data.

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

`FMH`
Optional Parameter

indicates whether the data contains an FMH.

Values for the parameter are:
`NO`
`YES`

TSPT gate, GET_SET function

This function retrieves the first item in a "put" queue into a set storage area.

Input Parameters

`QUEUE_NAME`
is the name of the queue being created or appended to.

Output Parameters

`REASON`
The following values are returned when RESPONSE is EXCEPTION:
`INVALID_QUEUE_NAME`
`INVALID_QUEUE_TYPE`
`IO_ERROR`
`QUEUE_NOT_FOUND`

`ITEM_DATA`
returns the address and length of the item data.

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

`FMH`
Optional Parameter

indicates whether the data contains an FMH.

Values for the parameter are:
- NO
- YES

TSPT gate, PUT function

If the queue does not already exist, this function creates a queue with the single item provided.

Input Parameters

ITEM_DATA
is the address and length of the item being written.

QUEUE_NAME
is the name of the queue being created or appended to.

SUSPEND
indicates whether or not the request will be suspended if there is insufficient auxiliary storage to satisfy the request. This option is ignored if the queue is in main storage.

Values for the parameter are:
- NO
- YES

BMS
Optional Parameter

indicates whether or not BMS owns this queue.

Values for the parameter are:
- NO
- YES

FMH
Optional Parameter

indicates whether the data contains an FMH.

Values for the parameter are:
- NO
- YES

IC Optional Parameter

this option indicates whether or not Interval Control owns this queue. If the queue already exists and is an IC queue then IC(YES) must be specified on the request. Otherwise an INVALID response is returned.

Values for the parameter are:
- NO
- YES

IC_DATA
Optional Parameter

is the address and length of an optional ICE.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- DUPLICATE_NAME
- INSUFFICIENT_STORAGE
- INVALID_LENGTH
- INVALID_QUEUE_NAME

INVALID_QUEUE_TYPE
IO_ERROR
LOCKED
QUEUE_DELETED
QUEUE_FULL
QUEUE_REMOTE

QUEUE_CREATION_TIME
returns the store clock time at which the queue was created.

RECOVERABLE
returns whether the queue is recoverable or not.

Values for the parameter are:
NO
YES

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TSPT gate, PUT_REPLACE function

If the queue does not exist, this function creates the queue with the item provided. If the queue does exist, the first item in the queue is replaced by the item provided.

Input Parameters

ITEM_DATA
is the address and length of the item being written.

QUEUE_NAME
is the name of the queue being created or appended to.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
INVALID_LENGTH
INVALID_QUEUE_NAME
INVALID_QUEUE_TYPE
IO_ERROR
LOCKED
QUEUE_DELETED
QUEUE_REMOTE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TSPT gate, RELEASE function

This function deletes a "put" queue.

Input Parameters

QUEUE_NAME
is the name of the queue being created or appended to.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
INVALID_QUEUE_NAME
INVALID_QUEUE_TYPE

LOCKED
QUEUE_DELETED
QUEUE_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TSQR gate, ALLOCATE_SET_STORAGE function

This function allocates set storage of the requested length.

Input Parameters

REQUESTED_LENGTH
The desired length of the storage to be allocated.

CALLER
Optional Parameter

indicates whether this request originated from an EXEC or macro call. The default is MACRO.

Values for the parameter are:
EXEC
MACRO

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
INSUFFICIENT_STORAGE
INVALID_LENGTH
INVALID_QUEUE_NAME
INVALID_QUEUE_TYPE
IO_ERROR
ITEM_NOT_FOUND
LOCKED
QUEUE_DELETED
QUEUE_FULL
QUEUE_NOT_FOUND
QUEUE_REFERENCED
QUEUE_REMOTE

ADDRESS
The address of the allocated storage.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACTUAL_LENGTH
Optional Parameter

The actual length of the allocated storage.

TSQR gate, DELETE function

This function deletes the specified queue.

Input Parameters

QUEUE_NAME
The name of the queue to be deleted.

CALLER
Optional Parameter

Indicates whether this request originated from an EXEC or macro call. The default is MACRO.

Values for the parameter are:
`EXEC`
`MACRO`

`LAST_REFERENCED_TIME`
Optional Parameter

The time of the last reference to the queue.

Output Parameters

`REASON`
The following values are returned when RESPONSE is EXCEPTION:
`INVALID_QUEUE_NAME`
`INVALID_QUEUE_TYPE`
`LOCKED`
`QUEUE_DELETED`
`QUEUE_NOT_FOUND`
`QUEUE_REFERENCED`

`RESPONSE`
Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

TSQR gate, READ_INTO function

This function reads the specified queue item into a buffer provided by the caller. The read cursor for the queue is set to the item number provided. The caller provides the address (item_buffer_p) and buffer length (item_buffer_m). The actual length of the record is returned in item_buffer_n. If item_buffer_n is greater than item_buffer_m, the data is truncated (but an OK response is returned).

Input Parameters

`ITEM_BUFFER`
specifies the address (item_buffer_p) and maximum length (item_buffer_m) of the data area into which the data will be read. The actual data length is returned in item_buffer_n.

`ITEM_NUMBER`
is the number of the item to be updated.

`QUEUE_NAME`
is the name of the queue being created or appended to.

`CALLER`
Optional Parameter

indicates whether this request originated from an EXEC or macro call. The default is MACRO.

Values for the parameter are:
`EXEC`
`MACRO`

Output Parameters

`REASON`
The following values are returned when RESPONSE is EXCEPTION:
`INVALID_QUEUE_NAME`
`INVALID_QUEUE_TYPE`
`IO_ERROR`
`ITEM_NOT_FOUND`

QUEUE_NOT_FOUND

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FMH
: Optional Parameter

  indicates whether the data contains an FMH.

  Values for the parameter are:
  NO
  YES

TOTAL_ITEMS
: Optional Parameter

  is the total number of items in the queue on completion of the operation.

TSQR gate, READ_NEXT_INTO function

This function increments the read cursor by one and reads that item number into the buffer provided by the caller. The caller provides the address (item_buffer_p) and buffer length (item_buffer_m). The actual length of the record is returned in item_buffer_n. If item_buffer_n is greater than item_buffer_m, the data will have been truncated.

Input Parameters

ITEM_BUFFER
: specifies the address (item_buffer_p) and maximum length (item_buffer_m) of the data area into which the data will be read. The actual data length is returned in item_buffer_n.

QUEUE_NAME
: is the name of the queue being created or appended to.

CALLER
: Optional Parameter

  indicates whether this request originated from an EXEC or macro call. The default is MACRO.

  Values for the parameter are:
  EXEC
  MACRO

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  INVALID_QUEUE_NAME
  INVALID_QUEUE_TYPE
  IO_ERROR
  ITEM_NOT_FOUND
  QUEUE_NOT_FOUND

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FMH
: Optional Parameter

  indicates whether the data contains an FMH.

  Values for the parameter are:
  NO

YES

ITEM_NUMBER
: Optional Parameter

  returns the number of the item just read.

TOTAL_ITEMS
: Optional Parameter

  is the total number of items in the queue on completion of the operation.

TSQR gate, READ_NEXT_SET function

This function increments the queue's read cursor by one and reads that item number into a storage area obtained by TS.

Input Parameters

QUEUE_NAME
is the name of the queue being created or appended to.

CALLER
Optional Parameter

indicates whether this request originated from an EXEC or macro call. The default is MACRO.

Values for the parameter are:
```
EXEC
MACRO
```

SET_STORAGE_CLASS
Optional Parameter

specifies the class of storage into which the item will be read. This may be either TASK (the default) or TERMINAL. If TERMINAL is specified, the item is read into a TIOA.

Values for the parameter are:
```
TASK
TERMINAL
```

TCTTE_ADDRESS
Optional Parameter

is the address of the TCTTE - required if SET_STORAGE_CLASS(TERMINAL) is specified.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
```
INVALID_QUEUE_NAME
INVALID_QUEUE_TYPE
IO_ERROR
ITEM_NOT_FOUND
QUEUE_NOT_FOUND
```

ITEM_DATA
returns the address and length of the item data.

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

FMH
Optional Parameter

indicates whether the data contains an FMH.

Values for the parameter are:
`NO`
`YES`

ITEM_NUMBER
Optional Parameter

returns the number of the item just read.

TOTAL_ITEMS
Optional Parameter

is the total number of items in the queue on completion of the operation.

TSQR gate, READ_SET function

This function reads the specified queue item into a storage area obtained by TS. The read cursor for the queue is set to the input item number.

Input Parameters

ITEM_NUMBER
is the number of the item to be updated.

QUEUE_NAME
is the name of the queue being created or appended to.

CALLER
Optional Parameter

indicates whether this request originated from an EXEC or macro call. The default is MACRO.

Values for the parameter are:
`EXEC`
`MACRO`

SET_STORAGE_CLASS
Optional Parameter

specifies the class of storage into which the item will be read. This may be either TASK (the default) or TERMINAL. If TERMINAL is specified, the item is read into a TIOA.

Values for the parameter are:
`TASK`
`TERMINAL`

TCTTE_ADDRESS
Optional Parameter

is the address of the TCTTE - required if SET_STORAGE_CLASS(TERMINAL) is specified.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`INVALID_QUEUE_NAME`
`INVALID_QUEUE_TYPE`
`IO_ERROR`
`ITEM_NOT_FOUND`
`QUEUE_NOT_FOUND`

ITEM_DATA
returns the address and length of the item data.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

FMH
Optional Parameter

indicates whether the data contains an FMH.

Values for the parameter are:
`NO`
`YES`

TOTAL_ITEMS
Optional Parameter

is the total number of items in the queue on completion of the operation.

TSQR gate, REWRITE function

This function updates the specified item in an existing queue. The read cursor is unchanged.

Input Parameters

ITEM_DATA
is the address and length of the item being written.

ITEM_NUMBER
is the number of the item to be updated.

QUEUE_NAME
is the name of the queue being created or appended to.

SUSPEND
indicates whether or not the request will be suspended if there is insufficient auxiliary storage to satisfy the request. This option is ignored if the queue is in main storage.

Values for the parameter are:
`NO`
`YES`

CALLER
Optional Parameter

indicates whether this request originated from an EXEC or macro call. The default is MACRO.

Values for the parameter are:
`EXEC`
`MACRO`

FMH
Optional Parameter

indicates whether the data contains an FMH.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`INSUFFICIENT_STORAGE`
`INVALID_LENGTH`
`INVALID_QUEUE_NAME`
`INVALID_QUEUE_TYPE`
`IO_ERROR`
`ITEM_NOT_FOUND`

LOCKED
QUEUE_DELETED
QUEUE_NOT_FOUND
QUEUE_REMOTE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TOTAL_ITEMS
Optional Parameter

is the total number of items in the queue on completion of the operation.

TSQR gate, WRITE function

If the queue does not exist, this function creates a queue with the single item provided, and the queue's "read cursor" is set to zero.

Input Parameters

ITEM_DATA
is the address and length of the item being written.

QUEUE_NAME
is the name of the queue being created or appended to.

STORAGE_TYPE
indicates whether the queue is to be created in main or auxiliary storage. Note that this option is ignored if the queue already exists.

Values for the parameter are:
AUXILIARY
MAIN

SUSPEND
indicates whether or not the request will be suspended if there is insufficient auxiliary storage to satisfy the request. This option is ignored if the queue is in main storage.

Values for the parameter are:
NO
YES

BMS
Optional Parameter

indicates whether or not BMS owns this queue.

Values for the parameter are:
NO
YES

CALLER
Optional Parameter

indicates whether this request originated from an EXEC or macro call. The default is MACRO.

Values for the parameter are:
EXEC
MACRO

FMH
Optional Parameter

indicates whether the data contains an FMH.

Values for the parameter are:
NO

YES

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
INSUFFICIENT_STORAGE
INVALID_LENGTH
INVALID_QUEUE_NAME
INVALID_QUEUE_TYPE
IO_ERROR
LOCKED
QUEUE_DELETED
QUEUE_FULL
QUEUE_REMOTE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TOTAL_ITEMS
Optional Parameter

is the total number of items in the queue on completion of the operation.

TSRM gate, INQUIRE_QUEUE function

Determine whether a temporary storage queue exists.

Input Parameters

QUEUE_NAME
The name of the temporary storage queue.

QUEUE_CREATION_TIME
Optional Parameter

The time the queue was created.

Output Parameters

QUEUE_EXISTS
A binary value indicating whether the named queue exists.

Values for the parameter are:
NO
YES

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TSSH gate, ADD_POOL function

Create a temporary storage pool.

Input Parameters

POOL_NAME
The name of the pool.

Output Parameters

POOL_TOKEN
A token that identifies the new temporary storage pool.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TSSH gate, DELETE function

This function deletes the specified queue.

Input Parameters

QUEUE_NAME
is the name of the queue being created or appended to.

POOL_TOKEN
Optional Parameter

is a token for the shared TS pool.

TRANSACTION_NUMBER
Optional Parameter

is the 4-byte transaction number (in packed-decimal format).

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`INVALID_QUEUE_NAME`
`IO_ERROR`
`QUEUE_NOT_FOUND`
`SERVER_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TSSH gate, END_BROWSE function

End a browse operation on a set of temporary storage queues.

Input Parameters

BROWSE_TOKEN
A token that identifies the browse operation. See "The **BROWSE_TOKEN** parameter on domain interfaces" on page 9.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`BROWSE_END`
`IO_ERROR`
`QUEUE_NOT_FOUND`
`SERVER_ERROR`
`TSPOOL_NOT_FOUND`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TSSH gate, END_TSPOOL_BROWSE function

End a browse operation on temporary storage pools.

Input Parameters

BROWSE_TOKEN
A token that identifies the browse operation. See “The **BROWSE_TOKEN** parameter on domain interfaces” on page 9

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`BROWSE_END`
`IO_ERROR`
`QUEUE_NOT_FOUND`
`SERVER_ERROR`
`TSPOOL_NOT_FOUND`

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

TSSH gate, GET_NEXT function

Return the next temporary storage queue in a browse operation.

Input Parameters

BROWSE_TOKEN
See “The **BROWSE_TOKEN** parameter on domain interfaces” on page 9

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
`BROWSE_END`
`IO_ERROR`
`SERVER_ERROR`

QUEUE_NAME
The name of the temporary storage queue.

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

LAST_REFERENCED_TIME
Optional Parameter

The time at which the temporary storage queue was last referenced.

MAXIMUM_ITEM_LENGTH
Optional Parameter

The maximum size of an item in the temporary storage queue.

MINIMUM_ITEM_LENGTH
Optional Parameter

The minimum size of an item in the temporary storage queue.

TOTAL_ITEMS
Optional Parameter

The total number of items in the temporary storage queue.

TOTAL_LENGTH
Optional Parameter

The length of the temporary storage queue.

TRANSID
Optional Parameter

The identifier of the transaction that created the temporary storage queue.

TSSH gate, GET_NEXT_TSPOOL function

In a browse operation, return information about a temporary storage pool.

Input Parameters

BROWSE_TOKEN
See "The **BROWSE_TOKEN** parameter on domain interfaces" on page 9

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- BROWSE_END

POOL_NAME
The name of the temporary storage pool.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CONNECTED
Optional Parameter

A binary value indicating whether the temporary storage pool is connected.

Values for the parameter are:
- NO
- YES

POOL_TOKEN
Optional Parameter

A token that represents the temporary storage pool.

TSSH gate, INITIALISE function

Initialize the Shared TS interface.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- INSUFFICIENT_STORAGE
- INVALID_LENGTH
- INVALID_QUEUE_NAME
- IO_ERROR
- ITEM_NOT_FOUND
- MAXIMUM_QUEUES_REACHED
- POOL_NAME_NOT_FOUND
- QUEUE_FULL
- QUEUE_NOT_FOUND
- SERVER_ERROR
- SYSID_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TSSH gate, INQUIRE_POOL_TOKEN function

Return a token for the pool corresponding to the SYSID provided.

Input Parameters

POOL_NAME
: The name of the pool being inquired upon.

SYSID
: The name of the SYSID being inquired upon.

SYSID_TABLE_TOKEN
: Optional Parameter

  A token that represents the SYSID table.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `POOL_NAME_NOT_FOUND`
  `SYSID_NOT_FOUND`

POOL_TOKEN
: A token for the shared TS pool.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TSSH gate, INQUIRE_QUEUE function

Inquire on the attributes of a temporary storage queue.

Input Parameters

QUEUE_NAME
: The name of the queue.

KEY_COMPARISON
: Optional Parameter

  Specifies the constraints on the inquiry.

  Values for the parameter are:
  `EQ`
  `GT`
  `GTEQ`

POOL_TOKEN
: Optional Parameter

  A token that identifies a pool containing the specified queue.

TRANSACTION_NUMBER
: Optional Parameter

  The 4-byte transaction number (in packed-decimal format).

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `IO_ERROR`
  `QUEUE_NOT_FOUND`
  `SERVER_ERROR`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

LAST_REFERENCED_TIME
: Optional Parameter

  The time at which the queue was last referenced.

MAXIMUM_ITEM_LENGTH
Optional Parameter

The length of the longest item in the queue.

MINIMUM_ITEM_LENGTH
Optional Parameter

The length of the shortest item in the queue.

OUTPUT_QUEUE_NAME
Optional Parameter

The name of the queue whose information is returned. Note that this might differ from **QUEUE_NAME** unless **KEY_COMPARISON(EQ)** is specified.

TOTAL_ITEMS
Optional Parameter

The total number of items in the queue.

TOTAL_LENGTH
Optional Parameter

The sum of the lengths of all the items in the queue.

TRANSID
Optional Parameter

The identifier of the transaction that created the queue.

TSSH gate, INQUIRE_SYSID_TABLE_TOKEN function

Returns the SYSID_TABLE_TOKEN for the region.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
INSUFFICIENT_STORAGE
INVALID_LENGTH
INVALID_QUEUE_NAME
IO_ERROR
ITEM_NOT_FOUND
MAXIMUM_QUEUES_REACHED
POOL_NAME_NOT_FOUND
QUEUE_FULL
QUEUE_NOT_FOUND
SERVER_ERROR
SYSID_NOT_FOUND
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SYSID_TABLE_TOKEN
The SYSID_TABLE_TOKEN.

TSSH gate, INQUIRE_TSPOOL function

Retrieve information about a shared temporary storage pool.

Input Parameters

POOL_NAME
The name of the shared temporary storage pool.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `TSPOOL_NOT_FOUND`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CONNECTED
: Optional Parameter

  A binary value indicating whether the pool is connected.

  Values for the parameter are:
  `NO`
  `YES`

POOL_TOKEN
: Optional Parameter

  A token that identifies the temporary storage pool.

TSSH gate, READ_INTO function

This function reads the specified queue item into a buffer provided by the caller. The read cursor for the queue is set to the item number provided. The caller provides the address (item_buffer_p) and buffer length (item_buffer_m). The actual length of the record is returned in item_buffer_n. If item_buffer_n is greater than item_buffer_m, the data is truncated (but an OK response is returned).

Input Parameters

ITEM_BUFFER
: specifies the address (item_buffer_p) and maximum length (item_buffer_m) of the data area into which the data will be read. The actual data length is returned in item_buffer_n.

ITEM_NUMBER
: is the number of the item to be updated.

QUEUE_NAME
: is the name of the queue being created or appended to.

POOL_TOKEN
: Optional Parameter

  is a token for the shared TS pool.

TRANSACTION_NUMBER
: Optional Parameter

  is the 4-byte transaction number (in packed-decimal format).

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `INVALID_QUEUE_NAME`
  `IO_ERROR`
  `ITEM_NOT_FOUND`
  `QUEUE_NOT_FOUND`
  `SERVER_ERROR`

FMH
: indicates whether the data contains an FMH.

  Values for the parameter are:
  `NO`

YES

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TOTAL_ITEMS
is the total number of items in the queue on completion of the operation.

TSSH gate, READ_NEXT_INTO function

This function increments the read cursor by one and reads that item number into the buffer provided by the caller. The caller provides the address (item_buffer_p) and buffer length (item_buffer_m). The actual length of the record is returned in item_buffer_n. If item_buffer_n is greater than item_buffer_m, the data will have been truncated.

Input Parameters

ITEM_BUFFER
specifies the address (item_buffer_p) and maximum length (item_buffer_m) of the data area into which the data will be read. The actual data length is returned in item_buffer_n.

QUEUE_NAME
is the name of the queue being created or appended to.

POOL_TOKEN
Optional Parameter

is a token for the shared TS pool.

TRANSACTION_NUMBER
Optional Parameter

is the 4-byte transaction number (in packed-decimal format).

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
- INVALID_QUEUE_NAME
- IO_ERROR
- ITEM_NOT_FOUND
- QUEUE_NOT_FOUND
- SERVER_ERROR

FMH
indicates whether the data contains an FMH.

Values for the parameter are:
- NO
- YES

ITEM_NUMBER
returns the number of the item just read.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TOTAL_ITEMS
is the total number of items in the queue on completion of the operation.

TSSH gate, READ_NEXT_SET function

This function increments the queue's read cursor by one and reads that item number into a storage area obtained by TS.

Input Parameters

QUEUE_NAME
: is the name of the queue being created or appended to.

POOL_TOKEN
: Optional Parameter

  is a token for the shared TS pool.

TRANSACTION_NUMBER
: Optional Parameter

  is the 4-byte transaction number (in packed-decimal format).

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:

  `INVALID_QUEUE_NAME`
  `IO_ERROR`
  `ITEM_NOT_FOUND`
  `QUEUE_NOT_FOUND`
  `SERVER_ERROR`

FMH
: indicates whether the data contains an FMH.

  Values for the parameter are:

  `NO`
  `YES`

ITEM_DATA
: returns the address and length of the item data.

ITEM_NUMBER
: returns the number of the item just read.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TOTAL_ITEMS
: is the total number of items in the queue on completion of the operation.

TSSH gate, READ_SET function

This function reads the specified queue item into a storage area obtained by TS. The read cursor for the queue is set to the input item number.

Input Parameters

ITEM_NUMBER
: is the number of the item to be updated.

QUEUE_NAME
: is the name of the queue being created or appended to.

POOL_TOKEN
: Optional Parameter

  is a token for the shared TS pool.

TRANSACTION_NUMBER
: Optional Parameter

  is the 4-byte transaction number (in packed-decimal format).

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:

  `INVALID_QUEUE_NAME`

IO_ERROR
ITEM_NOT_FOUND
QUEUE_NOT_FOUND
SERVER_ERROR

FMH
indicates whether the data contains an FMH.

Values for the parameter are:
NO
YES

ITEM_DATA
returns the address and length of the item data.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TOTAL_ITEMS
is the total number of items in the queue on completion of the operation.

TSSH gate, REWRITE function

This function updates the specified item in an existing queue. The read cursor is unchanged.

Input Parameters

FMH
indicates whether the data contains an FMH.

Values for the parameter are:
NO
YES

ITEM_DATA
is the address and length of the item being written.

ITEM_NUMBER
is the number of the item to be updated.

QUEUE_NAME
is the name of the queue being created or appended to.

SUSPEND
indicates whether or not the request will be suspended if there is insufficient auxiliary storage to satisfy the request. This option is ignored if the queue is in main storage.

Values for the parameter are:
NO
YES

POOL_TOKEN
Optional Parameter

is a token for the shared TS pool.

TRANSACTION_NUMBER
Optional Parameter

is the 4-byte transaction number (in packed-decimal format).

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
INSUFFICIENT_STORAGE
INVALID_LENGTH
INVALID_QUEUE_NAME

IO_ERROR
ITEM_NOT_FOUND
QUEUE_NOT_FOUND
SERVER_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TOTAL_ITEMS
is the total number of items in the queue on completion of the operation.

TSSH gate, START_BROWSE function

Start browsing temporary storage queues.

Input Parameters

POOL_TOKEN
A token that identifies the temporary storage pool to be browsed.

QUEUE_NAME
Optional Parameter

The name of the temporary storage queue.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
BROWSE_END
IO_ERROR
QUEUE_NOT_FOUND
SERVER_ERROR
TSPOOL_NOT_FOUND

BROWSE_TOKEN
See "The **BROWSE_TOKEN** parameter on domain interfaces" on page 9.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TSSH gate, START_TSPOOL_BROWSE function

Start browsing the temporary storage pools.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
BROWSE_END
IO_ERROR
QUEUE_NOT_FOUND
SERVER_ERROR
TSPOOL_NOT_FOUND

BROWSE_TOKEN
See "The **BROWSE_TOKEN** parameter on domain interfaces" on page 9.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TSSH gate, WRITE function

If the queue does not exist, this function creates a queue with the single item provided, and the queue's "read cursor" is set to zero.

Input Parameters

FMH
: indicates whether the data contains an FMH.

  Values for the parameter are:
  NO
  YES

ITEM_DATA
: is the address and length of the item being written.

QUEUE_NAME
: is the name of the queue being created or appended to.

SUSPEND
: indicates whether or not the request will be suspended if there is insufficient auxiliary storage to satisfy the request. This option is ignored if the queue is in main storage.

  Values for the parameter are:
  NO
  YES

POOL_TOKEN
: Optional Parameter

  is a token for the shared TS pool.

TRANSACTION_NUMBER
: Optional Parameter

  is the 4-byte transaction number (in packed-decimal format).

TRANSID
: Optional Parameter

  is the id of the transaction which issued this request.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  INSUFFICIENT_STORAGE
  INVALID_LENGTH
  INVALID_QUEUE_NAME
  IO_ERROR
  MAXIMUM_QUEUES_REACHED
  QUEUE_FULL
  SERVER_ERROR

RESPONSE
: Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

TOTAL_ITEMS
: is the total number of items in the queue on completion of the operation.

TSSR gate, SET_BUFFERS function

Sets the number of TS buffers to be used.

Input Parameters

BUFFERS
: the number of buffers required.

Output Parameters

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TSSR gate, SET_START_TYPE function

Input Parameters

START_TYPE

The desired start type.

Values for the parameter are:

```
AUTO
COLD
```

Output Parameters

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TSSR gate, SET_STRINGS function

This function sets the number of strings to be used.

Input Parameters

STRINGS

the number of strings to be used.

Output Parameters

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Temporary Storage domain generic gates

Table 81 summarizes the generic gates in the domain. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 81. Temporary Storage domain generic gates

Gate	Trace	Functions	Format
DMDM	TS 0101 TS 0102	INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM
STST	TS 0501 TS 0502	COLLECT_STATISTICS COLLECT_RESOURCE_STATS	STST
APUE	TS 0601 TS 0602	SET_EXIT_STATUS	APUE

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

"Statistics domain's generic formats" on page 1777

"Application Manager Domain's generic formats" on page 867

Temporary Storage domain call-back formats

Table 82 describes the call-back formats owned by the domain and shows the functions performed on the calls.

Table 82. Temporary Storage domain call-back formats

Format	Calling module	Function
TSIC	DFHTSRM	DELIVER_IC_RECOVERY_DATA SOLICIT_INQUIRES

Note: In the descriptions of the formats, the input parameters are input not to the Temporary Storage domain, but to the domain being called by the Temporary Storage domain. Similarly, the output parameters are output by the domain that was called by the Temporary Storage domain, in response to the call.

TSIC format, DELIVER_IC_RECOVERY_DATA function

The temporary storage domain uses this call-back format to deliver its recovery information for a temporary storage queue to the interval control component of the application domain.

Input Parameters

BMS
A binary value that indicates whether the queue was created by BMS.

Values for the parameter are:
`NO`
`YES`

IC A binary value that indicates whether the queue was created by interval control.

Values for the parameter are:
`NO`
`YES`

QUEUE_CREATION_TIME
The time (in store clock format) at which the queue was created.

QUEUE_NAME
The name of the queue.

RECOVERABLE
A binary value that indicates whether the queue is recoverable.

Values for the parameter are:
`NO`
`YES`

IC_DATA
Optional Parameter

The address and length of the interval control element (ICE) that is associated with the queue.

IN_DOUBT_OPERATION
Optional Parameter

The operation corresponding to the data being delivered.

Values for the parameter are:
`GET_RELEASE`
`PUT`
`RELEASE`

Output Parameters

DISCARD
A binary value that indicates whether the temporary storage domain should delete the queue.

Values for the parameter are:
`NO`
`YES`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TSIC format, SOLICIT_INQUIRES function

Temporary storage domain uses this call-back format to advise the interval control component in the AP domain that TS domain is ready to receive INQUIRE requests.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Modules

Module	Function
DFHTSBR	Handles the following requests: INQUIRE_QUEUE START_BROWSE GET_NEXT END_BROWSE CHECK_PREFIX
DFHTSDM	Handles the following requests: INITIALIZE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN
DFHTSITR	Interprets TS domain trace entries
DFHTSP	Handles the following requests: PUT PUT_REPLACE GET GET_SET GET_RELEASE GET_RELEASE_SET RELEASE
DFHTSPT	Handles the following requests: PUT PUT_REPLACE GET GET_SET GET_RELEASE GET_RELEASE_SET RELEASE

Module	Function
DFHTSQR	Handles the following requests: WRITE REWRITE READ_INTO READ_SET READ_NEXT_INTO READ_NEXT_SET DELETE
DFHTSRM	Handles the following requests: PERFORM_PREPARE PERFORM_COMMIT PERFORM_SHUNT PERFORM_UNSHUNT START_BACKOUT END_BACKOUT START_DELIVERY DELIVER_RECOVERY END_DELIVERY TAKE_KEYPOINT
DFHTSSH	Handles the following requests: INITIALIZE INQUIRE_POOL_TOKEN INQUIRE_SYSID_TABLE_TOKEN WRITE REWRITE READ_INTO READ_NEXT_INTO READ_SET READ_NEXT_SET DELETE START_BROWSE GET_NEXT END_BROWSE INQUIRE_QUEUE
DFHTSSR	Handles the following requests: SET_START_TYPE SET_BUFFERS SET_STRINGS SET_EXIT_STATUS
DFHTSST	Handles the following requests: COLLECT_STATISTICS COLLECT_RESOURCE_STATISTICS

Exits

The temporary storage domain has four global user exit points: XTSQRIN, XTSQROUT, XTSPTIN and XTSPTOUT. See the *CICS Customization Guide* for further details.

Chapter 111. User Domain (US)

The user domain manages CICS users and their security attributes.

User Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the US domain.

USAD gate, ADD_USER_WITH_PASSWORD function

The ADD_USER_WITH_PASSWORD function of the USAD gate is used to add a user to the CICS(R) region and verify the associated password or oidcard.

Input Parameters

PASSWORD
is the current password, 1 through 10 alphanumeric characters, for the userid specified by the USERID value.

SIGNON_TYPE
is the type of signon for the userid (specified by the USERID value).

Values for the parameter are:

```
ATTACH_SIGN_ON
DEFAULT_SIGN_ON
IRC_SIGN_ON
LU61_SIGN_ON
LU62_SIGN_ON
NON_TERMINAL_SIGN_ON
PRESET_SIGN_ON
USER_SIGN_ON
XRF_SIGN_ON
```

USERID
is the identifier of the user (a userid of 1 through 10 alphanumeric characters) to be added to the security domain.

USERID_LENGTH
is the length of the USERID value.

APPLID
Optional Parameter

is the application identifier for the CICS region.

ENTRY_PORT_NAME
Optional Parameter

is an optional name of an entry port, 1 through 8 alphanumeric characters, to be assigned to the userid (specified by the USERID value).

ENTRY_PORT_TYPE
Optional Parameter

is the type of the optional entry port to be assigned to the userid (specified by the USERID value). This parameter is only valid if ENTRY_PORT_NAME is also specified.

Values for the parameter are:

```
TERMINAL
CONSOLE
```

GROUPID
Optional Parameter

is an identifier, 1 through 10 alphanumeric characters, of a RACF® user group to which the userid (specified by the USERID value) is to be assigned.

GROUPID_LENGTH
Optional Parameter

is the 8-bit length of the GROUPID value. This parameter is only valid if GROUPID is also specified.

NEW_PASSWORD
Optional Parameter

is a new password, 1 through 10 alphanumeric characters, to be assigned to the userid (specified by the USERID value). This parameter is only valid if PASSWORD is also specified.

OIDCARD
Optional Parameter

is an optional oidcard (operator identification card); a 65-byte field containing further security data from a magnetic strip reader (MSR) on 32xx devices.

PASSWORD_TYPE
Optional Parameter

specifies if the password is masked.

SCOPE_CHECK
Optional Parameter

indicates whether or not scope checking is to be performed for this function call.

Values for the parameter are:
```
NO
YES
```

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
```
DEL_TIMEOUT_ENTRY_FAILED
EXTRACT_FAILED
GETMAIN_FAILED
```

The following values are returned when RESPONSE is EXCEPTION:
```
ALREADY_SIGNED_ON
APPLICATION_NOTAUTH
ENQ_LIMIT_EXCEEDED
ENTRY_PORT_NOTAUTH
ESM_INACTIVE
ESM_TRANQUIL
GROUP_ACCESS_REVOKED
INQUIRE_PW_DATA_FAILED
INVALID_GROUPID
INVALID_NEW_PASSWORD
INVALID_OIDCARD
INVALID_PASSWORD
INVALID_USERID
NEW_PASSWORD_REQUIRED
OIDCARD_REQUIRED
PASSWORD_REQUIRED
SECLABEL_CHECK_FAILED
```

SECURITY_INACTIVE
UNKNOWN_ESM_RESPONSE
USERID_NOT_IN_GROUP
USERID_REVOKED

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION
INVALID_PARAMETERS

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USER_TOKEN
is the token identifying the userid in the user domain.

ESM_RESPONSE
Optional Parameter

is the optional 32-bit ESM response code to the call.

SAF_RESPONSE
Optional Parameter

is the optional 32-bit SAF response code to the call.

USAD gate, ADD_USER_WITHOUT_PASSWORD function

The ADD_USER_WITHOUT_PASSWORD function of the USAD gate is used to add a user to the CICS region without verifying any password or oidcard.

Input Parameters

SIGNON_TYPE
is the type of signon for the userid (specified by the USERID value).

Values for the parameter are:
ATTACH_SIGN_ON
DEFAULT_SIGN_ON
IRC_SIGN_ON
LU61_SIGN_ON
LU62_SIGN_ON
NON_TERMINAL_SIGN_ON
PRESET_SIGN_ON
USER_SIGN_ON
XRF_SIGN_ON

USERID
is the identifier of the user (a userid of 1 through 10 alphanumeric characters) to be added to the security domain.

USERID_LENGTH
is the length of the USERID value.

APPLID
Optional Parameter

is the application identifier for the CICS region.

ENTRY_PORT_NAME
Optional Parameter

is an optional name of an entry port, 1 through 8 alphanumeric characters, to be assigned to the userid (specified by the USERID value).

ENTRY_PORT_TYPE
Optional Parameter

is the type of the optional entry port to be assigned to the userid (specified by the USERID value). This parameter is only valid if ENTRY_PORT_NAME is also specified.

Values for the parameter are:
`CONSOLE`
`TERMINAL`

GROUPID
Optional Parameter

is an optional identifier, 1 through 10 alphanumeric characters, of a RACF user group to which the userid (specified by the USERID value) is to be assigned.

GROUPID_LENGTH
Optional Parameter

is the 8-bit length of the GROUPID value. This parameter is only valid if GROUPID is also specified.

SCOPE_CHECK
Optional Parameter

indicates whether or not scope checking is to be performed for this function call.

Values for the parameter are:
`NO`
`YES`

SUSPEND
Optional Parameter

indicates whether a wait during add user processing is acceptable.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`DEL_TIMEOUT_ENTRY_FAILED`
`EXTRACT_FAILED`
`GETMAIN_FAILED`

The following values are returned when RESPONSE is EXCEPTION:
`ALREADY_SIGNED_ON`
`APPLICATION_NOTAUTH`
`ENQ_LIMIT_EXCEEDED`
`ENTRY_PORT_NOTAUTH`
`ESM_INACTIVE`
`ESM_TRANQUIL`
`GROUP_ACCESS_REVOKED`
`INVALID_GROUPID`
`INVALID_USERID`
`SECLABEL_CHECK_FAILED`
`SECURITY_INACTIVE`
`UNKNOWN_ESM_RESPONSE`
`USER_NOT_LOCATED`
`USERID_NOT_IN_GROUP`
`USERID_REVOKED`

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION
INVALID_PARAMETERS

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USER_TOKEN
is the token identifying the userid in the user domain.

ESM_RESPONSE
Optional Parameter

is the optional 32-bit ESM response code to the call.

SAF_RESPONSE
Optional Parameter

is the optional 32-bit SAF response code to the call.

USAD gate, DELETE_USER function

The DELETE_USER function of the USAD gate is used to delete the user from the CICS region.

Input Parameters

SIGNOFF_TYPE
is the type of signoff for the userid identified by the SECURITY_TOKEN value.

Values for the parameter are:
ATTACH_SIGN_OFF
DEFERRED_SIGN_OFF
DELETE_SIGN_OFF
LINK_SIGN_OFF
NON_TERMINAL_SIGN_OFF
PRESET_SIGN_OFF
TIMEOUT_SIGN_OFF
USER_SIGN_OFF
USRDELAY_SIGN_OFF
XRF_SIGN_OFF

USER_TOKEN
is the token identifying the userid in the user domain.

DELETE_IMMEDIATE
Optional Parameter

indicates whether the user should be deleted immediately.

Values for the parameter are:
NO
YES

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ADD_TIMEOUT_ENTRY_FAILED
FREEMAIN_FAILED

The following values are returned when RESPONSE is EXCEPTION:
DEFAULT_USER_TOKEN
ESM_INACTIVE
ESM_TRANQUIL
INVALID_USER_TOKEN

SECURITY_INACTIVE
UNKNOWN_ESM_RESPONSE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ESM_RESPONSE
Optional Parameter

is the optional 32-bit ESM response code to the call.

SAF_RESPONSE
Optional Parameter

is the optional 32-bit SAF response code to the call.

USAD gate, INQUIRE_DEFAULT_USER function

The INQUIRE_DEFAULT_USER function of the USAD gate is used to inquire about the attributes of the default user (specified on the DFLTUSER system initialization parameter).

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

ABEND
ADD_TIMEOUT_ENTRY_FAILED
DEL_EXPIRED_ENTRY_FAILED
DEL_TIMEOUT_ENTRY_FAILED
DIR_MANAGER_ADD_FAILED
DIR_MANAGER_DELETE_FAILED
DIR_MANAGER_LOCATE_FAILED
EXTRACT_FAILED
FREEMAIN_FAILED
GETMAIN_FAILED
INQUIRE_PW_DATA_FAILED
LOOP
SEC_DOMAIN_ADD_FAILED
SEC_DOMAIN_DELETE_FAILED

The following values are returned when RESPONSE is EXCEPTION:

ACCOUNT_INVALID
ALREADY_SIGNED_ON
APPLICATION_NOTAUTH
DEFAULT_USER_TOKEN
ENQ_LIMIT_EXCEEDED
ENTRY_PORT_NOTAUTH
ESM_INACTIVE
ESM_TRANQUIL
GROUP_ACCESS_REVOKED
INVALID_GROUPID
INVALID_NEW_PASSWORD
INVALID_OIDCARD
INVALID_PARAMETERS
INVALID_PASSWORD
INVALID_USER_TOKEN
INVALID_USERID
NEW_PASSWORD_REQUIRED
OIDCARD_REQUIRED
PASSWORD_REQUIRED

SECLABEL_CHECK_FAILED
SECURITY_INACTIVE
UNKNOWN_ESM_RESPONSE
USER_NOT_LOCATED
USERID_NOT_DEFINED
USERID_NOT_DETERMINED
USERID_NOT_FOUND
USERID_NOT_IN_GROUP
USERID_REVOKED

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACEE_PTR
Optional Parameter

is a pointer to the access control environment element, the control block that is generated by an external user (ESM) when the user signs on. If the user is not signed on, the address of the CICS DFLTUSER's ACEEis returned. If an ACEE does not exist, CICS sets the pointer reference to the null value, X'FF000000'.

CURRENT_GROUPID
Optional Parameter

is the identifier, 1 through 10 alphanumeric characters, of the current RACF user group to which the userid (specified by the SECURITY_TOKEN value) is assigned.

CURRENT_GROUPID_LENGTH
Optional Parameter

is the 8-bit length of the GROUPID value.

NATIONAL_LANGUAGE
Optional Parameter

is a three-character code identifying the national language for the userid. It can have any of the values in "National language codes (three-characters)" on page 2011.

OPERATOR_CLASSES
Optional Parameter

identifies the operator classes to which the user belongs. This is a 24-bit value, with each bit determining whether or not the user is a member of that class.

OPERATOR_IDENT
Optional Parameter

is the operator identification code, 1 through 3 alphanumeric characters, for the userid.

OPERATOR_PRIORITY
Optional Parameter

is the operator priority value, in the range 0 through 255 (where 255 is the highest priority), for the userid.

TIMEOUT
Optional Parameter

is the number of minutes, in the range 0 through 60, that must elapse since the user last used the terminal before CICS "times-out" the terminal:

1. CICS rounds values up to the nearest multiple of 5.

2. A TIMEOUT value of 0 means that the terminal is not timed out.

USERID
Optional Parameter

is the identifier of the user (a userid of 1 through 10 alphanumeric characters).

USERID_LENGTH
Optional Parameter

is the length of the USERID value.

USERNAME
Optional Parameter

is an optional buffer into which the attributes of the user are placed.

XRF_REFLECTABLE
Optional Parameter

indicates whether or not you want CICS to sign off the userid following an XRF takeover.

Values for the parameter are:

NO
YES

USAD gate, INQUIRE_USER function

The INQUIRE_USER function of the USAD gate is used to inquire about the attributes of the user represented by the user token.

Input Parameters

USER_TOKEN
is the token identifying the userid in the user domain.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

INVALID_USER_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACEE_PTR
Optional Parameter

is a pointer to the access control environment element, the control block that is generated by an external user (ESM) when the user signs on. If the user is not signed on, the address of the CICS DFLTUSER's ACEEis returned. If an ACEE does not exist, CICS sets the pointer reference to the null value, X'FF000000'.

CURRENT_GROUPID
Optional Parameter

is the identifier, 1 through 10 alphanumeric characters, of the current RACF user group to which the userid (specified by the SECURITY_TOKEN value) is assigned.

CURRENT_GROUPID_LENGTH
Optional Parameter

is the 8-bit length of the GROUPID value.

ENTRY_PORT_NAME
Optional Parameter

is the name of the entry port assigned to the userid.

ENTRY_PORT_TYPE
Optional Parameter

is the type of the entry port assigned to the userid. This parameter is only valid if ENTRY_PORT_NAME is also specified.

Values for the parameter are:
`TERMINAL`
`CONSOLE`

NATIONAL_LANGUAGE
Optional Parameter

is a three-character code identifying the national language for the userid. It can have any of the values in “National language codes (three-characters)” on page 2011.

OPERATOR_CLASSES
Optional Parameter

identifies the operator classes to which the user belongs. This is a 24-bit value, with each bit determining whether or not the user is a member of that class.

OPERATOR_IDENT
Optional Parameter

is the operator identification code, 1 through 3 alphanumeric characters, for the userid.

OPERATOR_PRIORITY
Optional Parameter

is the operator priority value, in the range 0 through 255 (where 255 is the highest priority), for the userid.

TIMEOUT
Optional Parameter

is the number of minutes, in the range 0 through 60, that must elapse since the user last used the terminal before CICS "times-out" the terminal.
1. CICS rounds values up to the nearest multiple of 5.
2. A TIMEOUT value of 0 means that the terminal is not timed out.

USERID
Optional Parameter

is the identifier of the user (a userid of 1 through 10 alphanumeric characters).

USERID_LENGTH
Optional Parameter

is the length of the USERID value.

USERNAME
Optional Parameter

is an optional buffer into which the attributes of the user are placed.

XRF_REFLECTABLE
Optional Parameter

indicates whether or not you want CICS to sign off the userid following an XRF takeover.

Values for the parameter are:
`NO`
`YES`

USAD gate, VALIDATE_USERID function

The VALIDATE_USERID function of the USAD gate is used to verify that the specified userid is a valid userid.

Input Parameters

USERID
: is the identifier of the user (a userid of 1 through 10 alphanumeric characters) to be added to the security domain.

USERID_LENGTH
: is the length of the USERID value.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:

    GROUP_ACCESS_REVOKED
    SECURITY_INACTIVE
    USERID_NOT_DEFINED
    USERID_NOT_DETERMINED
    USERID_REVOKED

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USAD gate, NOTIFY_USERID function

The NOTIFY_USERID function of the USAD gate is used to record that a user ID should be removed when it is no longer in use or user details have changed.

Input Parameters

USERID
: is the identifier of the user (a userid of 1 through 10 alphanumeric characters) to be added to the security domain.

USERID_LENGTH
: is the length of the USERID value.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:

    GROUP_ACCESS_REVOKED
    SECURITY_INACTIVE
    USERID_NOT_DEFINED
    USERID_NOT_DETERMINED
    USERID_REVOKED

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USAD gate, ADD_USER_VIA_ICRX function

The ADD_USER_VIA_ICRX function of the USAD gate provides the External Security Manager with an ICRX that can be mapped to a user.

Input Parameters

ICRX
: Is the extended identity context reference (ICRX) of the user.

SUSPEND
Optional parameter.

Indicates whether a wait during add user processing is acceptable.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`DEL_TIMEOUT_ENTRY_FAILED`
`EXTRACT_FAILED`
`GETMAIN_FAILED`

The following values are returned when RESPONSE is EXCEPTION:
`ALREADY_SIGNED_ON`
`APPLICATION_NOTAUTH`
`ENQ_LIMIT_EXCEEDED`
`ENTRY_PORT_NOTAUTH`
`ESM_INACTIVE`
`ESM_TRANQUIL`
`GROUP_ACCESS_REVOKED`
`INVALID_GROUPID`
`INVALID_USERID`
`SECLABEL_CHECK_FAILED`
`SECURITY_INACTIVE`
`UNKNOWN_ESM_RESPONSE`
`USER_NOT_LOCATED`
`USERID_NOT_IN_GROUP`
`USERID_REVOKED`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`
`INVALID_PARAMETERS`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SAF_RESPONSE
Optional parameter.

Is the optional 32-bit SAF response code to the call.

ESM_RESPONSE
Optional parameter.

Is the optional 32-bit ESM response code to the call.

USERID_LENGTH
Optional parameter.

Is the length of the user ID value.

USERID
Optional parameter.

Is the identifier of the user (a 1- to 10-character alphanumeric user ID) added to the security domain.

USAD gate, INQUIRE_ICRX function

The INQUIRE_ICRX function of the USAD gate obtains ICRX data from the External Security Manager.

Input Parameters

USER_TOKEN
Optional parameter.

Is the token identifying the user ID in the user domain.

OUT_ICRX
Optional parameter.

Is the ICRX representing the user ID.

ICRX_TYPE
Optional parameter.

Is the type of ICRX being requested.

Values for the parameter are:
- COMPLETE: returns a copy of the RACF-generated ICRX.
- PSEUDO: returns a pseudo ICRX.

RETRY
Optional parameter.

Used if the buffer size specified for the ICRX in a prior call was insufficient.

RETRY(YES) returns a previously created ICRX. RETRY(NO) is the default.

DNAME
Optional parameter.

The distinguished name associated with the ICRX-defined user ID.

REALM
Optional parameter.

Is the realm associated with the ICRX-defined user ID.

IN_RETRY_TOKEN
Optional parameter.

Used if the buffer size specified for the ICRX in a prior call was insufficient.

This parameter must be set to the value returned in the previous OUT_RETRY_TOKEN.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
- ABEND
- LOOP

The following values are returned when RESPONSE is EXCEPTION:
- ICRX_NOT_AVAILABLE
- INVALID_USER_TOKEN

The following values are returned when RESPONSE is INVALID:
- INVALID_FORMAT
- INVALID_FUNCTION

OUT_RETRY_TOKEN
Optional parameter.

Used if the buffer size specified for the ICRX in a prior call was insufficient.

If the buffer size was insufficient and OUT_RETRY_YES is specified, this parameter provides state data for the next call.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ICRX
Is the extended identity context reference (ICRX) of the user.

USAD gate, RELEASE_ICRX function

The RELEASE_ICRX function of the USAD gate tells the External Security Manager to release the ICRX storage from cache.

Input Parameters

USER_TOKEN
Optional parameter.

Is the token identifying the ICRX in the user domain.

STORAGE_TYPE
Indicates the ICRX storage location.

The values are:
BUFFER: for internal CICS buffer
CACHE: for the RACF cache
BOTH: to release both BUFFER and CACHE

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
FUNCTION_NOT_SUPPORTED
ICRX_INVALID
INVALID_USER_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USAD gate, ICRX_TO_USERID function

The ICRX_TO_USERID function of the USAD gate maps an ICRX to a user ID.

Input Parameters

ICRX
Is the extended identity context reference (ICRX) of the user.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
USERID_NOT_DETERMINED
ICRX_INVALID
ICRX_NOT_AVAILABLE
SECURITY_INACTIVE

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USERID_LENGTH
Is the length of the USERID value.

USERID
Is the user ID that is mapped to the ICRX.

USAD gate, GET_ASSOCIATED_DATA_LIST function

The GET_ASSOCIATED_DATA_LIST function of the USAD gate obtains a list of tasks that match the supplied filters.

Input Parameters

TASK_LIST
: Is the identifier of the list of tasks.

INPUT_LIST_SIZE
: Optional parameter.

  Is the length of the input list.

DNAME
: Optional parameter.

  Is the distinguished name.

REALM
: Optional parameter.

  Is the realm associated with the distinguished name.

MERGE
: Optional parameter.

  Indicates whether to merge. Has the following values:
  YES: an input list exists which is used for filtering.
  NO: the task list for the entire CICS region is used as the filter list.

MERGED_TASK_LIST
: Optional parameter.

  Is the output array.

Output Parameters

OUTPUT_LIST_SIZE
: Is the length of the output list.

REASON
: The following value is returned when RESPONSE is DISASTER:
  ABEND

  The following value is returned when RESPONSE is EXCEPTION:
  INVALID_DNAME_FILTER

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USFL gate, FLATTEN_USER function

The FLATTEN_USER function of the USFL gate is used to flatten the user's security state and place into the FLATTENED_USER buffer provided.

Input Parameters

FLATTENED_USER
: is the buffer into which the flattened security state is placed.

USER_TOKEN
: is the token identifying the userid in the user domain.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  ABEND
  DIR_MANAGER_LOCATE_FAILED

LOOP
SEC_DOM_FLATTEN_FAILED

The following values are returned when RESPONSE is EXCEPTION:
ESM_INACTIVE
ESM_TRANQUIL
INVALID_USER_TOKEN
SECURITY_INACTIVE
UNKNOWN_ESM_RESPONSE

The following values are returned when RESPONSE is INVALID:
INVALID_FLATTENED_BUFFER
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ESM_RESPONSE
Optional Parameter

is the optional 32-bit ESM response code to the call.

SAF_RESPONSE
Optional Parameter

is the optional 32-bit SAF response code to the call.

USFL gate, TAKEOVER function

The TAKEOVER function of the USFL gate is used, when an XRF takeover occurs, to obtain the SNSCOPE ENQ resources for those users who could not obtain it during tracking, because the resources were already held by the active region.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USFL gate, UNFLATTEN_USER function

The UNFLATTEN_USER function of the USFL gate is used to unflatten the user security state data in the FLATTENED_USER buffer, and add the userid to the user domain.

Input Parameters

FLATTENED_USER
is the buffer into which the flattened security state is placed.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND

DEL_TIMEOUT_ENTRY_FAILED
DIR_MANAGER_ADD_FAILED
DIR_MANAGER_DELETE_FAILED
FREEMAIN_FAILED
GETMAIN_FAILED
LOOP
SEC_DOM_UNFLATTEN_FAILED
SEC_DOMAIN_DELETE_FAILED

The following values are returned when RESPONSE is EXCEPTION:
ALREADY_SIGNED_ON
APPLICATION_NOTAUTH
ENTRY_PORT_NOTAUTH
ESM_INACTIVE
ESM_TRANQUIL
GROUP_ACCESS_REVOKED
SECLABEL_CHECK_FAILED
SECURITY_INACTIVE
UNKNOWN_ESM_RESPONSE
USERID_NOT_IN_GROUP
USERID_REVOKED
USERID_UNDEFINED

The following values are returned when RESPONSE is INVALID:
INVALID_FLATTENED_BUFFER
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

USER_TOKEN
is the token identifying the userid in the user domain.

USIS gate, SET_USER_DOMAIN_PARMS function

At CICS startup, loads information for the user domain from the system initialization table (SIT) into the user state data.

Input Parameters

APPLID
is the application identifier for the CICS region.

DEFAULT_USERID
is the default userid, as 1 through 10 alphanumeric characters.

DIRECTORY_TIMEOUT_VALUE
is the intersystem refresh delay, in the range 0 through 10080 minutes (up to 7 days), for the default userid.

SIGNON_SCOPE
is the scope for which the default userid can be signed on.

Values for the parameter are:
CICS
MVSIMAGE
NONE
SYSPLEX

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

ABEND
LOOP

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USIS gate, INQUIRE_DOMAIN function

Allows other domains to inquire on the support provided by the user domain.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ICRX_SUPPORTED (YES|NO)
Indicates whether an ICRX (Extended Identity Context Reference) is supported.

USXM gate, ADD_TRANSACTION_USER function

The ADD_TRANSACTION_USER function of the USXM gate sets the user characteristics (as security tokens) for a transaction.

Input Parameters

EDF_USER_TOKEN
Optional Parameter

is the optional EDF user token representing the characteristics of the EDF user of the transaction.

PRINCIPAL_USER_TOKEN
Optional Parameter

is the optional principal user token representing the characteristics of the principal user of the transaction.

SESSION_USER_TOKEN
Optional Parameter

is the optional session user token representing the characteristics of the session user of the transaction.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
ALREADY_SIGNED_ON
DUPLICATE_USER
INVALID_USER_TOKEN

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USXM gate, DELETE_TRANSACTION_USER function

The DELETE_TRANSACTION_USER function of the USXM gate deletes the user token of the specified token type for the transaction.

Input Parameters

TOKEN_TYPE
is the type of user token for the transaction.

Values for the parameter are:
`EDF`
`PRINCIPAL`
`SESSION`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`NO_USER_TOKEN`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USXM gate, END_TRANSACTION function

The END_TRANSACTION function of the USXM gate deletes all the user token to security token maps for the transaction.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`FREEMAIN_FAILED`
`LOOP`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USXM gate, FLATTEN_TRANSACTION_USER function

The FLATTEN_TRANSACTION_USER function of the USXM gate creates the contents of a FLAT_TRANSUSER buffer from the principal user of the current transaction.

Input Parameters

FLAT_TRANSUSER
: is the buffer to be created.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `LOOP`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_FLAT_TRANSUSER`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USXM gate, INIT_TRANSACTION_USER function

The INIT_TRANSACTION_USER function of the USXM gate initializes the transaction for the user characteristics identified by the PRINCIPAL_USER_TOKEN value.

Input Parameters

PRINCIPAL_USER_TOKEN
: is the optional principal user token representing the characteristics of the principal user of the transaction.

EDF_USER_TOKEN
: Optional Parameter

  is the optional EDF user token representing the characteristics of the EDF user of the transaction.

SESSION_USER_TOKEN
: Optional Parameter

  is the optional session user token representing the characteristics of the session user of the transaction.

XMAT_CALL
: Optional Parameter

  indicates whether the function is called while a transaction is being attached.

  Values for the parameter are:
  `NO`
  `YES`

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `GETMAIN_FAILED`
  `LOOP`

  The following values are returned when RESPONSE is EXCEPTION:
  `INVALID_USER_TOKEN`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_FORMAT`
  `INVALID_FUNCTION`

PRIORITY
is the priority value, in the range 0 through 255 (where 255 is the highest priority), for the user with the token identified by the PRINCIPAL_USER_TOKEN value.

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

USDOM_TRANSACTION_TOKEN
is the user token to be used for reference to user characteristics only. It is treated as the principal user token until the next ADD_TRANSACTION_USER call for the transaction.

USXM gate, INQUIRE_TRANSACTION_USER function

The INQUIRE_TRANSACTION_USER function of the USXM gate inquires about the user characteristics associated with the transaction identified by the USDOM_TRANSACTION_TOKEN value.

Input Parameters

USDOM_TRANSACTION_TOKEN
Optional Parameter

is the user token to be used for reference to user characteristics only.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

ACEE_PTR
Optional Parameter

is a pointer to the access control environment element, the control block that is generated by an external user (ESM) when the user signs on. If the user is not signed on, the address of the CICS DFLTUSER's ACEEis returned. If an ACEE does not exist, CICS sets the pointer reference to the null value, X'FF000000'.

APPLID
Optional Parameter

is the application identifier for the CICS region.

CURRENT_GROUPID
Optional Parameter

is the identifier, 1 through 10 alphanumeric characters, of the current RACF user group to which the userid (specified by the SECURITY_TOKEN value) is assigned.

CURRENT_GROUPID_LENGTH
Optional Parameter

is the 8-bit length of the CURRENT_GROUPID value.

ENTRY_PORT_NAME
Optional Parameter

is the name of the entry port assigned to the userid.

ENTRY_PORT_TYPE
Optional Parameter

is the type of the entry port assigned to the userid. This parameter is only valid if ENTRY_PORT_NAME is also specified.

Values for the parameter are:
```
TERMINAL
CONSOLE
```

GROUPID_LENGTH
Optional Parameter

The length of the name of the RACF group to which the user was assigned at signon.

NATIONAL_LANGUAGE
Optional Parameter

is a three-character code identifying the national language for the userid. It can have any of the values in "Languages and their codes" on page 1331.

OPERATOR_CLASSES
Optional Parameter

identifies the operator classes to which the user belongs. This is a 24-bit value, with each bit determining whether or not the user is a member of that class.

OPERATOR_IDENT
Optional Parameter

is the operator identification code, 1 through 3 alphanumeric characters, for the userid.

OPERATOR_PRIORITY
Optional Parameter

is the operator priority value, in the range 0 through 255 (where 255 is the highest priority), for the userid.

PRINCIPAL_USER_TOKEN
Optional Parameter

is the token identifying the userid in the user domain.

TIMEOUT
Optional Parameter

is the number of minutes, in the range 0 through 60, that must elapse since the user last used the terminal before CICS "times-out" the terminal.
1. CICS rounds values up to the nearest multiple of 5.
2. A TIMEOUT value of 0 means that the terminal is not timed out.

USERID
Optional Parameter

is the identifier of the user (a userid of 1 through 10 alphanumeric characters).

USERID_LENGTH
Optional Parameter

is the length of the USERID value.

USERNAME
Optional Parameter

is an optional buffer into which the attributes of the user are placed.

XRFSOFF
Optional Parameter

indicates whether or not you want CICS to sign off the user following an XRF takeover.

Values for the parameter are:
`FORCE`
`NOFORCE`

USXM gate, TERM_TRANSACTION_USER function

The TERM_TRANSACTION_USER function of the USXM gate removes the state information created by an INIT_TRANSACTION_USER function.

Input Parameters

USDOM_TRANSACTION_TOKEN
is the user token to be used for reference to user characteristics only.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`FREEMAIN_FAILED`
`LOOP`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USXM gate, UNFLATTEN_TRANSACTION_USER function

The UNFLATTEN_TRANSACTION_USER function of the USXM gate adds (by the ADD_USER_WITHOUT_PASSWORD function of the USAD gate) the user defined by the contents of the supplied FLAT_TRANSUSER buffer.

Input Parameters

FLAT_TRANSUSER
is the buffer to be created.

SUSPEND
Optional Parameter

indicates whether a wait during add user processing is acceptable.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`APPLICATION_NOTAUTH`
`ENTRY_PORT_NOTAUTH`
`ESM_INACTIVE`
`ESM_TRANQUIL`

GROUP_ACCESS_REVOKED
INVALID_GROUPID
INVALID_USERID
SECLABEL_CHECK_FAILED
SECURITY_INACTIVE
UNKNOWN_ESM_RESPONSE
USER_NOT_LOCATED
USERID_NOT_IN_GROUP
USERID_REVOKED

PRINCIPAL_USER_TOKEN
is the token identifying the userid in the user domain.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ESM_RESPONSE
Optional Parameter

is the optional 32-bit ESM response code to the call.

SAF_RESPONSE
Optional Parameter

is the optional 32-bit SAF response code to the call.

User domain's generic gates

Table 83 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 83. User domain's generic gates

Gate	Trace	Functions	Format
DMDM	US 0101 US 0102	INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM
STST	US 0601 US 0602	COLLECT_STATISTICS COLLECT_RESOURCE_STATS	STST

In initialization processing, performs internal routines to set up the user domain, and gets the initial user options, as for the"USIS gate, SET_USER_DOMAIN_PARMS function" on page 1852.

For a cold start, the user options come from the system initialization parameters; for any other type of start, the information comes from the local catalog, but is then modified by any relevant system initialization parameters.

User domain also issues console messages during initialization to report whether or not security is active.

In quiesce and termination processing, the user domain performs only internal routines.

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

"Statistics domain's generic formats" on page 1777

Modules

Module	Function
DFHUSAD	Handles the following requests: ADD_USER_WITH_PASSWORD ADD_USER_WITHOUT_PASSWORD DELETE_USER INQUIRE_USER INQUIRE_DEFAULT_USER VALIDATE_USERID NOTIFY_USERID ADD_USER_VIA_ICRX INQUIRE_ICRX RELEASE_ICRX ICRX_TO_USERID GET_ASSOCIATED_DATA_LIST
DFHUSDM	Handles the following requests: INITIALIZE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN
DFHUSDUF	US domain offline dump formatting routine
DFHUSFL	Handles the following requests: FLATTEN_USER UNFLATTEN_USER TAKEOVER
DFHUSIS	Handles the following requests: SET_USER_DOMAIN_PARMS INQUIRE_DOMAIN
DFHUSST	Handles the following requests: COLLECT_STATISTICS COLLECT_RESOURCE_STATS
DFHUSTI	Handles user timeout processing
DFHUSTRI	Interprets US domain trace entries
DFHUSXM	Handles the following requests: ADD_TRANSACTION_USER DELETE_TRANSACTION_USER END_TRANSACTION INIT_TRANSACTION_USER INQUIRE_TRANSACTION_USER FLATTEN_TRANSACTION_USER UNFLATTEN_TRANSACTION_USER

Chapter 112. Web Domain (WB)

The Web domain manages interaction between CICS and Web clients, or between CICS as an HTTP client and servers on the Internet, with the exception of Atom feeds, which are managed by the Web 2.0 (W2) domain.

For more information about CICS as an HTTP server and CICS as an HTTP client, see the*CICS Internet Guide*.

Web Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the WB domain.

WBAP gate, END_BROWSE function

The END_BROWSE function defines the end of a browse of the HTTP headers received for an HTTP request.

Input Parameters

DATA_TYPE
Indicates whether the request is a browse operation on HTTP forms data or HTTP headers.

Values for the parameter are:
FORMFIELD
HEADER

Output Parameters

REASON
The values for the parameter are:
FORMFLD_BROWSE_NOT_ACTIVE
HEADER_BROWSE_NOT_ACTIVE
NON_WEB_TRANSACTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WBAP gate, GET_HTTP_RESPONSE function

The GET_HTTP_RESPONSE function retrieves the HTTP Response which has been constructed by a Web API application program.

Output Parameters

REASON
The values for the parameter are:
NO_PREVIOUS_WEB_SEND
NON_WEB_TRANSACTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DOCUMENT_TOKEN
Optional Parameter

A token that identifies the copy of the document stored on the last EXEC CICS WEB SEND command.

WBAP gate, GET_MESSAGE_BODY function

The GET_MESSAGE_BODY function retrieves the previously constructed body of an HTTP response.

Input Parameters

CLIENT_CODEPAGE
Optional Parameter

ASCII Code page into which the data is to be converted before being passed back to the caller

CONTAINER_NAME
Optional Parameter

The name of the container that will receive the message body.

CONTAINER_POOL
Optional Parameter

The container pool of which the named container is a member.

CONVERT
Optional Parameter

indicates whether or not data is to undergo code page conversion.

Values for the parameter are:
DEFAULT
NO
YES

DATA_BUFFER
Optional Parameter

The buffer into which the data is to be placed.

TRUNCATE
Optional Parameter

A binary value that specifies how data that is not returned on the first call is handled. **TRUNCATE(NO)** specifies that the rest of the data will be returned on subsequent calls. **TRUNCATE(YES)** specifies that the extra data will be truncated and will not be returned.

Values for the parameter are:
NO
YES

SERVER_CODEPAGE
Optional Parameter

EBCDIC Code page of the data to be passed back

Output Parameters

REASON
The values for the parameter are:
BODY_INCOMPLETE
BODY_TRUNCATED
BODY_TRUNCATED
CHUNK_INCOMPLETE
CLOSESTATUS_INVAL_NONHTTP
INVALID_CLIENT_CODEPAGE
INVALID_CLIENT_CODEPAGE

INVALID_CODEPAGE_COMBIN
INVALID_MEDIATYPE
INVALID_SERVER_CODEPAGE
INVALID_SERVER_CODEPAGE
NON_WEB_TRANSACTION
PARTIAL_BODY

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

REQUEST_TYPE
Optional Parameter

Indicates whether we are processing an HTTP Request.

Values for the parameter are:
HTTP
NON_HTTP

SET_BLOCK
Optional Parameter

Address of a block of storage containing the message body

WBAP gate, INITIALIZE_TRANSACTION function

The INITIALIZE_TRANSACTION function is used to initialize a transaction whose primary client is a WRB but whose code is not part of the WB component (such as the Pipeline Manager). It verifies the Web environment and returns useful Web state data.

Input Parameters

CLIENT_CODEPAGE
Optional Parameter

The codepage used by the client.

MEDIATYPE
Optional Parameter

The internet media type specified on the request.

URI
Optional Parameter

The URI specified in the request.

Output Parameters

REASON
The values for the parameter are:
INITIALIZATION_FAULT
NON_WEB_TRANSACTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

PIPELINE
Optional Parameter

The PIPELINE resource associated with the inbound request.

TCPIPSERVICE
Optional Parameter

The TCPIPSERVICE resource associated with the inbound request.

WEBSERVICE
: Optional Parameter

  The WEBSERVICE resource associated with the inbound request.

WBAP gate, INQUIRE function

The INQUIRE function passes back information pertaining to an HTTP request.

Input Parameters

CLIENT_NAME
: Optional Parameter

  Buffer to contain TCP/IP name of client from which HTTP request was received.

HOST_BUFFER
: Optional Parameter

HTTP_METHOD
: Optional Parameter

  Buffer to contain HTTP method specified on the HTTP request

HTTP_VERSION
: Optional Parameter

  Buffer to contain HTTP version specified on the HTTP request

QUERYSTRING
: Optional Parameter

  Buffer to contain HTTP query string specified on the HTTP request

SERVER_NAME
: Optional Parameter

  Buffer to contain TCP/IP name of CICS

URI
: Optional Parameter

  Buffer to contain URI specified on the HTTP request

Output Parameters

REASON
: The values for the parameter are:
  INVALID_REQUEST_FORMAT
  NON_WEB_TRANSACTION

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CERTIFICATE_TOKEN
: Optional Parameter

  eight byte token identifying SSL certificate of client issuing this HTTP request

CLIENT_ADDR
: Optional Parameter

  Fullword containing IP address of the client from which the HTTP request was received

REQUEST_TYPE
: Optional Parameter

  Indicates whether we are processing an HTTP Request.

  Values for the parameter are:
  HTTP

NON_HTTP

SCHEME
Optional Parameter

Values for the parameter are:
HTTP
HTTPS

SERVER_ADDR
Optional Parameter

Fullword containing IP address of the TCP/IP stack on which the HTTP request was received

SERVER_PORT
Optional Parameter

Fullword containing port number on which the HTTP request was received

SSL_TYPE
Optional Parameter

Indicates what level of SSL support applies to the incoming HTTP request.

Values for the parameter are:
CLIENTAUTH
NO
YES

URIMAP
Optional Parameter

WBAP gate, READ function

Retrieve either a specific HTTP header value from the TS queue containing the HTTP request header data or a specific form field from the fields in the HTML form for the current HTTP request.

Input Parameters

DATA_TYPE
Indicates whether the request is a browse operation on HTTP forms data or HTTP headers.

Values for the parameter are:
FORMFIELD
HEADER

HTTP_BUFFER_NAME
Optional Parameter

A block containing a character string that contains the name of the header or form field, and the length of that string.

HTTP_BUFFER_VALUE
The value of the header or form field.

CLIENT_CODEPAGE
Optional Parameter

ASCII code page into which the data is to be converted before being passed back to the caller

CONVERT
Optional Parameter

Indicates whether or not data is to undergo code page conversion.

Values for the parameter are:
DEFAULT

`NO`
`YES`

PRIVATE_DATA
Optional Parameter

A binary value indicating whether the data is private. Private data is not exposed in trace entries.

Values for the parameter are:
`NO`
`YES`

SERVER_CODEPAGE
Optional Parameter

EBCDIC code page of the data to be passed back

Output Parameters

REASON
The values for the parameter are:
`CLIENT_CODEPAGE_UNSUPP`
`CODEPAGE_NOT_FOUND`
`FORMFIELD_CANNOT_GET_BODY`
`FORMFIELD_CORRUPT_HEADER`
`FORMFIELD_NO_BOUNDARY_STR`
`FORMFIELD_NO_CONTENT_HDR`
`FORMFIELD_STRUCT_CORRUPT`
`FORMFIELD_STRUCT_FORM_ERR`
`FORMFIELD_UNKNOWN_FORMTYPE`
`FORMFLD_NOT_FOUND`
`FORMFLD_VALUE_LENGTH_ERROR`
`HEADER_NOT_FOUND`
`INVALID_CODEPAGE_COMBIN`
`INVALID_REQUEST_FORMAT`
`NO_CONVERT_PARM`
`NO_FORMS_DATA`
`NON_WEB_TRANSACTION`
`SERVER_CODEPAGE_UNSUPP`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SET_BLOCK
Optional Parameter

A block for returning the pointer and data length when the SET option is specified.

WBAP gate, READ_NEXT function

The READ_NEXT function returns the next HTTP header in a browse of HTTP headers.

Input Parameters

DATA_TYPE
Indicates whether the request is a browse operation on HTTP forms data or HTTP headers.

Values for the parameter are:
`FORMFIELD`
`HEADER`

HTTP_BUFFER_NAME
Optional Parameter

A block containing a character string that contains the name of the header or form field, and the length of that string.

HTTP_BUFFER_VALUE
The value of the header or form field.

Output Parameters

REASON
The values for the parameter are:

```
BROWSE_END
FORMFIELD_CORRUPT_HEADER
FORMFIELD_STRUCT_CORRUPT
FORMFLD_BROWSE_NOT_ACTIVE
FORMFLD_NAME_LENGTH_ERROR
FORMFLD_VALUE_LENGTH_ERROR
HEADER_BROWSE_NOT_ACTIVE
HEADER_NAME_LENGTH_ERROR
HEADER_VALUE_LENGTH_ERROR
INVALID_FORMFLD
INVALID_HEADER
NO_CONVERT_PARM
NO_FORMS_DATA
NON_WEB_TRANSACTION
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WBAP gate, SEND_RESPONSE function

The SEND_RESPONSE function identifies a CICS Document which is to be used as the body of a HTTP response, and the HTTP reason code with which that response is to be returned.

Input Parameters

ACTION
Optional Parameter

Values for the parameter are:

```
EVENTUAL
IMMEDIATE
```

CHUNKING
Optional Parameter

Specifies whether the data is to be chunked.

Values for the parameter are:

```
YES
NO
END
```

CLIENT_CODEPAGE
Optional Parameter

ASCII Code page into which the data is to be converted before being passed back to the caller

CLOSESTATUS
Optional Parameter

Controls sending of the `connect: close` header. If the session is not to persist then send the header. The default action is to not to send the `connect: close` header unless the client has indicated that it wishes to close the connection after the response has been received.

Values for the parameter are:
`CLOSE`
`NOCLOSE`

CONVERSION
Optional Parameter

A binary parameter indicating whether the data is to undergo code page conversion.

Values for the parameter are:
`NO`
`YES`

DOCUMENT_TOKEN
Optional Parameter

The 8 byte field into which CICS places the document token identifying the document which contains the body of the HTTP response.

FROM
Optional Parameter

The block containing the data to be sent.

MEDIATYPE
Optional Parameter

SERVER_CODEPAGE
Optional Parameter

EBCDIC Code page of the data to be passed back

STATUS_CODE
Optional Parameter

HTTP response code with which the HTTP response is returned

STATUS_TEXT
Optional Parameter

Text to accompany HTTP response code with which the HTTP response is returned.

Output Parameters

REASON
The values for the parameter are:
`CHUNK_INCOMPLETE`
`CHUNKING_NOT_SUPPORTED`
`CHUNKLENGTH_INVAL_HTTP10`
`CHUNKLENGTH_INVAL_NONHTTP`
`CLOSESTATUS_INVAL_NONHTTP`
`CONNECTION_CLOSED`
`DOCUMENT_NOT_FOUND`
`HEADER_MISSED_THE_BUS`
`INVALID_CHUNKSIZE`
`INVALID_CODEPAGE_COMBIN`
`INVALID_MEDIATYPE`
`INVALID_SEND_SEQUENCE`
`MSG_BODY_NOT_ALLOWED`
`NON_WEB_TRANSACTION`
`PREVIOUS_SEND_FAILED`

SOCKETS_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WBAP gate, START_BROWSE function

The START_BROWSE function starts a browse of the HTTP headers or the HTML forms data in an HTTP request.

Input Parameters

DATA_TYPE
Indicates whether the request is a browse operation on HTTP forms data or HTTP headers.

Values for the parameter are:
FORMFIELD
HEADER

CLIENT_CODEPAGE
Optional Parameter

ASCII code page into which the data is to be converted before being passed back to the caller

CONVERT
Optional Parameter

Indicates whether or not data is to undergo code page conversion.

Values for the parameter are:
DEFAULT
NO
YES

HTTP_BUFFER_NAME
Optional Parameter

A block containing a character string that contains the name of the header or form field, and the length of that string.

SERVER_CODEPAGE
Optional Parameter

EBCDIC code page of the data to be passed back

Output Parameters

REASON
The values for the parameter are:
CLIENT_CODEPAGE_UNSUPP
FORMFIELD_CANNOT_GET_BODY
FORMFIELD_CORRUPT_HEADER
FORMFIELD_NO_BOUNDARY_STR
FORMFIELD_NO_CONTENT_HDR
FORMFIELD_STRUCT_CORRUPT
FORMFIELD_STRUCT_FORM_ERR
FORMFIELD_UNKNOWN_FORMTYPE
FORMFLD_BROWSE_ACTIVE
FORMFLD_NAME_LENGTH_ERROR
HEADER_BROWSE_ACTIVE
INVALID_CODEPAGE_COMBIN
INVALID_FORMFLD
INVALID_REQUEST_FORMAT

NO_CONVERT_PARM
NO_FORMS_DATA
NON_WEB_TRANSACTION
SERVER_CODEPAGE_UNSUPP

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WBAP gate, WRITE_HEADER function

The WRITE_HEADER function causes a HTTP response header to be stored by CICS.

Input Parameters

HTTP_BUFFER_NAME
Optional Parameter

A block containing a character string that contains the name of the header or form field, and the length of that string.

HTTP_BUFFER_VALUE
The value of the header.

Output Parameters

REASON
The values for the parameter are:
INVALID_TRAILER_HEADER
NON_WEB_TRANSACTION
TRAILER_NOT_SUPPORTED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WBCL gate, CLOSE_SESSION function

The CLOSE_SESSION function ends the connection to the server by closing the socket and releasing the session control block.

Input Parameters

SESSION_TOKEN

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
EXIT_LINKAGE_ERROR
FREEMAIN_FAILED
GETMAIN_FAILED
LOOP

The following values are returned when RESPONSE is EXCEPTION:
BODY_NOT_ALLOWED
BODY_REQUIRED
BODY_TRUNCATED
BROWSE_ERROR
CHUNKING_ERROR
CHUNKING_NOT_SUPPORTED
COMBINATION_UNSUPPORTED
CONNECT_FAILED

CONNECTION_CLOSE_SENT
CONNECTION_CLOSED
CONTAINER_NOT_FOUND
END_HEADERS
ESCAPE_ERROR
EXPECT_REJECTED
HEADER_NAME_LENGTH_ERROR
HEADER_NOT_FOUND
HEADER_VALUE_LENGTH_ERROR
HTTP_ERROR
INVALID_CHARSET
INVALID_CHUNK
INVALID_CLIENT_CERTIFICATE
INVALID_DOCUMENT_TOKEN
INVALID_HOST
INVALID_HOST_CODEPAGE
INVALID_PATH
INVALID_RESPONSE_HEADER
INVALID_SCHEME
INVALID_SESSION_TOKEN
INVALID_URL
MEDIATYPE_INVALID
MEDIATYPE_NOT_ALLOWED
MEDIATYPE_REQUIRED
METHOD_NOT_ALLOWED
NO_RESPONSE_HEADERS
NOT_AUTHORIZED
PARTIAL_BODY
PIPELINING_ERROR
PROXY_ERROR
SOCKET_ERROR
STATUS_TEXT_TRUNCATED
TIMED_OUT
TRANSLATE_ERROR
UNKNOWN_HOST
UNKNOWN_PROXY
URIMAP_DISABLED
URIMAP_HOST_ERROR
URIMAP_NOT_FOUND
URIMAP_PATH_ERROR
XWBOPEN_ERROR

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION
OMITTED_PARAMETER

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WBCL gate, END_BROWSE_HEADERS function

The END_BROWSE_HEADERS function ends a browse of the HTTP headers for an HTTP response that has been received.

Input Parameters

SESSION_TOKEN

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

ABEND
EXIT_LINKAGE_ERROR
FREEMAIN_FAILED
GETMAIN_FAILED
LOOP

The following values are returned when RESPONSE is EXCEPTION:

BODY_NOT_ALLOWED
BODY_REQUIRED
BODY_TRUNCATED
BROWSE_ERROR
CHUNKING_ERROR
CHUNKING_NOT_SUPPORTED
COMBINATION_UNSUPPORTED
CONNECT_FAILED
CONNECTION_CLOSE_SENT
CONNECTION_CLOSED
CONTAINER_NOT_FOUND
END_HEADERS
ESCAPE_ERROR
EXPECT_REJECTED
HEADER_NAME_LENGTH_ERROR
HEADER_NOT_FOUND
HEADER_VALUE_LENGTH_ERROR
HTTP_ERROR
INVALID_CHARSET
INVALID_CHUNK
INVALID_CLIENT_CERTIFICATE
INVALID_DOCUMENT_TOKEN
INVALID_HOST
INVALID_HOST_CODEPAGE
INVALID_PATH
INVALID_RESPONSE_HEADER
INVALID_SCHEME
INVALID_SESSION_TOKEN
INVALID_URL
MEDIATYPE_INVALID
MEDIATYPE_NOT_ALLOWED
MEDIATYPE_REQUIRED
METHOD_NOT_ALLOWED
NO_RESPONSE_HEADERS
NOT_AUTHORIZED
PARTIAL_BODY
PIPELINING_ERROR
PROXY_ERROR
SOCKET_ERROR
STATUS_TEXT_TRUNCATED
TIMED_OUT
TRANSLATE_ERROR
UNKNOWN_HOST
UNKNOWN_PROXY
URIMAP_DISABLED
URIMAP_HOST_ERROR

URIMAP_NOT_FOUND
URIMAP_PATH_ERROR
XWBOPEN_ERROR

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION
OMITTED_PARAMETER

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WBCL gate, INQUIRE_SESSION function

The INQUIRE_SESSION function returns information about the specified connection to a server, represented by the session token.

Input Parameters

SESSION_TOKEN

HOST_BUFFER
Optional Parameter

PATH_BUFFER
Optional Parameter

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
EXIT_LINKAGE_ERROR
FREEMAIN_FAILED
GETMAIN_FAILED
LOOP

The following values are returned when RESPONSE is EXCEPTION:
BODY_NOT_ALLOWED
BODY_REQUIRED
BODY_TRUNCATED
BROWSE_ERROR
CHUNKING_ERROR
CHUNKING_NOT_SUPPORTED
COMBINATION_UNSUPPORTED
CONNECT_FAILED
CONNECTION_CLOSE_SENT
CONNECTION_CLOSED
CONTAINER_NOT_FOUND
END_HEADERS
ESCAPE_ERROR
EXPECT_REJECTED
HEADER_NAME_LENGTH_ERROR
HEADER_NOT_FOUND
HEADER_VALUE_LENGTH_ERROR
HTTP_ERROR
INVALID_CHARSET
INVALID_CHUNK
INVALID_CLIENT_CERTIFICATE
INVALID_DOCUMENT_TOKEN
INVALID_HOST

INVALID_HOST_CODEPAGE
INVALID_PATH
INVALID_RESPONSE_HEADER
INVALID_SCHEME
INVALID_SESSION_TOKEN
INVALID_URL
MEDIATYPE_INVALID
MEDIATYPE_NOT_ALLOWED
MEDIATYPE_REQUIRED
METHOD_NOT_ALLOWED
NO_RESPONSE_HEADERS
NOT_AUTHORIZED
PARTIAL_BODY
PIPELINING_ERROR
PROXY_ERROR
SOCKET_ERROR
STATUS_TEXT_TRUNCATED
TIMED_OUT
TRANSLATE_ERROR
UNKNOWN_HOST
UNKNOWN_PROXY
URIMAP_DISABLED
URIMAP_HOST_ERROR
URIMAP_NOT_FOUND
URIMAP_PATH_ERROR
XWBOPEN_ERROR

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION
OMITTED_PARAMETER

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

HTTP_RNUM
Optional Parameter

HTTP_VNUM
Optional Parameter

PORT
Optional Parameter

SCHEME
Optional Parameter

Values for the parameter are:
HTTP
HTTPS
OTHER

| **BIN_IP_ADDRESS**
| Binary format IP address
| **IP_ADDRESS**
| Character format IP address
| **IP_ADDRESS_LEN**
| Length of IP_ADDRESS
| **IP_ADDRESS_TYPE**
| Values for the parameter are:
| IPV4_HOST
| IPV6_HOST

| **HOSTTYPE**
| Values for the parameter are:
| IPV4_HOST
| IPV6_HOST
| **CHUNKED_REQUEST**
| Values for the parameter are:
| YES
| NO

URIMAP
Optional Parameter

WBCL gate, OPEN_SESSION function

The OPEN_SESSION function opens a session with the HTTP server.

Input Parameters

HOST
PORT
SCHEME

Values for the parameter are:
HTTP
HTTPS
OTHER

CERTIFICATE_LABEL
Optional Parameter

CIPHER_COUNT
Optional Parameter

The number of cipher suites encoded in the CIPHER_SUITES parameter.

CIPHER_SUITES
Optional Parameter

A string of up to 56 hexadecimal digits that encodes a list of up to 28 2-digit cipher suite codes.

HOST_CODEPAGE
Optional Parameter

PROXY_URL
Optional Parameter

URIMAP
Optional Parameter

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
EXIT_LINKAGE_ERROR
FREEMAIN_FAILED
GETMAIN_FAILED
LOOP

The following values are returned when RESPONSE is EXCEPTION:
BODY_NOT_ALLOWED
BODY_REQUIRED
BODY_TRUNCATED
BROWSE_ERROR
CHUNKING_ERROR
CHUNKING_NOT_SUPPORTED

COMBINATION_UNSUPPORTED
CONNECT_FAILED
CONNECTION_CLOSE_SENT
CONNECTION_CLOSED
CONTAINER_NOT_FOUND
END_HEADERS
ESCAPE_ERROR
EXPECT_REJECTED
HEADER_NAME_LENGTH_ERROR
HEADER_NOT_FOUND
HEADER_VALUE_LENGTH_ERROR
HTTP_ERROR
INVALID_CHARSET
INVALID_CHUNK
INVALID_CLIENT_CERTIFICATE
INVALID_DOCUMENT_TOKEN
INVALID_HOST
INVALID_HOST_CODEPAGE
INVALID_PATH
INVALID_RESPONSE_HEADER
INVALID_SCHEME
INVALID_SESSION_TOKEN
INVALID_URL
MEDIATYPE_INVALID
MEDIATYPE_NOT_ALLOWED
MEDIATYPE_REQUIRED
METHOD_NOT_ALLOWED
NO_RESPONSE_HEADERS
NOT_AUTHORIZED
PARTIAL_BODY
PIPELINING_ERROR
PROXY_ERROR
SOCKET_ERROR
STATUS_TEXT_TRUNCATED
TIMED_OUT
TRANSLATE_ERROR
UNKNOWN_HOST
UNKNOWN_PROXY
URIMAP_DISABLED
URIMAP_HOST_ERROR
URIMAP_NOT_FOUND
URIMAP_PATH_ERROR
XWBOPEN_ERROR

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION
OMITTED_PARAMETER

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SESSION_TOKEN

HTTP_RNUM
Optional Parameter

HTTP_VNUM
Optional Parameter

WBCL gate, PARSE_URL function

The PARSE_URL function parses a URL into its constituent components.

Input Parameters

URL

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

ABEND
EXIT_LINKAGE_ERROR
FREEMAIN_FAILED
GETMAIN_FAILED
LOOP

The following values are returned when RESPONSE is EXCEPTION:

BODY_NOT_ALLOWED
BODY_REQUIRED
BODY_TRUNCATED
BROWSE_ERROR
CHUNKING_ERROR
CHUNKING_NOT_SUPPORTED
COMBINATION_UNSUPPORTED
CONNECT_FAILED
CONNECTION_CLOSE_SENT
CONNECTION_CLOSED
CONTAINER_NOT_FOUND
END_HEADERS
ESCAPE_ERROR
EXPECT_REJECTED
HEADER_NAME_LENGTH_ERROR
HEADER_NOT_FOUND
HEADER_VALUE_LENGTH_ERROR
HTTP_ERROR
INVALID_CHARSET
INVALID_CHUNK
INVALID_CLIENT_CERTIFICATE
INVALID_DOCUMENT_TOKEN
INVALID_HOST
INVALID_HOST_CODEPAGE
INVALID_PATH
INVALID_RESPONSE_HEADER
INVALID_SCHEME
INVALID_SESSION_TOKEN
INVALID_URL
MEDIATYPE_INVALID
MEDIATYPE_NOT_ALLOWED
MEDIATYPE_REQUIRED
METHOD_NOT_ALLOWED
NO_RESPONSE_HEADERS
NOT_AUTHORIZED
PARTIAL_BODY
PIPELINING_ERROR
PROXY_ERROR
SOCKET_ERROR
STATUS_TEXT_TRUNCATED

TIMED_OUT
TRANSLATE_ERROR
UNKNOWN_HOST
UNKNOWN_PROXY
URIMAP_DISABLED
URIMAP_HOST_ERROR
URIMAP_NOT_FOUND
URIMAP_PATH_ERROR
XWBOPEN_ERROR

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION
OMITTED_PARAMETER

HOST
Optional Parameter

| **HOSTTYPE**
| Values for the parameter are:
| IPV4_HOST
| IPV6_HOST

PATH
Optional Parameter

PORT
Optional Parameter

QUERY_STRING
Optional Parameter

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SCHEME

Values for the parameter are:

HTTP
HTTPS
OTHER

BIN_IP_ADDRESS
Binary IP address

SCHEME_NAME
Optional Parameter

WBCL gate, READ_HEADER function

The READ_HEADER function reads a specific HTTP header from the HTTP response that has been received.

Input Parameters

NAME
SESSION_TOKEN
VALUE_BUFFER

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

ABEND
EXIT_LINKAGE_ERROR
FREEMAIN_FAILED
GETMAIN_FAILED

```
LOOP
```

The following values are returned when RESPONSE is EXCEPTION:

```
BODY_NOT_ALLOWED
BODY_REQUIRED
BODY_TRUNCATED
BROWSE_ERROR
CHUNKING_ERROR
CHUNKING_NOT_SUPPORTED
COMBINATION_UNSUPPORTED
CONNECT_FAILED
CONNECTION_CLOSE_SENT
CONNECTION_CLOSED
CONTAINER_NOT_FOUND
END_HEADERS
ESCAPE_ERROR
EXPECT_REJECTED
HEADER_NAME_LENGTH_ERROR
HEADER_NOT_FOUND
HEADER_VALUE_LENGTH_ERROR
HTTP_ERROR
INVALID_CHARSET
INVALID_CHUNK
INVALID_CLIENT_CERTIFICATE
INVALID_DOCUMENT_TOKEN
INVALID_HOST
INVALID_HOST_CODEPAGE
INVALID_PATH
INVALID_RESPONSE_HEADER
INVALID_SCHEME
INVALID_SESSION_TOKEN
INVALID_URL
MEDIATYPE_INVALID
MEDIATYPE_NOT_ALLOWED
MEDIATYPE_REQUIRED
METHOD_NOT_ALLOWED
NO_RESPONSE_HEADERS
NOT_AUTHORIZED
PARTIAL_BODY
PIPELINING_ERROR
PROXY_ERROR
SOCKET_ERROR
STATUS_TEXT_TRUNCATED
TIMED_OUT
TRANSLATE_ERROR
UNKNOWN_HOST
UNKNOWN_PROXY
URIMAP_DISABLED
URIMAP_HOST_ERROR
URIMAP_NOT_FOUND
URIMAP_PATH_ERROR
XWBOPEN_ERROR
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
OMITTED_PARAMETER
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WBCL gate, READ_NEXT_HEADER function

The READ_NEXT_HEADER function reads the next HTTP header in the browse operation for an HTTP response that has been received.

Input Parameters

NAME_BUFFER
SESSION_TOKEN
VALUE_BUFFER

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

```
ABEND
EXIT_LINKAGE_ERROR
FREEMAIN_FAILED
GETMAIN_FAILED
LOOP
```

The following values are returned when RESPONSE is EXCEPTION:

```
BODY_NOT_ALLOWED
BODY_REQUIRED
BODY_TRUNCATED
BROWSE_ERROR
CHUNKING_ERROR
CHUNKING_NOT_SUPPORTED
COMBINATION_UNSUPPORTED
CONNECT_FAILED
CONNECTION_CLOSE_SENT
CONNECTION_CLOSED
CONTAINER_NOT_FOUND
END_HEADERS
ESCAPE_ERROR
EXPECT_REJECTED
HEADER_NAME_LENGTH_ERROR
HEADER_NOT_FOUND
HEADER_VALUE_LENGTH_ERROR
HTTP_ERROR
INVALID_CHARSET
INVALID_CHUNK
INVALID_CLIENT_CERTIFICATE
INVALID_DOCUMENT_TOKEN
INVALID_HOST
INVALID_HOST_CODEPAGE
INVALID_PATH
INVALID_RESPONSE_HEADER
INVALID_SCHEME
INVALID_SESSION_TOKEN
INVALID_URL
MEDIATYPE_INVALID
MEDIATYPE_NOT_ALLOWED
MEDIATYPE_REQUIRED
METHOD_NOT_ALLOWED
```

NO_RESPONSE_HEADERS
NOT_AUTHORIZED
PARTIAL_BODY
PIPELINING_ERROR
PROXY_ERROR
SOCKET_ERROR
STATUS_TEXT_TRUNCATED
TIMED_OUT
TRANSLATE_ERROR
UNKNOWN_HOST
UNKNOWN_PROXY
URIMAP_DISABLED
URIMAP_HOST_ERROR
URIMAP_NOT_FOUND
URIMAP_PATH_ERROR
XWBOPEN_ERROR

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION
OMITTED_PARAMETER

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WBCL gate, READ_RESPONSE function

The READ_RESPONSE function waits for and then reads the HTTP response that is expected from the HTTP server.

Input Parameters

SESSION_TOKEN
An 8-byte binary value that uniquely identifies the connection between CICS as an HTTP client, and an HTTP server.

BODY
Optional Parameter

A buffer that will receive the HTTP response.

CONTAINER_NAME
Optional Parameter

The name of the container that will receive the message body.

CONTAINER_POOL
Optional Parameter

The container pool of which the named container is a member.

HOST_CODEPAGE
Optional Parameter

MAX_DATA_LENGTH
Optional Parameter

STATUS_TEXT
Optional Parameter

Text to accompany HTTP response code with which the HTTP response is returned.

TIME_OUT_VALUE
Optional Parameter

TRANSLATE
Optional Parameter

Values for the parameter are:
NO
YES

TRUNCATE
Optional Parameter

indicates whether or not data is to be truncated if the buffer is too small.

Values for the parameter are:
NO
YES

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
EXIT_LINKAGE_ERROR
FREEMAIN_FAILED
GETMAIN_FAILED
LOOP

The following values are returned when RESPONSE is EXCEPTION:
BODY_NOT_ALLOWED
BODY_REQUIRED
BODY_TRUNCATED
BROWSE_ERROR
CHUNKING_ERROR
CHUNKING_NOT_SUPPORTED
COMBINATION_UNSUPPORTED
CONNECT_FAILED
CONNECTION_CLOSE_SENT
CONNECTION_CLOSED
CONTAINER_NOT_FOUND
END_HEADERS
ESCAPE_ERROR
EXPECT_REJECTED
HEADER_NAME_LENGTH_ERROR
HEADER_NOT_FOUND
HEADER_VALUE_LENGTH_ERROR
HTTP_ERROR
INVALID_CHARSET
INVALID_CHUNK
INVALID_CLIENT_CERTIFICATE
INVALID_DOCUMENT_TOKEN
INVALID_HOST
INVALID_HOST_CODEPAGE
INVALID_PATH
INVALID_RESPONSE_HEADER
INVALID_SCHEME
INVALID_SESSION_TOKEN
INVALID_URL
MEDIATYPE_INVALID
MEDIATYPE_NOT_ALLOWED
MEDIATYPE_REQUIRED
METHOD_NOT_ALLOWED
NO_RESPONSE_HEADERS
NOT_AUTHORIZED

PARTIAL_BODY
PIPELINING_ERROR
PROXY_ERROR
SOCKET_ERROR
STATUS_TEXT_TRUNCATED
TIMED_OUT
TRANSLATE_ERROR
UNKNOWN_HOST
UNKNOWN_PROXY
URIMAP_DISABLED
URIMAP_HOST_ERROR
URIMAP_NOT_FOUND
URIMAP_PATH_ERROR
XWBOPEN_ERROR

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION
OMITTED_PARAMETER

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STATUS_CODE

CHARSET
Optional Parameter

MEDIATYPE
Optional Parameter

SET_BUFFER
Optional Parameter

WBCL gate, START_BROWSE_HEADERS function

The START_BROWSE_HEADERS function starts a browse of the HTTP headers for a response that has been received.

Input Parameters

SESSION_TOKEN

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
EXIT_LINKAGE_ERROR
FREEMAIN_FAILED
GETMAIN_FAILED
LOOP

The following values are returned when RESPONSE is EXCEPTION:
BODY_NOT_ALLOWED
BODY_REQUIRED
BODY_TRUNCATED
BROWSE_ERROR
CHUNKING_ERROR
CHUNKING_NOT_SUPPORTED
COMBINATION_UNSUPPORTED
CONNECT_FAILED
CONNECTION_CLOSE_SENT

CONNECTION_CLOSED
CONTAINER_NOT_FOUND
END_HEADERS
ESCAPE_ERROR
EXPECT_REJECTED
HEADER_NAME_LENGTH_ERROR
HEADER_NOT_FOUND
HEADER_VALUE_LENGTH_ERROR
HTTP_ERROR
INVALID_CHARSET
INVALID_CHUNK
INVALID_CLIENT_CERTIFICATE
INVALID_DOCUMENT_TOKEN
INVALID_HOST
INVALID_HOST_CODEPAGE
INVALID_PATH
INVALID_RESPONSE_HEADER
INVALID_SCHEME
INVALID_SESSION_TOKEN
INVALID_URL
MEDIATYPE_INVALID
MEDIATYPE_NOT_ALLOWED
MEDIATYPE_REQUIRED
METHOD_NOT_ALLOWED
NO_RESPONSE_HEADERS
NOT_AUTHORIZED
PARTIAL_BODY
PIPELINING_ERROR
PROXY_ERROR
SOCKET_ERROR
STATUS_TEXT_TRUNCATED
TIMED_OUT
TRANSLATE_ERROR
UNKNOWN_HOST
UNKNOWN_PROXY
URIMAP_DISABLED
URIMAP_HOST_ERROR
URIMAP_NOT_FOUND
URIMAP_PATH_ERROR
XWBOPEN_ERROR

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION
OMITTED_PARAMETER

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WBCL gate, WRITE_HEADER function

The WRITE_HEADER function adds one HTTP header to the HTTP request being composed. It can be called multiple times to add multiple headers.

Input Parameters

NAME
SESSION_TOKEN

VALUE

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

ABEND
EXIT_LINKAGE_ERROR
FREEMAIN_FAILED
GETMAIN_FAILED
LOOP

The following values are returned when RESPONSE is EXCEPTION:

BODY_NOT_ALLOWED
BODY_REQUIRED
BODY_TRUNCATED
BROWSE_ERROR
CHUNKING_ERROR
CHUNKING_NOT_SUPPORTED
COMBINATION_UNSUPPORTED
CONNECT_FAILED
CONNECTION_CLOSE_SENT
CONNECTION_CLOSED
CONTAINER_NOT_FOUND
END_HEADERS
ESCAPE_ERROR
EXPECT_REJECTED
HEADER_NAME_LENGTH_ERROR
HEADER_NOT_FOUND
HEADER_VALUE_LENGTH_ERROR
HTTP_ERROR
INVALID_CHARSET
INVALID_CHUNK
INVALID_CLIENT_CERTIFICATE
INVALID_DOCUMENT_TOKEN
INVALID_HOST
INVALID_HOST_CODEPAGE
INVALID_PATH
INVALID_RESPONSE_HEADER
INVALID_SCHEME
INVALID_SESSION_TOKEN
INVALID_URL
MEDIATYPE_INVALID
MEDIATYPE_NOT_ALLOWED
MEDIATYPE_REQUIRED
METHOD_NOT_ALLOWED
NO_RESPONSE_HEADERS
NOT_AUTHORIZED
PARTIAL_BODY
PIPELINING_ERROR
PROXY_ERROR
SOCKET_ERROR
STATUS_TEXT_TRUNCATED
TIMED_OUT
TRANSLATE_ERROR
UNKNOWN_HOST
UNKNOWN_PROXY

URIMAP_DISABLED
URIMAP_HOST_ERROR
URIMAP_NOT_FOUND
URIMAP_PATH_ERROR
XWBOPEN_ERROR

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION
OMITTED_PARAMETER

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WBCL gate, WRITE_REQUEST function

The WRITE_REQUEST function appends the request body to the HTTP request being composed, and schedules it to be sent. It also handles sending a chunk of data.

Input Parameters

METHOD

Values for the parameter are:
DELETE
GET
HEADS
LINK
OPTIONS
POST
PUT
REQUEUE
TRACE
UNLINK

SESSION_TOKEN

ACTION
Optional Parameter

Values for the parameter are:
EVENTUAL
EXPECT
IMMEDIATE

ACTION_PARAMETER
Optional Parameter

BODY
Optional Parameter

A buffer that contains the HTTP request.

CHARSET
Optional Parameter

CHUNK
Optional Parameter

A block that contains chunked data.

CLOSE
Optional Parameter

Values for the parameter are:
NO

YES

CONTAINER_NAME
Optional Parameter

The name of the container that contains the request.

CONTAINER_POOL
Optional Parameter

The container pool of which the named container is a member.

CONVERSE
Optional Parameter

Values for the parameter are:
NO
YES

DOCUMENT_TOKEN
Optional Parameter

The 8 byte field into which CICS places the document token identifying the document which contains the body of the HTTP response

HOST_CODEPAGE
Optional Parameter

MEDIATYPE
Optional Parameter

PATH
Optional Parameter

QUERY_STRING
Optional Parameter

TRANSLATE
Optional Parameter

Values for the parameter are:
NO
YES

URIMAP
Optional Parameter

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
EXIT_LINKAGE_ERROR
FREEMAIN_FAILED
GETMAIN_FAILED
LOOP

The following values are returned when RESPONSE is EXCEPTION:
BODY_NOT_ALLOWED
BODY_REQUIRED
BODY_TRUNCATED
BROWSE_ERROR
CHUNKING_ERROR
CHUNKING_NOT_SUPPORTED
COMBINATION_UNSUPPORTED
CONNECT_FAILED
CONNECTION_CLOSE_SENT
CONNECTION_CLOSED
CONTAINER_NOT_FOUND
END_HEADERS

ESCAPE_ERROR
EXPECT_REJECTED
HEADER_NAME_LENGTH_ERROR
HEADER_NOT_FOUND
HEADER_VALUE_LENGTH_ERROR
HTTP_ERROR
INVALID_CHARSET
INVALID_CHUNK
INVALID_CLIENT_CERTIFICATE
INVALID_DOCUMENT_TOKEN
INVALID_HOST
INVALID_HOST_CODEPAGE
INVALID_MEDIATYPE
INVALID_PATH
INVALID_RESPONSE_HEADER
INVALID_SCHEME
INVALID_SESSION_TOKEN
INVALID_URL
MEDIATYPE_NOT_ALLOWED
MEDIATYPE_REQUIRED
METHOD_NOT_ALLOWED
NO_RESPONSE_HEADERS
NOT_AUTHORIZED
PARTIAL_BODY
PIPELINING_ERROR
PROXY_ERROR
SOCKET_ERROR
STATUS_TEXT_TRUNCATED
TIMED_OUT
TRANSLATE_ERROR
UNKNOWN_HOST
UNKNOWN_PROXY
URIMAP_DISABLED
URIMAP_HOST_ERROR
URIMAP_NOT_FOUND
URIMAP_PATH_ERROR
XWBOPEN_ERROR

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION
OMITTED_PARAMETER

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WBFM gate, PARSE_MULTIPART_FORM function

This function takes a form encoded as multipart form data (with media type multipart/form-data) and converts it into a formfield structure.

Input parameters

SOURCE_DATA
This is the area containing the source data, consisting of a multipart/form-data message body.

CLIENT_CCSID
Optional parameter. This is used to interpret the value strings for multipart forms data.

SOURCE_CCSID
Optional parameter. This is the source CCSID in which the form boundary string is provided. If omitted, it defaults to the client CCSID.

TARGET_CCSID
Optional parameter. This is the target CCSID in which output data is required. If omitted, it defaults to the source CCSID.

FORM_BOUNDARY
This specifies the boundary string in the source CCSID. If the source CCSID is not 819, the boundary string is copied and converted from the source CCSID to CCSID 819 before being used to scan the message body.

SUBPOOL_TOKEN
Optional parameter. This specifies the token for the subpool from which the form field structure storage is to be allocated. If this is omitted, the storage is obtained from STORAGE_CLASS(TASK31).

Output Parameters

FORM_STRUCTURE
This is the returned address and length of the allocated form field structure.

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
CCSID_CONVERSION_ERROR
CCSID_NOT_SUPPORTED
FORMS_DECODE_ERROR
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
INVALID_PARAMETER
```

The following values are returned when RESPONSE is DISASTER:

```
ABEND
INTERNAL_ERROR
FAILURE
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WBFM gate, PARSE_URL_ENCODED_FORM function

This function takes a URL-encoded forms data stream and converts it into a form field structure.

Input parameters

SOURCE_DATA
This is the area containing the source data, consisting of URL-encoded forms data.

CLIENT_CCSID
Optional parameter. This is used to interpret percent-encoded escape sequences for URL-encoded data. If omitted, the default value is 819.

SOURCE_CCSID
Optional parameter. This is the source CCSID in which URL-encoded input data is provided. If omitted, it defaults to the client CCSID.

TARGET_CCSID
Optional parameter. This is the target CCSID in which output data is required. If omitted, it defaults to the source CCSID.

SUBPOOL_TOKEN
Optional parameter. This specifies the token for the subpool from which the form field structure storage is to be allocated. If this is omitted, the storage is obtained from STORAGE_CLASS(TASK31).

Output Parameters

FORM_STRUCTURE
This is the returned address and length of the allocated form field structure.

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
CCSID_CONVERSION_ERROR
CCSID_NOT_SUPPORTED
FORMS_DECODE_ERROR
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
INVALID_PARAMETER
```

The following values are returned when RESPONSE is DISASTER:

```
ABEND
INTERNAL_ERROR
FAILURE
```

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

WBFM gate, PARSE_URL_ENCODED_LIST function

This function takes a URL-encoded forms data stream and converts it into a form field structure.

Input parameters

SOURCE_DATA
This is the area containing the source data, consisting of URL-encoded forms data.

CLIENT_CCSID
Optional parameter. This is used to interpret percent-encoded escape sequences for URL-encoded data. If omitted, the default value is 819.

SOURCE_CCSID
Optional parameter. This is the source CCSID in which URL-encoded input data is provided. If omitted, it defaults to the client CCSID.

TARGET_CCSID
Optional parameter. This is the target CCSID in which output data is required. If omitted, it defaults to the source CCSID.

NAME_DELIMITER
Optional parameter. This delimiter separates names from values in the source CCSID. The default value is "=".

FIELD_DELIMITER
Optional parameter. This delimiter separates name-value pairs in the source CCSID. The default value is "&".

PRIV_DELIMITER
Optional parameter. This is an alternative delimiter for name-value pairs in the source CCSID. If omitted, no alternative delimiter is used.

UNESCAPE
Optional parameter. This specifies whether percent-encoded escape sequences should be resolved during PARSE_URL_ENCODED_FORM processing. The default value is YES.

SUBPOOL_TOKEN
Optional parameter. This specifies the token for the subpool from which the form field structure storage is to be allocated. If this is omitted, the storage is obtained from STORAGE_CLASS(TASK31).

Output Parameters

FORM_STRUCTURE
This is the returned address and length of the form field structure allocated for forms requests.

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
CCSID_CONVERSION_ERROR
CCSID_NOT_SUPPORTED
FORMS_DECODE_ERROR
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
INVALID_PARAMETER
```

The following values are returned when RESPONSE is DISASTER:

```
ABEND
INTERNAL_ERROR
FAILURE
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WBFM gate, URL_DECODE function

This function processes a URL-encoded value in the source CCSID and converts it to a standard character string in the target CCSID.

Input parameters

SOURCE_DATA
This is the area containing the source data, consisting of URL-encoded forms data.

TARGET_BUFFER
This specifies the target buffer. If the specified buffer size is too small but other processing is successful, an OUTPUT_BUFFER_OVERFLOW exception is indicated and the required total size is returned as the actual length.

CLIENT_CCSID
Optional parameter. This is used to interpret percent-encoded escape sequences for URL-encoded data. If omitted, the default value is 819.

SOURCE_CCSID
Optional parameter. This is the source CCSID in which URL-encoded input data is provided. If omitted, it defaults to the client CCSID.

TARGET_CCSID
Optional parameter. This is the target CCSID in which output data is required. If omitted, it defaults to the source CCSID.

Output Parameters

`REASON`

The following values are returned when RESPONSE is EXCEPTION:

- `OUTPUT_BUFFER_OVERFLOW`
- `CCSID_CONVERSION_ERROR`
- `CCSID_NOT_SUPPORTED`
- `FORMS_DECODE_ERROR`

The following values are returned when RESPONSE is INVALID:

- `INVALID_FORMAT`
- `INVALID_FUNCTION`
- `INVALID_PARAMETER`

The following values are returned when RESPONSE is DISASTER:

- `ABEND`
- `INTERNAL_ERROR`
- `FAILURE`

`RESPONSE`

Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

WBSR gate, RECEIVE function

The RECEIVE function receives an HTTP Request off a socket, and parses it in order to determine what to do with it.

Input Parameters

`INITIAL_RECEIVE`

Indicates whether this is the first receive issued by the caller.

Values for the parameter are:

- `NO`
- `YES`

Output Parameters

`REASON`

The following values are returned when RESPONSE is DISASTER:

- `LOGIC_ERROR`

The following values are returned when RESPONSE is EXCEPTION:

- `ANALYZER_ABEND`
- `ANALYZER_DATALENG_ERROR`
- `ANALYZER_ERROR`
- `ANALYZER_LINK_ERROR`
- `BASIC_AUTHENTICATE_ERROR`
- `CHARACTERSET_ERROR`
- `CHUNKED_CONTENT_CONFLICT`
- `CLIENT_AUTHENTICATE_ERROR`
- `CLIENT_ERROR`
- `CODEPAGE_CONVERSION_ERROR`
- `CONNECTION_CLOSED`
- `DATA_LENGTH_EXCEEDED`
- `GETMAIN_FAILED`
- `HDR_LENGTH_ERROR`
- `HEADER_CONVERSION_ERROR`
- `HOSTCODEPAGE_ERROR`
- `HTTP10_INVALID_EXPECT`
- `INSUFFICIENT_THREADS`

INVALID_CHUNK
INVALID_CHUNK_SIZE_HEADER
INVALID_EXPECT_HEADER
INVALID_STATIC_TYPE
METHOD_NOT_IMPLEMENTED
NO_ANALYZER_SPECIFIED
NO_DATA
NO_HOST_HEADER
NON_HTTP_DATA
PRECONDITION_FAILED
RECEIVE_ERROR
REQUEST_TIMEOUT
SEND_ERROR
SSL_HANDSHAKE_ERROR
STATIC_DATA_NOT_FOUND
STATIC_DATA_NOTAUTH
STATIC_DATA_READ_ERROR
TRAILER_LENGTH_ERROR
UNAVAILABLE
USER_DATA_CONVERSION_ERROR
VERSION_NOT_SUPPORTED

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION
INVALID_SESSION_TOKEN

ATTACH_TRANSID
Transaction ID of Web alias transaction to be attached to continue processing the HTTP request.

CONNECTION_PERSIST
Indicates whether the HTTP Request included the HTTP 1.0 Keepalive header.

Values for the parameter are:
NO
YES

FAILING_PROGRAM
Name of program which returned an error in the course of receiving the HTTP request.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TOKEN
Token uniquely identifying the WebRequestBlock associated with this HTTP request.

WBSR gate, SEND function

The SEND function returns the response constructed following receipt of an HTTP request.

Input Parameters

TOKEN
Token identifying WebRequestBlock with which this SEND is associated

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

LOGIC_ERROR

The following values are returned when RESPONSE is EXCEPTION:

ANALYZER_ABEND
ANALYZER_DATALENG_ERROR
ANALYZER_ERROR
ANALYZER_LINK_ERROR
BASIC_AUTHENTICATE_ERROR
CHARACTERSET_ERROR
CHUNKED_CONTENT_CONFLICT
CLIENT_AUTHENTICATE_ERROR
CLIENT_ERROR
CODEPAGE_CONVERSION_ERROR
CONNECTION_CLOSED
DATA_LENGTH_EXCEEDED
GETMAIN_FAILED
HDR_LENGTH_ERROR
HEADER_CONVERSION_ERROR
HOSTCODEPAGE_ERROR
HTTP10_INVALID_EXPECT
INSUFFICIENT_THREADS
INVALID_CHUNK
INVALID_CHUNK_SIZE_HEADER
INVALID_EXPECT_HEADER
INVALID_STATIC_TYPE
METHOD_NOT_IMPLEMENTED
NO_ANALYZER_SPECIFIED
NO_DATA
NO_HOST_HEADER
NON_HTTP_DATA
PRECONDITION_FAILED
RECEIVE_ERROR
REQUEST_TIMEOUT
SEND_ERROR
SSL_HANDSHAKE_ERROR
STATIC_DATA_NOT_FOUND
STATIC_DATA_NOTAUTH
STATIC_DATA_READ_ERROR
TRAILER_LENGTH_ERROR
UNAVAILABLE
USER_DATA_CONVERSION_ERROR
VERSION_NOT_SUPPORTED

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION
INVALID_SESSION_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

WBSR gate, SEND_STATIC_RESPONSE function

The SEND_STATIC_RESPONSE function returns a static response specified by a URIMAP definition following receipt of an HTTP request.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

`LOGIC_ERROR`

The following values are returned when RESPONSE is EXCEPTION:

```
ANALYZER_ABEND
ANALYZER_DATALENG_ERROR
ANALYZER_ERROR
ANALYZER_LINK_ERROR
BASIC_AUTHENTICATE_ERROR
CHARACTERSET_ERROR
CHUNKED_CONTENT_CONFLICT
CLIENT_AUTHENTICATE_ERROR
CLIENT_ERROR
CODEPAGE_CONVERSION_ERROR
CONNECTION_CLOSED
DATA_LENGTH_EXCEEDED
GETMAIN_FAILED
HDR_LENGTH_ERROR
HEADER_CONVERSION_ERROR
HOSTCODEPAGE_ERROR
HTTP10_INVALID_EXPECT
INSUFFICIENT_THREADS
INVALID_CHUNK
INVALID_CHUNK_SIZE_HEADER
INVALID_EXPECT_HEADER
INVALID_STATIC_TYPE
METHOD_NOT_IMPLEMENTED
NO_ANALYZER_SPECIFIED
NO_DATA
NO_HOST_HEADER
NON_HTTP_DATA
PRECONDITION_FAILED
RECEIVE_ERROR
REQUEST_TIMEOUT
SEND_ERROR
SSL_HANDSHAKE_ERROR
STATIC_DATA_NOT_FOUND
STATIC_DATA_NOTAUTH
STATIC_DATA_READ_ERROR
TRAILER_LENGTH_ERROR
UNAVAILABLE
USER_DATA_CONVERSION_ERROR
VERSION_NOT_SUPPORTED
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
INVALID_SESSION_TOKEN
```

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WBSV gate, READ_REQUEST function

The READ_REQUEST function receives the HTTP message body.

Input parameters

SESSION_TOKEN
: This is the Web server session token.

BODY_BUFFER
: This is the buffer to be received as part of the HTTP message.

RECEIVE_TYPE
: This is the type of receive. Values for the parameter are:

    SYNC
    ASYNC

TRUNCATE
: Optional parameter. This specifies whether the HTTP message is to be truncated. Values for the parameter are

    <u>NO</u>
    YES

:

TIME_OUT_VALUE
: Optional parameter. This is the time-out period, in seconds, when receiving an HTTP message.

Output parameters

MEDIATYPE
: Optional parameter. This is the mediatype of the HTTP message.

CONTENT_LENGTH
: Optional parameter. This is the length in the HTTP Content-Length header.

REASON
: The following values are returned when RESPONSE is EXCEPTION:

    PARTIAL_BODY
    BODY_TRUNCATED
    HEADERS_MAXLEN_EXCEEDED
    NO_CONTENT_LENGTH
    FIRST_LINE_INVALID
    SCHEDULED
    HEADERS_PARTLY_PEEKED
    ASYNC_TRUNCATE_INVALID
    BODY_ALREADY_RECEIVED
    TIMED_OUT
    INVALID_SESSION_TOKEN
    CONNECTION_CLOSED
    CONNECTION_CLOSED_ASYNC0
    SOCKET_ERROR
    SOCKET_ERROR_ASYNC0

    The following values are returned when RESPONSE is INVALID:

    INVALID_FORMAT
    INVALID_FUNCTION

    The following values are returned when RESPONSE is DISASTER:

    ABEND
    LOOP

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9

WBSV gate, WRITE_RESPONSE function

The WRITE_RESPONSE function sends the HTTP message.

Input parameters

SESSION_TOKEN
This is the Web server session token.

BODY | BODY_LIST
This is the body list to be sent as the body of an HTTP message.

MEDIATYPE
This is the media type of the HTTP message.

STATUS_TEXT
This is the status text to be sent with the HTTP message. The default is "OK".

STATUS_CODE
This is the status code to be sent with the HTTP message. The default is 200.

HEADER1_NAME
This is the name of the first additional HTTP header to be sent with the HTTP message.

HEADER2_NAME
This is the name of the second HTTP header to be sent with the HTTP message.

HEADER2_VALUE
This is the value of the second HTTP header to be sent with the HTTP message.

HEADER3_NAME
This is the name of the third HTTP header to be sent with the HTTP message.

HEADER3_VALUE
This is the value of the third HTTP header to be sent with the HTTP message.

HEADER_NAME_LIST
This is the list of header names to be sent with the HTTP message.

HEADER_VALUE_LIST
This is the list of header values to be sent with the HTTP message.

| **TIME_OUT_VALUE**
| This is the timeout value to be applied to the socket SEND for the response.

Output parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:

```
HEADER1_NAME_NOTALLOWED
HEADER2_NAME_NOTALLOWED
HEADER3_NAME_NOTALLOWED
HEADERLIST_NAME_NOTALLOWED
MAX_LIST_SIZE_EXCEEDED
NO_CLIENT_CHARSET
HEADERS_MAXLEN_EXCEEDED
INVALID_SESSION_TOKEN
INVALID_MEDIATYPE
CONNECTION_CLOSED
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
```

The following values are returned when RESPONSE is DISASTER:

```
ABEND
LOOP
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WBSV gate, PEEK_HEADERS function

The PEEK_HEADERS function peeks the HTTP headers.

Input parameters

SESSION_TOKEN
This is the Web server session token.

HEADER1_NAME
Optional parameter. This is the name of the first additional HTTP header to be sent with the HTTP message.

HEADER2_NAME
Optional parameter. This is the name of the second HTTP header to be sent with the HTTP message.

HEADER3_NAME
Optional parameter. This is the name of the third HTTP header to be sent with the HTTP message.

HEADER_NAME_LIST
Optional parameter. This is the list of header names to be sent with the HTTP message.

HEADER_VALUE_LIST
This is the list of header values to be sent with the HTTP message.

HEADERS_OPTIONAL
Optional parameter. This specifies whether an exception response should be suppressed if specified headers are missing. Values for the parameter are:
YES
NO

Output parameters

HEADER1_VALUE_SETBUF
Optional parameter. This is the block for HEADER1_VALUE_SETDATA. It sets the buffer to be returned to the caller.

HEADER2_VALUE_SETBUF
Optional parameter. This is the block for HEADER2_VALUE_SETDATA. It sets the buffer to be returned to the caller.

HEADER3_VALUE_SETBUF
Optional parameter. This is the block for HEADER3_VALUE_SETDATA. It sets the buffer to be returned to the caller.

CONTENT_LENGTH
This is the length in the HTTP Content-Length header.

REASON
The following values are returned when RESPONSE is EXCEPTION:
SCHEDULED
HEADERS_MAXLEN_EXCEEDED
NO_CONTENT_LENGTH
NO_CONTENT_TYPE
FIRST_LINE_INVALID
NO_STORAGE_AVAILABLE
HEADER1_TOO_LONG
HEADER2_TOO_LONG

HEADER3_TOO_LONG
UNSUPPORTED_VERSION
INVALID_CONTENT_LENGTH
NO_HEADER1
NO_HEADER2
NO_HEADER3
METHOD_NOT_SUPPORTED
HEADER1_INVALID
HEADER2_INVALID
HEADER3_INVALID
HEADER1_EQ_HEADER2
LAST_BODY_NOT_RECEIVED
INVALID_SESSION_TOKEN
CONNECTION_CLOSED
CONNECTION_CLOSED_ASYNC0
SOCKET_ERROR
SOCKET_ERROR_ASYNC0
INVALID_PARAMETERS
LIST_HEADER_MISSING
HEADER_NAME_TOO_LONG
HEADER_INVALID

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9

WBSV gate, INQUIRE_CURRENT_SESSION function

The INQUIRE_CURRENT_SESSION function inquires on the current session.

Output parameters

SESSION_TOKEN
Optional parameter. This is the Web server session token.

USER_TOKEN
Optional parameter. This is the ISC user token.

SERVER_BIN_IP_ADDRESS
Optional parameter. This is the server IP address returned by a SOCKETS_INQUIRE.

SERVER_IP_ADDRESS
Optional parameter. This is the IP address of the server.

SERVER_IP_ADDRESS_LEN
Optional parameter. This is the length of the server IP address.

| **SERVER_IP_ADDRESS_TYPE**
| Optional parameter. This is address type of the server IP address.

| **CLIENT_BIN_IP_ADDRESS**
| Optional parameter. This is the binary form of the client IP address.

CLIENT_IP_ADDRESS
Optional parameter. This is the IP address of the client.

CLIENT_IP_ADDRESS_LEN
Optional parameter. This is the length of the client IP address.

CLIENT_IP_ADDRESS_TYPE
Optional parameter. This is address type of the client IP address.

TCPIPSERVICE_NAME
Optional parameter. This is the TCPIP service name returned by SOCKETS_INQUIRE.

TRANSID
Optional parameter. This is the transaction ID returned by SOCKETS_INQUIRE.

LISTENER_PORT
Optional parameter. This is the listener port number returned by SOCKETS_INQUIRE.

SSLTYPE
Optional parameter. This is the SSL type returned by SOCKETS_INQUIRE.

PROTOCOL
Optional parameter. This is the protocol returned by SOCKETS_INQUIRE.

SOCKET_TOKEN
Optional parameter. This is the socket token returned by SOCKETS_INQUIRE.

CLUSTER_TYPE
Optional parameter. This is the cluster type returned by SOCKETS_INQUIRE. Values for the parameter are:
NONE
SAME_SYSPLEX
SAME_IMAGE
SAME_STACK

REASON
The following values are returned when RESPONSE is EXCEPTION:
`NON_WEB_TRANSACTION`
`SESSION_CLOSED`
`INFO_NOT_AVAILABLE`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9

WBSV gate, SET_SESSION function

The SET_SESSION function sets the current session.

Input parameters

SESSION_TOKEN
This is the Web server session token.

USER_TOKEN
Optional parameter. This is the ISC user token.

APPLDATA_SFX
Optional parameter. This is the Application Data Suffix.

TRACE_SUPPRESSION
Optional parameter. This specifies whether tracing of the HTTP body is to be suppressed by the Socket Domain. Values for the parameter are:
YES
NO

Output parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `INVALID_SESSION_TOKEN`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_FORMAT`
  `INVALID_FUNCTION`

  The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `LOOP`

RESPONSE
: Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9

WBSV gate, CLOSE_SESSION function

The CLOSE_SESSION function sets the current session.

Input parameters

SESSION_TOKEN
: This is the Web server session token.

Output parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `INVALID_SESSION_TOKEN`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_FORMAT`
  `INVALID_FUNCTION`

  The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `LOOP`

RESPONSE
: Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9

WBSV gate, INQUIRE_SESSION function

The INQUIRE_SESSION function inquires on the session.

Input parameters

SESSION_TOKEN
: This is the Web server session token.

Output parameters

SOCKET_TOKEN
: Optional parameter.

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `INVALID_SESSION_TOKEN`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_FORMAT`
  `INVALID_FUNCTION`

  The following values are returned when RESPONSE is DISASTER:

ABEND
LOOP

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9

WBUR gate, ADD_REPLACE_URIMAP function

The ADD_REPLACE_URIMAP function adds or replaces a URIMAP resource into the Web domain. The parameters correspond to attributes specified on the URIMAP definition.

Input Parameters

HOST
The host name of the URI to which the URIMAP resource applies, or its IPv4 or IPv6 address.

PATH
The path component of the URI to which the URIMAP resource applies.

URIMAP
The name of the URIMAP resource.

ANALYZER
Optional Parameter

A binary value that specifies whether an analyzer program is to be used in processing HTTP requests.

Values for the parameter are:
NO
YES

CERTIFICATE_LABEL
Optional Parameter

The label of the X.509 certificate that is to be used as the SSL client certificate during the SSL handshake.

CHARACTERSET
Optional Parameter

The character set into which CICS converts the entity body of the response that is sent to the Web client.

CIPHER_COUNT
Optional Parameter

The number of cipher suites encoded in the **CIPHER_SUITES** parameter.

CIPHER_SUITES
Optional Parameter

A string of up to 56 hexadecimal digits that is interpreted as a list of up to 28 2-digit cipher suite codes.

CONVERTER
Optional Parameter

The name of a converter program that is to be run to perform conversion or other processing on the request and response.

HFSFILE
Optional Parameter

The fully qualified or relative name of an HFS file that forms the body of the static response which is sent to the HTTP request from the Web client.

HOSTCODEPAGE
Optional Parameter

The EBCDIC code page in which the text document that forms the static response is encoded.

MEDIATYPE
Optional Parameter

The media type of the static response that CICS provides to the HTTP request, for example `image/jpg`, `text/html`, or `text/xml`.

PIPELINE_NAME
Optional Parameter

The PIPELINE resource used by Web Service requests for the URIMAP.

PROGRAM
Optional Parameter

The name of the user application program that composes the HTTP response for the URIMAP.

REDIRECTION_LOCATION
Optional Parameter

A URL to which the client's request should be redirected.

REDIRECTION_TYPE
Optional Parameter

The type of redirection for requests that match the URIMAP resource. When redirection is required, the REDIRECTION_LOCATION parameter specifies the URL to which the request should be redirected.

Values for the parameter are:

```
NONE
PERMANENT
TEMPORARY
```

NONE
Requests are not redirected.

TEMPORARY
Requests are redirected on a temporary basis. The URL specified by the LOCATION attribute is used for redirection, and the status code used for the response is 302 (Found).

PERMANENT
Requests are redirected permanently. The URL specified by the LOCATION attribute is used for redirection, and the status code used for the response is 301 (Moved Permanently).

SCHEME
Optional Parameter

The scheme component of the URI to which the URIMAP resource applies.

Values for the parameter are:

```
HTTP
HTTPS
WMQ
```

STATUS
Optional Parameter

The enabled or disabled state of the URIMAP resource.

Values for the parameter are:

```
DISABLED
DISABLEDHOST
ENABLED
```

TCPIPSERVICE
Optional Parameter

The name of the TCPIPSERVICE resource that defines the inbound port to which the URIMAP resource relates.

TEMPLATENAME
Optional Parameter

The name of a CICS document template that forms the body of the static response that is sent to the HTTP request from the Web client.

TRANSACTION
Optional Parameter

The name of an alias transaction that is to be used to run the user application that composes the HTTP response, or to start the pipeline.

USAGE
Optional Parameter

Specifies how the URIMAP resource is used.

Values for the parameter are:
ATOM
CLIENT
PIPELINE
SERVER

USERID
Optional Parameter

The user ID under which requests for the URIMAP are initially processed.

WEBSERVICE_NAME
Optional Parameter

The name of a WEBSERVICE resource associated with the URIMAP.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
BROWSE_END
CCNV_ERROR
CONFLICTING_ATTRIBUTES
DIRECTORY_ERROR
DUPLICATE_MAPPING
GETMAIN_FAILED
INVALID_BROWSE_TOKEN
INVALID_CHARACTERSET
INVALID_HOSTCODEPAGE
INVALID_HOSTNAME
INVALID_PATHNAME
LOCATION_INVALID
NO_REDIRECTION_LOCATION
NOT_FOUND
NOT_POSSIBLE
SECURITY_FAILED
SSL_INACTIVE
URIMAP_ENABLED

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

DUPLICATE_URIMAP
Optional Parameter

WBUR gate, DELETE_URIMAP function

The DELETE_URIMAP function deletes a URIMAP definition from the Web domain.

Input Parameters

URIMAP

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:

BROWSE_END
CCNV_ERROR
CONFLICTING_ATTRIBUTES
DIRECTORY_ERROR
DUPLICATE_MAPPING
GETMAIN_FAILED
INVALID_BROWSE_TOKEN
INVALID_CHARACTERSET
INVALID_HOSTCODEPAGE
INVALID_HOSTNAME
INVALID_PATHNAME
LOCATION_INVALID
NO_REDIRECTION_LOCATION
NOT_FOUND
NOT_POSSIBLE
SECURITY_FAILED
SSL_INACTIVE
URIMAP_ENABLED

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WBUR gate, END_BROWSE_HOST function

The END_BROWSE_HOST function is used to end a browse of the virtual host names in the Web domain.

Input Parameters

BROWSE_TOKEN

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
BROWSE_END
CCNV_ERROR
CONFLICTING_ATTRIBUTES
DIRECTORY_ERROR
DUPLICATE_MAPPING
GETMAIN_FAILED
INVALID_BROWSE_TOKEN
INVALID_CHARACTERSET
INVALID_HOSTCODEPAGE
INVALID_HOSTNAME
INVALID_PATHNAME
LOCATION_INVALID
NO_REDIRECTION_LOCATION
NOT_FOUND
NOT_POSSIBLE
SECURITY_FAILED
SSL_INACTIVE
URIMAP_ENABLED

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WBUR gate, END_BROWSE_URIMAP function

The END_BROWSE_URIMAP function is used to end a browse through the URIMAP resources in the Web domain.

Input Parameters

BROWSE_TOKEN

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
BROWSE_END
CCNV_ERROR
CONFLICTING_ATTRIBUTES
DIRECTORY_ERROR
DUPLICATE_MAPPING
GETMAIN_FAILED
INVALID_BROWSE_TOKEN
INVALID_CHARACTERSET
INVALID_HOSTCODEPAGE
INVALID_HOSTNAME
INVALID_PATHNAME
LOCATION_INVALID
NO_REDIRECTION_LOCATION

NOT_FOUND
NOT_POSSIBLE
SECURITY_FAILED
SSL_INACTIVE
URIMAP_ENABLED

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WBUR gate, GET_NEXT_HOST function

The GET_NEXT_HOST function is used to continue a browse through the virtual host names in the Web domain.

Input Parameters

BROWSE_TOKEN
HOST

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
BROWSE_END
CCNV_ERROR
CONFLICTING_ATTRIBUTES
DIRECTORY_ERROR
DUPLICATE_MAPPING
GETMAIN_FAILED
INVALID_BROWSE_TOKEN
INVALID_CHARACTERSET
INVALID_HOSTCODEPAGE
INVALID_HOSTNAME
INVALID_PATHNAME
LOCATION_INVALID
NO_REDIRECTION_LOCATION
NOT_FOUND
NOT_POSSIBLE
SECURITY_FAILED
SSL_INACTIVE
URIMAP_ENABLED

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STATUS

Values for the parameter are:
DISABLED

DISABLEDHOST
ENABLED

TCPIPSERVICE

WBUR gate, GET_NEXT_URIMAP function

The GET_NEXT_URIMAP function is used to continue a browse through the URIMAP resources in the Web domain.

Input Parameters

BROWSE_TOKEN
See "The **BROWSE_TOKEN** parameter on domain interfaces" on page 9

HFSFILE
Optional Parameter

The fully qualified or relative name of an HFS file that forms the body of the static response which is sent to the HTTP request from the Web client.

HOST
The host name of the URI to which the URIMAP resource applies, or its IPv4 or IPv6 address.

PATH
The path component of the URI to which the URIMAP resource applies.

REDIRECTION_LOCATION
Optional Parameter

A URL to which the client's request should be redirected.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
BROWSE_END
CCNV_ERROR
CONFLICTING_ATTRIBUTES
DIRECTORY_ERROR
DUPLICATE_MAPPING
GETMAIN_FAILED
INVALID_BROWSE_TOKEN
INVALID_CHARACTERSET
INVALID_HOSTCODEPAGE
INVALID_HOSTNAME
INVALID_PATHNAME
LOCATION_INVALID
NO_REDIRECTION_LOCATION
NOT_FOUND
NOT_POSSIBLE
SECURITY_FAILED
SSL_INACTIVE
URIMAP_ENABLED

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

URIMAP
The name of the URIMAP resource.

ANALYZER
Optional Parameter

A binary value that specifies whether an analyzer program is to be used in processing HTTP requests.

Values for the parameter are:
`NO`
`YES`

CERTIFICATE_LABEL
Optional Parameter

The label of the X.509 certificate that is to be used as the SSL client certificate during the SSL handshake.

CHARACTERSET
Optional Parameter

The character set into which CICS converts the entity body of the response that is sent to the Web client.

CIPHER_COUNT
Optional Parameter

The number of cipher suites encoded in the **CIPHER_SUITES** parameter.

CIPHER_SUITES
Optional Parameter

A string of up to 56 hexadecimal digits that is interpreted as a list of up to 28 2-digit cipher suite codes.

CONVERTER
Optional Parameter

The name of a converter program that is to be run to perform conversion or other processing on the request and response.

HOSTCODEPAGE
Optional Parameter

The EBCDIC code page in which the text document that forms the static response is encoded.

MEDIATYPE
Optional Parameter

The media type of the static response that CICS provides to the HTTP request, for example `image/jpg`, `text/html`, or `text/xml`.

PIPELINE_NAME
Optional Parameter

The PIPELINE resource used by Web Service requests for the URIMAP.

PROGRAM
Optional Parameter

The name of the user application program that composes the HTTP response for the URIMAP.

REDIRECTION_TYPE
Optional Parameter

The type of redirection for requests that match the URIMAP resource. When redirection is required, the REDIRECTION_LOCATION parameter specifies the URL to which the request should be redirected.

Values for the parameter are:
```
NONE
PERMANENT
TEMPORARY
```

NONE
: Requests are not redirected.

TEMPORARY
: Requests are redirected on a temporary basis. The URL specified by the LOCATION attribute is used for redirection, and the status code used for the response is 302 (Found).

PERMANENT
: Requests are redirected permanently. The URL specified by the LOCATION attribute is used for redirection, and the status code used for the response is 301 (Moved Permanently).

SCHEME

Optional Parameter

The scheme component of the URI to which the URIMAP resource applies.

Values for the parameter are:
```
HTTP
HTTPS
WMQ
```

STATUS

Optional Parameter

The enabled or disabled state of the URIMAP resource.

Values for the parameter are:
```
DISABLED
DISABLEDHOST
ENABLED
```

TCPIPSERVICE

Optional Parameter

The name of the TCPIPSERVICE resource that defines the inbound port to which the URIMAP resource relates.

TEMPLATENAME

Optional Parameter

The name of a CICS document template that forms the body of the static response that is sent to the HTTP request from the Web client.

TRANSACTION

Optional Parameter

The name of an alias transaction that is to be used to run the user application that composes the HTTP response, or to start the pipeline.

USAGE

Optional Parameter

Specifies how the URIMAP resource is used.

Values for the parameter are:
```
ATOM
CLIENT
PIPELINE
SERVER
```

USERID
Optional Parameter

The user ID under which requests for the URIMAP are initially processed.

WEBSERVICE_NAME
Optional Parameter

The name of a WEBSERVICE resource associated with the URIMAP.

WBUR gate, INITIALIZE_URIMAPS function

The INITIALIZE_URIMAPS function initializes the Web domain state required by the URIMAP support.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
BROWSE_END
CCNV_ERROR
CONFLICTING_ATTRIBUTES
DIRECTORY_ERROR
DUPLICATE_MAPPING
GETMAIN_FAILED
INVALID_BROWSE_TOKEN
INVALID_CHARACTERSET
INVALID_HOSTCODEPAGE
INVALID_HOSTNAME
INVALID_PATHNAME
LOCATION_INVALID
NO_REDIRECTION_LOCATION
NOT_FOUND
NOT_POSSIBLE
SECURITY_FAILED
SSL_INACTIVE
URIMAP_ENABLED

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WBUR gate, INQUIRE_HOST function

The INQUIRE_HOST function is used to inquire on the attributes of a virtual host.

Input Parameters

HOST

TCPIPSERVICE
Optional Parameter

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
BROWSE_END
CCNV_ERROR
CONFLICTING_ATTRIBUTES
DIRECTORY_ERROR
DUPLICATE_MAPPING
GETMAIN_FAILED
INVALID_BROWSE_TOKEN
INVALID_CHARACTERSET
INVALID_HOSTCODEPAGE
INVALID_HOSTNAME
INVALID_PATHNAME
LOCATION_INVALID
NO_REDIRECTION_LOCATION
NOT_FOUND
NOT_POSSIBLE
SECURITY_FAILED
SSL_INACTIVE
URIMAP_ENABLED

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

STATUS

Values for the parameter are:
DISABLED
DISABLEDHOST
ENABLED

WBUR gate, INQUIRE_URIMAP function

The INQUIRE_URIMAP function is used to inquire on the attributes of a URIMAP resource.

Input Parameters

URIMAP
The name of the URIMAP resource.

HFSFILE
Optional Parameter

The fully qualified or relative name of an HFS file that forms the body of the static response which is sent to the HTTP request from the Web client.

HOST
The host name of the URI to which the URIMAP resource applies, or its IPv4 or IPv6 address.

PATH
The path component of the URI to which the URIMAP resource applies.

REDIRECTION_LOCATION
Optional Parameter

A URL to which the client's request should be redirected.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:
- ABEND
- LOOP

The following values are returned when RESPONSE is EXCEPTION:
- BROWSE_END
- CCNV_ERROR
- CONFLICTING_ATTRIBUTES
- DIRECTORY_ERROR
- DUPLICATE_MAPPING
- GETMAIN_FAILED
- INVALID_BROWSE_TOKEN
- INVALID_CHARACTERSET
- INVALID_HOSTCODEPAGE
- INVALID_HOSTNAME
- INVALID_PATHNAME
- LOCATION_INVALID
- NO_REDIRECTION_LOCATION
- NOT_FOUND
- NOT_POSSIBLE
- SECURITY_FAILED
- SSL_INACTIVE
- URIMAP_ENABLED

The following values are returned when RESPONSE is INVALID:
- INVALID_FORMAT
- INVALID_FUNCTION

RESPONSE

Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

ANALYZER

Optional Parameter

A binary value that specifies whether an analyzer program is to be used in processing HTTP requests.

Values for the parameter are:
- NO
- YES

CERTIFICATE_LABEL

Optional Parameter

The label of the X.509 certificate that is to be used as the SSL client certificate during the SSL handshake.

CHARACTERSET

Optional Parameter

The character set into which CICS converts the entity body of the response that is sent to the Web client.

CIPHER_COUNT

Optional Parameter

The number of cipher suites encoded in the **CIPHER_SUITES** parameter.

CIPHER_SUITES

Optional Parameter

A string of up to 56 hexadecimal digits that is interpreted as a list of up to 28 2-digit cipher suite codes.

CONVERTER
Optional Parameter

The name of a converter program that is to be run to perform conversion or other processing on the request and response.

HOSTCODEPAGE
Optional Parameter

The EBCDIC code page in which the text document that forms the static response is encoded.

MEDIATYPE
Optional Parameter

The media type of the static response that CICS provides to the HTTP request, for example `image/jpg`, `text/html`, or `text/xml`.

PIPELINE_NAME
Optional Parameter

The PIPELINE resource used by Web Service requests for the URIMAP.

PROGRAM
Optional Parameter

The name of the user application program that composes the HTTP response for the URIMAP.

REDIRECTION_TYPE
Optional Parameter

The type of redirection for requests that match the URIMAP resource. When redirection is required, the REDIRECTION_LOCATION parameter specifies the URL to which the request should be redirected.

Values for the parameter are:
`NONE`
`PERMANENT`
`TEMPORARY`

NONE
Requests are not redirected.

TEMPORARY
Requests are redirected on a temporary basis. The URL specified by the LOCATION attribute is used for redirection, and the status code used for the response is 302 (Found).

PERMANENT
Requests are redirected permanently. The URL specified by the LOCATION attribute is used for redirection, and the status code used for the response is 301 (Moved Permanently).

SCHEME
Optional Parameter

The scheme component of the URI to which the URIMAP resource applies.

Values for the parameter are:
`HTTP`
`HTTPS`
`WMQ`

STATUS
Optional Parameter

The enabled or disabled state of the URIMAP resource.

Values for the parameter are:
`DISABLED`

DISABLEDHOST
ENABLED

TCPIPSERVICE
Optional Parameter

The name of the TCPIPSERVICE resource that defines the inbound port to which the URIMAP resource relates.

TEMPLATENAME
Optional Parameter

The name of a CICS document template that forms the body of the static response that is sent to the HTTP request from the Web client.

TRANSACTION
Optional Parameter

The name of an alias transaction that is to be used to run the user application that composes the HTTP response, or to start the pipeline.

USAGE
Optional Parameter

Specifies how the URIMAP resource is used.

Values for the parameter are:
ATOM
CLIENT
PIPELINE
SERVER

USERID
Optional Parameter

The user ID under which requests for the URIMAP are initially processed.

WEBSERVICE_NAME
Optional Parameter

The name of a WEBSERVICE resource associated with the URIMAP.

WBUR gate, LOCATE_URIMAP function

The LOCATE_URIMAP function is used to locate a URIMAP definition associated with a specified HOST and PATH.

Input Parameters

HOST
PATH
HFSFILE
Optional parameter
PORT
Optional parameter
REDIRECTION_LOCATION
Optional parameter
TCPIPSERVICE
Optional parameter

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:

BROWSE_END
CCNV_ERROR
CONFLICTING_ATTRIBUTES
DIRECTORY_ERROR
DUPLICATE_MAPPING
GETMAIN_FAILED
INVALID_BROWSE_TOKEN
INVALID_CHARACTERSET
INVALID_HOSTCODEPAGE
INVALID_HOSTNAME
INVALID_PATHNAME
LOCATION_INVALID
NO_REDIRECTION_LOCATION
NOT_FOUND
NOT_POSSIBLE
SECURITY_FAILED
SSL_INACTIVE
URIMAP_ENABLED

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

URIMAP
ANALYZER
Optional parameter

Values for the parameter are:
NO
YES

CERTIFICATE_LABEL
Optional parameter

CHARACTERSET
Optional parameter

CIPHER_COUNT
Optional parameter

CIPHER_SUITES
Optional parameter

CONVERTER
Optional parameter

HOSTCODEPAGE
Optional parameter

MEDIATYPE
Optional parameter

PIPELINE_NAME
Optional parameter

PROGRAM
Optional parameter

REDIRECTION_TYPE
Optional parameter

Values for the parameter are:
NONE
PERMANENT
TEMPORARY

SCHEME
Optional parameter

Values for the parameter are:
`HTTP`
`HTTPS`
`WMQ`

STATUS
Optional parameter

Values for the parameter are:
`DISABLED`
`DISABLEDHOST`
`ENABLED`

TEMPLATENAME
Optional parameter

TRANSACTION
Optional parameter

UME_TOKEN
Optional parameter

USAGE
Optional parameter

Values for the parameter are:
`CLIENT`
`PIPELINE`
`SERVER`

USERID
Optional parameter

WEBSERVICE_NAME
Optional parameter

WBUR gate, SET_HOST function

The SET_HOST function is used to set the attributes of a virtual host.

Input Parameters

HOST

STATUS

Values for the parameter are:
`DISABLED`
`DISABLEDHOST`
`ENABLED`

TCPIPSERVICE
Optional Parameter

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`BROWSE_END`
`CCNV_ERROR`
`CONFLICTING_ATTRIBUTES`
`DIRECTORY_ERROR`
`DUPLICATE_MAPPING`

GETMAIN_FAILED
INVALID_BROWSE_TOKEN
INVALID_CHARACTERSET
INVALID_HOSTCODEPAGE
INVALID_HOSTNAME
INVALID_PATHNAME
LOCATION_INVALID
NO_REDIRECTION_LOCATION
NOT_FOUND
NOT_POSSIBLE
SECURITY_FAILED
SSL_INACTIVE
URIMAP_ENABLED

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WBUR gate, SET_URIMAP function

The SET_URIMAP function is used to set the attributes of a URIMAP resource.

Input Parameters

URIMAP
The name of the URIMAP resource.

ANALYZER
Optional Parameter

A binary value that specifies whether an analyzer program is to be used in processing HTTP requests.

Values for the parameter are:
NO
YES

CERTIFICATE_LABEL
Optional Parameter

The label of the X.509 certificate that is to be used as the SSL client certificate during the SSL handshake.

CHARACTERSET
Optional Parameter

The character set into which CICS converts the entity body of the response that is sent to the Web client.

CIPHER_COUNT
Optional Parameter

The number of cipher suites encoded in the **CIPHER_SUITES** parameter.

CIPHER_SUITES
Optional Parameter

A string of up to 56 hexadecimal digits that is interpreted as a list of up to 28 2-digit cipher suite codes.

CONVERTER
Optional Parameter

The name of a converter program that is to be run to perform conversion or other processing on the request and response.

HFSFILE
: Optional Parameter

  The fully qualified or relative name of an HFS file that forms the body of the static response which is sent to the HTTP request from the Web client.

HOST
: The host name of the URI to which the URIMAP resource applies, or its IPv4 or IPv6 address.

HOSTCODEPAGE
: Optional Parameter

  The EBCDIC code page in which the text document that forms the static response is encoded.

MEDIATYPE
: Optional Parameter

  The media type of the static response that CICS provides to the HTTP request, for example `image/jpg`, `text/html`, or `text/xml`.

PATH
: The path component of the URI to which the URIMAP resource applies.

PIPELINE_NAME
: Optional Parameter

  The PIPELINE resource used by Web Service requests for the URIMAP.

PROGRAM
: Optional Parameter

  The name of the user application program that composes the HTTP response for the URIMAP.

REDIRECTION_LOCATION
: Optional Parameter

  A URL to which the client's request should be redirected.

REDIRECTION_TYPE
: Optional Parameter

  The type of redirection for requests that match the URIMAP resource. When redirection is required, the REDIRECTION_LOCATION parameter specifies the URL to which the request should be redirected.

  Values for the parameter are:

  ```
  NONE
  PERMANENT
  TEMPORARY
  ```

  NONE
  : Requests are not redirected.

  TEMPORARY
  : Requests are redirected on a temporary basis. The URL specified by the LOCATION attribute is used for redirection, and the status code used for the response is 302 (Found).

  PERMANENT
  : Requests are redirected permanently. The URL specified by the LOCATION attribute is used for redirection, and the status code used for the response is 301 (Moved Permanently).

SCHEME
: Optional Parameter

  The scheme component of the URI to which the URIMAP resource applies.

Values for the parameter are:
`HTTP`
`HTTPS`
`WMQ`

STATUS
Optional Parameter

The enabled or disabled state of the URIMAP resource.

Values for the parameter are:
`DISABLED`
`DISABLEDHOST`
`ENABLED`

TCPIPSERVICE
Optional Parameter

The name of the TCPIPSERVICE resource that defines the inbound port to which the URIMAP resource relates.

TEMPLATENAME
Optional Parameter

The name of a CICS document template that forms the body of the static response that is sent to the HTTP request from the Web client.

TRANSACTION
Optional Parameter

The name of an alias transaction that is to be used to run the user application that composes the HTTP response, or to start the pipeline.

USAGE
Optional Parameter

Specifies how the URIMAP resource is used.

Values for the parameter are:
`ATOM`
`CLIENT`
`PIPELINE`
`SERVER`

USERID
Optional Parameter

The user ID under which requests for the URIMAP are initially processed.

WEBSERVICE_NAME
Optional Parameter

The name of a WEBSERVICE resource associated with the URIMAP.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`BROWSE_END`
`CCNV_ERROR`
`CONFLICTING_ATTRIBUTES`
`DIRECTORY_ERROR`
`DUPLICATE_MAPPING`
`GETMAIN_FAILED`
`INVALID_BROWSE_TOKEN`

INVALID_CHARACTERSET
INVALID_HOSTCODEPAGE
INVALID_HOSTNAME
INVALID_PATHNAME
LOCATION_INVALID
NO_REDIRECTION_LOCATION
NOT_FOUND
NOT_POSSIBLE
SECURITY_FAILED
SSL_INACTIVE
URIMAP_ENABLED

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WBUR gate, START_BROWSE_HOST function

The START_BROWSE_HOST function is used to begin a browse through the virtual host names in the Web domain.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
BROWSE_END
CCNV_ERROR
CONFLICTING_ATTRIBUTES
DIRECTORY_ERROR
DUPLICATE_MAPPING
GETMAIN_FAILED
INVALID_BROWSE_TOKEN
INVALID_CHARACTERSET
INVALID_HOSTCODEPAGE
INVALID_HOSTNAME
INVALID_PATHNAME
LOCATION_INVALID
NO_REDIRECTION_LOCATION
NOT_FOUND
NOT_POSSIBLE
SECURITY_FAILED
SSL_INACTIVE
URIMAP_ENABLED

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

BROWSE_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

WBUR gate, START_BROWSE_URIMAP function

The START_BROWSE_URIMAP function is used to begin a browse through the URIMAP resources in the Web domain.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

```
ABEND
LOOP
```

The following values are returned when RESPONSE is EXCEPTION:

```
BROWSE_END
CCNV_ERROR
CONFLICTING_ATTRIBUTES
DIRECTORY_ERROR
DUPLICATE_MAPPING
GETMAIN_FAILED
INVALID_BROWSE_TOKEN
INVALID_CHARACTERSET
INVALID_HOSTCODEPAGE
INVALID_HOSTNAME
INVALID_PATHNAME
LOCATION_INVALID
NO_REDIRECTION_LOCATION
NOT_FOUND
NOT_POSSIBLE
SECURITY_FAILED
SSL_INACTIVE
URIMAP_ENABLED
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
```

BROWSE_TOKEN

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Web domain's generic gates

Table 84 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 84. Web domain's generic gates

Gate	Trace	Functions	Format
DMDM	WB 0100 WB 0101	INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM
XMAC	WB 0600 WB 0601	INIT_XM_CLIENT BIND_XM_CLIENT TRANSACTION_HANG RELEASE_XM_CLIENT	XMAC

In initialization, quiesce, and termination processing, the Web domain performs only internal routines.

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

"Transaction manager domain's generic formats" on page 1999

Web domain's call-back gates

Table 85 summarizes the domain's call-back gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 85. Web domain's call-back gates

Gate	Trace	Function	Format
WBXM	WB 0600 WB 0601	INIT_XM_CLIENT BIND_XM_CLIENT RELEASE_XM_CLIENT	XMAC

For descriptions of these functions and their input and output parameters, refer to descriptions of the following call-back formats:

"Transaction Manager domain's callback formats" on page 1996

Modules

Module	Function
DFHWBAP	Handles the following requests: START_BROWSE READ_NEXT END_BROWSE GET_MESSAGE_BODY GET_HTTP_RESPONSE SEND_RESPONSE READ WRITE_HEADER INQUIRE
DFHWBAPF	Handles forms processing for: START_BROWSE READ_NEXT END_BROWSE READ
DFHWBCL	Functions for HTTP client processing.
DFHWBDM	Handles the following requests: INITIALIZE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN
DFHWBQM	Domain subroutine which writes Web data to TS. Handles the following requests: PUT_QUEUE GET_QUEUE DELETE_QUEUE GET_TOKEN
DFHWBRP	Web domain recovery program.

Module	Function
DFHWBSR	Handles the following requests: SEND RECEIVE SEND_STATIC_RESPONSE
DFHWBUR	Functions for handling the URIMAP resource, including virtual hosts.
DFHWBXM	Handles the following requests: INIT_XM_CLIENT BIND_XM_CLIENT TRANSACTION_HANG RELEASE_XM_CLIENT

Exits

Three global user exit points are provided in CICS Web support for HTTP client requests:

XWBAUTH, HTTP client send exit
XWBAUTH is called during processing of an EXEC CICS WEB SEND or EXEC CICS WEB CONVERSE command. It allows you to specify basic authentication credentials (username and password) for a target server. XWBAUTH passes these to CICS on request, to create an Authorization header. The host name and path information are passed to the user exit, with an optional qualifying realm.

XWBOPEN, HTTP client open exit
XWBOPEN is called during processing of an EXEC CICS WEB OPEN command, which is used by an application program to open a connection with a server. It allows you to specify proxy servers that should be used for HTTP requests by CICS as an HTTP client, and to apply a security policy to the host name specified for those requests.

XWBSNDO, HTTP client send exit
XWBSNDO is called during processing of an EXEC CICS WEB SEND or EXEC CICS WEB CONVERSE command. It allows you to specify a security policy for HTTP requests, in particular for the path component of the request.

For more information on these exits, see the *CICS Internet Guide*.

Chapter 113. Web 2.0 Domain (W2)

The Web 2.0 domain manages Atom feeds that CICS serves to Web clients. The other actions of CICS as an HTTP server and as an HTTP client are managed by the Web (WB) domain.

For more information about Atom feeds from CICS, see the *CICS Internet Guide*.

Web 2.0 Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the W2 domain.

Table 86. Web 2.0 Domain's specific gates

Gate	Trace	Function	XPI
W2AT	W2 0201	ADD_ATOMSERVICE	No
	W2 0202	ADD_REPLACE_ATOMSERVICE	No
	W2 0203	DELETE_ATOMSERVICE	No
	W2 0204	END_BROWSE_ATOMSERVICE	No
	W2 0205	GET_NEXT_ATOMSERVICE	No
	W2 0206	INITIALIZE_ATOMSERVICES	No
		INQUIRE_ATOMSERVICE	No
		SET_ATOMSERVICE	No
		START_BROWSE_ATOMSERVICE	No
W2W2	W2 0401	HANDLE_ATOM_REQUEST	No
	W2 0402	SET_PARAMETERS	No
	W2 0403		
	W2 0404		
	W2 0405		
	W2 0406		

W2AT gate, ADD_ATOMSERVICE function

The ADD_ATOMSERVICE function is used to add a new ATOMSERVICE resource into the Web 2.0 domain. If an ATOMSERVICE resource with the same name already exists, this function fails with reason code ATOMSERVICE_EXISTS.

Input Parameters

ATOM_TYPE
Type of Atom document associated with this ATOMSERVICE resource.

Values for the parameter are:
CATEGORY
COLLECTION
FEED
SERVICE

ATOMSERVICE
Name of the ATOMSERVICE resource to be installed.

BINDFILE
Optional Parameter

Name of the XSD bind file for this ATOMSERVICE resource.

CONFIGFILE
Optional Parameter

Name of the Atom configuration file for this ATOMSERVICE resource.

MESSAGE
Optional Parameter

Specifies whether installation messages will be issued.

Values for the parameter are:
- NO
- YES

RESOURCE_NAME
Optional Parameter

Name of the CICS resource associated with this ATOMSERVICE resource.

RESOURCE_SIGNATURE
Optional Parameter

The INSTALL resource signature for the new ATOMSERVICE resource.

RESOURCE_TYPE
Optional Parameter

The type of the CICS resource associated with this ATOMSERVICE resource.

Values for the parameter are:
- FILE
- PROGRAM
- TSQUEUE

STATUS
Optional Parameter

Specifies the state in which the new ATOMSERVICE resource is installed.

Values for the parameter are:
- DISABLED
- ENABLED

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
- ABEND
- LOOP

The following values are returned when RESPONSE is EXCEPTION:
- ATOMSERVICE_ENABLED
- ATOMSERVICE_EXISTS
- BINDFILE_ERROR
- BINDFILE_NOT_FOUND
- BINDFILE_NOTAUTH
- BROWSE_END
- CONFIGFILE_NOT_FOUND
- CONFIGFILE_NOTAUTH
- CONFIGURATION_ERROR
- CONFLICTING_ATTRIBUTES
- DIRECTORY_ERROR
- GETMAIN_FAILED
- INVALID_BROWSE_TOKEN
- NOT_AUTH
- NOT_FOUND
- NOT_POSSIBLE

The following values are returned when RESPONSE is INVALID:
- INVALID_FORMAT

INVALID_FUNCTION
INVALID_SIGNATURE

RESPONSE
Standard domain response values.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

W2AT gate, ADD_REPLACE_ATOMSERVICE function

The ADD_REPLACE_ATOMSERVICE function is used to add or replace an ATOMSERVICE resource in the Web 2.0 domain. If an ATOMSERVICE resource with the same name already exists, it is replaced if it is disabled; otherwise, this function fails with reason code ATOMSERVICE_ENABLED.

Input Parameters

ATOM_TYPE
Type of Atom document associated with this ATOMSERVICE resource.

Values for the parameter are:
CATEGORY
COLLECTION
FEED
SERVICE

ATOMSERVICE
Name of the ATOMSERVICE resource to be installed.

RESOURCE_SIGNATURE
The INSTALL resource signature for the new ATOMSERVICE resource.

BINDFILE
Optional Parameter

Name of the XSD bind file for this ATOMSERVICE resource.

CONFIGFILE
Optional Parameter

Name of the Atom configuration file for this ATOMSERVICE resource.

MESSAGE
Optional Parameter

Specifies whether installation messages will be issued.

Values for the parameter are:
NO
YES

RESOURCE_NAME
Optional Parameter

Name of the CICS resource associated with this ATOMSERVICE resource.

RESOURCE_TYPE
Optional Parameter

The type of the CICS resource associated with this ATOMSERVICE resource.

Values for the parameter are:
FILE
PROGRAM

TSQUEUE

STATUS
Optional Parameter

Specifies the state in which the new ATOMSERVICE resource is installed.

Values for the parameter are:
DISABLED
ENABLED

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
ATOMSERVICE_ENABLED
ATOMSERVICE_EXISTS
BINDFILE_ERROR
BINDFILE_NOT_FOUND
BINDFILE_NOTAUTH
BROWSE_END
CONFIGFILE_NOT_FOUND
CONFIGFILE_NOTAUTH
CONFIGURATION_ERROR
CONFLICTING_ATTRIBUTES
DIRECTORY_ERROR
GETMAIN_FAILED
INVALID_BROWSE_TOKEN
NOT_AUTH
NOT_FOUND
NOT_POSSIBLE

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION
INVALID_SIGNATURE

RESPONSE
Standard domain response values.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

W2AT gate, DELETE_ATOMSERVICE function

The DELETE_ATOMSERVICE function is used to delete an ATOMSERVICE resource from the Web 2.0 domain.

Input Parameters

ATOMSERVICE
Name of the ATOMSERVICE resource to be deleted.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  - ABEND
  - LOOP

  The following values are returned when RESPONSE is EXCEPTION:
  - ATOMSERVICE_ENABLED
  - ATOMSERVICE_EXISTS
  - BINDFILE_ERROR
  - BINDFILE_NOT_FOUND
  - BINDFILE_NOTAUTH
  - BROWSE_END
  - CONFIGFILE_NOT_FOUND
  - CONFIGFILE_NOTAUTH
  - CONFIGURATION_ERROR
  - CONFLICTING_ATTRIBUTES
  - DIRECTORY_ERROR
  - GETMAIN_FAILED
  - INVALID_BROWSE_TOKEN
  - NOT_AUTH
  - NOT_FOUND
  - NOT_POSSIBLE

  The following values are returned when RESPONSE is INVALID:
  - INVALID_FORMAT
  - INVALID_FUNCTION
  - INVALID_SIGNATURE

RESPONSE
: Standard domain response values.

  Values for the parameter are:
  - OK
  - EXCEPTION
  - DISASTER
  - INVALID
  - KERNERROR
  - PURGED

W2AT gate, END_BROWSE_ATOMSERVICE function

The END_BROWSE_ATOMSERVICE function is used to end a browse through the ATOMSERVICE resources in the Web 2.0 Domain.

Input Parameters

BROWSE_TOKEN
: Token representing the current browse in progress.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  - ABEND
  - LOOP

  The following values are returned when RESPONSE is EXCEPTION:
  - ATOMSERVICE_ENABLED
  - ATOMSERVICE_EXISTS
  - BINDFILE_ERROR

BINDFILE_NOT_FOUND
BINDFILE_NOTAUTH
BROWSE_END
CONFIGFILE_NOT_FOUND
CONFIGFILE_NOTAUTH
CONFIGURATION_ERROR
CONFLICTING_ATTRIBUTES
DIRECTORY_ERROR
GETMAIN_FAILED
INVALID_BROWSE_TOKEN
NOT_AUTH
NOT_FOUND
NOT_POSSIBLE

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION
INVALID_SIGNATURE

RESPONSE
Standard domain response values.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

W2AT gate, GET_NEXT_ATOMSERVICE function

The GET_NEXT_ATOMSERVICE function is used to continue a browse through the ATOMSERVICE resources in the Web 2.0 Domain.

Input Parameters

BROWSE_TOKEN
Token representing the current browse in progress.

BINDFILE
Optional Parameter

Name of the XSD bind file for this ATOMSERVICE resource.

CONFIGFILE
Optional Parameter

Name of the Atom configuration file for this ATOMSERVICE resource.

RESOURCE_SIGNATURE
Optional Parameter

The INSTALL resource signature for the new ATOMSERVICE resource.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
ATOMSERVICE_ENABLED
ATOMSERVICE_EXISTS

BINDFILE_ERROR
BINDFILE_NOT_FOUND
BINDFILE_NOTAUTH
BROWSE_END
CONFIGFILE_NOT_FOUND
CONFIGFILE_NOTAUTH
CONFIGURATION_ERROR
CONFLICTING_ATTRIBUTES
DIRECTORY_ERROR
GETMAIN_FAILED
INVALID_BROWSE_TOKEN
NOT_AUTH
NOT_FOUND
NOT_POSSIBLE

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION
INVALID_SIGNATURE

ATOMSERVICE
Name of the ATOMSERVICE resource located in the browse.

RESPONSE
Standard domain response values.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

ATOM_TYPE
Optional Parameter

Type of Atom document associated with this ATOMSERVICE resource.

Values for the parameter are:
CATEGORY
COLLECTION
FEED
SERVICE

RESOURCE_NAME
Optional Parameter

Name of the CICS resource associated with this ATOMSERVICE resource.

RESOURCE_TYPE
Optional Parameter

The type of the CICS resource associated with this ATOMSERVICE resource.

Values for the parameter are:
FILE
PROGRAM
TSQUEUE

STATUS
Optional Parameter

Specifies the current state of the ATOMSERVICE resource.

Values for the parameter are:

DISABLED
ENABLED

W2AT gate, INITIALIZE_ATOMSERVICES function

The INITIALIZE_ATOMSERVICES function is used to initialize the Web 2.0 domain state required by the ATOMSERVICE support.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:

ATOMSERVICE_ENABLED
ATOMSERVICE_EXISTS
BINDFILE_ERROR
BINDFILE_NOT_FOUND
BINDFILE_NOTAUTH
BROWSE_END
CONFIGFILE_NOT_FOUND
CONFIGFILE_NOTAUTH
CONFIGURATION_ERROR
CONFLICTING_ATTRIBUTES
DIRECTORY_ERROR
GETMAIN_FAILED
INVALID_BROWSE_TOKEN
NOT_AUTH
NOT_FOUND
NOT_POSSIBLE

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION
INVALID_SIGNATURE

RESPONSE

Standard domain response values.

Values for the parameter are:

OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

W2AT gate, INQUIRE_ATOMSERVICE function

The INQUIRE_ATOMSERVICE function is used to inquire on the attributes of an ATOMSERVICE resource.

Input Parameters

ATOMSERVICE

The INQUIRE_ATOMSERVICE function is used to inquire on the attributes of an ATOMSERVICE resource.

BINDFILE

Optional Parameter

Name of the XSD bind file for this ATOMSERVICE resource.

CONFIGFILE

Optional Parameter

Name of the Atom configuration file for this ATOMSERVICE resource.

RESOURCE_SIGNATURE

Optional Parameter

The INSTALL resource signature for the new ATOMSERVICE resource.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

```
ABEND
LOOP
```

The following values are returned when RESPONSE is EXCEPTION:

```
ATOMSERVICE_ENABLED
ATOMSERVICE_EXISTS
BINDFILE_ERROR
BINDFILE_NOT_FOUND
BINDFILE_NOTAUTH
BROWSE_END
CONFIGFILE_NOT_FOUND
CONFIGFILE_NOTAUTH
CONFIGURATION_ERROR
CONFLICTING_ATTRIBUTES
DIRECTORY_ERROR
GETMAIN_FAILED
INVALID_BROWSE_TOKEN
NOT_AUTH
NOT_FOUND
NOT_POSSIBLE
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
INVALID_SIGNATURE
```

RESPONSE

Standard domain response values.

Values for the parameter are:

```
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED
```

ATOM_TYPE

Optional Parameter

Type of Atom document associated with this ATOMSERVICE resource.

Values for the parameter are:

```
CATEGORY
COLLECTION
FEED
SERVICE
```

RESOURCE_NAME
Optional Parameter

Name of the CICS resource associated with this ATOMSERVICE resource.

RESOURCE_TYPE
Optional Parameter

The type of the CICS resource associated with this ATOMSERVICE resource.

Values for the parameter are:
FILE
PROGRAM
TSQUEUE

STATUS
Optional Parameter

Specifies the current state of the ATOMSERVICE resource.

Values for the parameter are:
DISABLED
ENABLED

W2AT gate, SET_ATOMSERVICE function

The SET_ATOMSERVICE function is used to set the attributes of an ATOMSERVICE resource.

Input Parameters

ATOMSERVICE
Name of the ATOMSERVICE resource with the attributes that are being changed.

STATUS
Specifies the required state of the ATOMSERVICE resource.

Values for the parameter are:
DISABLED
ENABLED

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
ATOMSERVICE_ENABLED
ATOMSERVICE_EXISTS
BINDFILE_ERROR
BINDFILE_NOT_FOUND
BINDFILE_NOTAUTH
BROWSE_END
CONFIGFILE_NOT_FOUND
CONFIGFILE_NOTAUTH
CONFIGURATION_ERROR
CONFLICTING_ATTRIBUTES
DIRECTORY_ERROR
GETMAIN_FAILED
INVALID_BROWSE_TOKEN
NOT_AUTH
NOT_FOUND

NOT_POSSIBLE

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION
INVALID_SIGNATURE

RESPONSE
Standard domain response values.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

W2AT gate, START_BROWSE_ATOMSERVICE function

The START_BROWSE_ATOMSERVICE function is used to start a browse through the ATOMSERVICE resources in the Web 2.0 Domain.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
ATOMSERVICE_ENABLED
ATOMSERVICE_EXISTS
BINDFILE_ERROR
BINDFILE_NOT_FOUND
BINDFILE_NOTAUTH
BROWSE_END
CONFIGFILE_NOT_FOUND
CONFIGFILE_NOTAUTH
CONFIGURATION_ERROR
CONFLICTING_ATTRIBUTES
DIRECTORY_ERROR
GETMAIN_FAILED
INVALID_BROWSE_TOKEN
NOT_AUTH
NOT_FOUND
NOT_POSSIBLE

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION
INVALID_SIGNATURE

BROWSE_TOKEN
Token representing the browse being started

RESPONSE
Standard domain response values.

Values for the parameter are:
OK
EXCEPTION
DISASTER

INVALID
KERNERROR
PURGED

W2W2 gate, HANDLE_ATOM_REQUEST function

The HANDLE_ATOM_REQUEST function processes an inbound HTTP request for an Atom document. It examines the request and calls an appropriate response handling routine.

Input Parameters

CHECK_ACCESS
Optional Parameter

Specifies whether the authority of the user to access the ATOMSERVICE resource is to be checked.

Values for the parameter are:
NO
YES

Output Parameters

REASON
The values for the parameter are:
ABEND
DIRECTORY_ERROR
INITIALIZATION_ERROR
INVALID_FORMAT
INVALID_FUNCTION
LOOP
NON_WEB_TRANSACTION
NOT_FOUND

RESPONSE
Standard domain response values.

Values for the parameter are:
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED

W2W2 gate, SET_PARAMETERS function

The SET_PARAMETERS function specifies system initialization parameters for the domain.

Input Parameters

HOME_DIRECTORY
The CICS home directory in the Unix System Services file system, as specified by the **USSHOME** system initialization parameter.

Output Parameters

REASON
The values for the parameter are:
ABEND
DIRECTORY_ERROR

```
INITIALIZATION_ERROR
INVALID_FORMAT
INVALID_FUNCTION
LOOP
NON_WEB_TRANSACTION
NOT_FOUND
```

RESPONSE
Standard domain response values.

Values for the parameter are:

```
OK
EXCEPTION
DISASTER
INVALID
KERNERROR
PURGED
```

Modules

The W2 domain modules handle requests for Atom documents.

Module	Function
DFHW2A	Application program run for the CW2A transaction, which is the alias transaction for servicing Atom requests.
DFHW2AC	Reads and parses the Atom configuration file, as input for DFHW2AT.
DFHW2AS	Atom stringid generator. Called by XMLSS to tokenize text strings.
DFHW2AT	Manages the ATOMSERVICE resource.
DFHW2DM	Handles initialization and termination of the W2 domain.
DFHW2DUF	Dump formatter for the Web 2.0 domain.
DFHW2FD	Main feed document handler. Receives the Atom HTTP requests and forwards them to the appropriate service routine.
DFHW2FI	Atom service routine for CICS file requests.
DFHW2FR	Remote file handler. Communicates file requests to a File Owning Region.
DFHW2RP	ATOMSERVICE recovery program. Restores Atom feed support on CICS restart.
DFHW2SD	Atom Service Document handler. Returns Atom Publishing Protocol service documents and category documents.
DFHW2ST	Statistics manager.
DFHW2TRI	Trace interpretation routine.
DFHW2TS	Atom service routine for Temporary Storage requests.
DFHW2TT	Translate tables.
DFHW2UE	User exit manager.
DFHW2W2	Router module for Atom requests. Communicates between DFHW2A and DFHW2FD or DFHW2SD.

Exits

The Web 2.0 domain (W2) has no specific global user exit points. The general resource install and discard exit XRSINDI is called by the Web 2.0 domain to log the installation and discarding of ATOMSERVICE resource definitions.

Chapter 114. Transaction manager domain (XM)

The transaction manager domain (also sometimes known as "transaction manager") provides transaction-related services.

The services provided by the domain are used to:
- Create tasks
- Terminates tasks
- Purge tasks
- Inquire on tasks
- Manage transaction definitions
- Manage tranclass definitions

The transaction manager domain also provides a transaction environment to enable other CICS components to implement transaction-related services.

Transaction manager domain's specific gates

The specific gates provide access for other domains to functions that are provided by the XM domain.

XMAT gate, ATTACH function

The ATTACH function of the XMAT gate is used to attach a new transaction.

Input Parameters

RETURN_NOT_FOUND
Indicates whether the attacher wants to receive the NOT_FOUND exception. Default is to attach CSAC in place of the requested transaction.

Values for the parameter are:
`NO`
`YES`

TPNAME
Alternative means of specifying the transaction identifier to attach.

TRANSACTION_ID
The transaction identifier to attach.

ATTACH_PARMS
Optional Parameter

Parameters to be passed to the attached transaction.

EXTERNAL_UOW_ID
Optional Parameter

An externally created unit-of-work identifier to be associated with the attached transaction.

FACILITY_TYPE
Optional Parameter

The type of principal facility to be associated with the attached transaction.

Values for the parameter are:
`NONE`
`TERMINAL`

PRIMARY_CLIENT_REQ_BLOCK
Optional Parameter

A data block containing information associated with the primary client.

PRIMARY_CLIENT_TYPE
Optional Parameter

The type of client for which the transaction is being attached.

Values for the parameter are:
```
APPC_SESSION
BRIDGE
IIRR
IP_ECI
LU61_SESSION
MRO_SESSION
NONE
RRS_UR
RZ_INSTORE_TRPORT
SCHEDULER
SOCKET
START
START_TERMINAL
TERMINAL
TRANDATA
WEB
XM_RUN_TRANSACTION
```

PRIORITY
Optional Parameter

Combined user and terminal priority to be added to that of the transaction definition to determine the total priority of the attached transaction.

RESTART_COUNT
Optional Parameter

If the attach is for a restarted transaction then this count indicates the number of this restart attempt.

START_ATTACH
Optional Parameter

Indicates if the attach is in response to a START command.

Values for the parameter are:
```
YES
```

START_CODE
Optional Parameter

Indicates the reason for the attach.

Values for the parameter are:
```
C
DF
QD
S
SD
SZ
T
TT
```

SUSPEND
Optional Parameter

Indicates whether the attacher is willing to suspend during the attach.

Values for the parameter are:
`NO`
`YES`

SYSTEM_ATTACH
Optional Parameter

Indicates whether the transaction should be attached as a system transaction.

Values for the parameter are:
`YES`

TD_TOKEN
Optional Parameter

Token identifying a TDQ to be associated with the transaction.

TF_TOKEN
Optional Parameter

Token identifying a terminal to be associated with the transaction.

TOTAL_PRIORITY
Optional Parameter

The overriding priority to be associated with the attached transaction.

TRANSACTION_GROUP
Optional Parameter

Indicates whether the newly attached transaction should be in the same monitoring group as the current transaction.

Values for the parameter are:
`NEW`
`SAME`

US_TOKEN
Optional Parameter

Token identifying a user to be associated with the transaction.

USE_DTRTRAN
Optional Parameter

If the named transaction-id or tpname cannot be found then indicates whether the DTRTRAN, if installed, should be used instead.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`DISABLED`
`INSUFFICIENT_STORAGE`
`INVALID_FUNCTION`
`INVALID_RETURN_NOT_FOUND`
`INVALID_START_CODE`
`INVALID_SYSTEM_ATTACH`
`LOOP`
`NOT_ENABLED_FOR_SHUTDOWN`
`NOT_FOUND`
`STATE_SYSTEM_ATTACH`

STATE_TASKDATAKEY
STATE_TASKDATALOC

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TRANDEF_TOKEN
Optional Parameter

The token representing the returned transaction definition.

TRANNUM
Optional Parameter

Is the transaction number assigned to the newly attached transaction.

TRANSACTION_TOKEN
Optional Parameter

Is the token identifying the newly attached transaction.

XMAT gate, REATTACH function

A variation of the ATTACH function that is used by Recovery Manager to attach a task that will unshunt a specific UOW.

Input Parameters

FACILITY_TYPE
Optional Parameter

The type of principal facility to be associated with the transaction.

Values for the parameter are:
NONE

RETURN_NOT_FOUND
Indicates whether the attacher wants to receive the NOT_FOUND exception. Default is to attach CSAC in place of the requested transaction.

Values for the parameter are:
NO
YES

START_CODE
Optional Parameter

Indicates the reason for the attach.

Values for the parameter are:
C

TRANSACTION_ID
The transaction identifier to attach.

UOW_TOKEN
A token representing the unit of work that is to be unshunted.

PRIORITY
Optional Parameter

Combined user and terminal priority to be added to that of the transaction definition to determine the total priority of the attached transaction.

SUSPEND
Optional Parameter

Indicates whether the attacher is willing to suspend during the attach.

Values for the parameter are:
NO
YES

SYSTEM_ATTACH
Optional Parameter

Indicates whether the transaction should be attached as a system transaction.

Values for the parameter are:
`YES`

TCLASS
Optional Parameter

The transaction class of the attched transaction.

Values for the parameter are:
`NONE`

TOTAL_PRIORITY
Optional Parameter

The overriding priority to be associated with the attached transaction.

TRANSACTION_GROUP
Optional Parameter

Indicates whether the newly attached transaction should be in the same monitoring group as the current transaction.

Values for the parameter are:
`NEW`
`SAME`

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`INSUFFICIENT_STORAGE`
`INVALID_FUNCTION`
`LOOP`
`NOT_FOUND`

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

TRANNUM
Optional Parameter

Is the transaction number assigned to the newly attached transaction.

TRANSACTION_TOKEN
Optional Parameter

Is the token identifying the newly attached transaction.

XMBD gate, END_BROWSE_TRANDEF function

The END_BROWSE_TRANDEF function of the XMBD gate is used to terminate a browse of installed transaction definitions.

Input Parameters

BROWSE_TOKEN
Token identifying this browse of the transaction definitions.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`LOGIC_ERROR`

The following values are returned when RESPONSE is INVALID:
`INVALID_BROWSE_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMBD gate, GET_NEXT_TRANDEF function

The GET_NEXT_TRANDEF function of the XMBD gate is used to return information about the next transaction definition in the browse.

Input Parameters

BROWSE_TOKEN
Token identifying this browse of the transaction definitions.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`LOGIC_ERROR`

The following values are returned when RESPONSE is EXCEPTION:
`BROWSE_END_TRANDEF`

The following values are returned when RESPONSE is INVALID:
`INVALID_BROWSE_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BREXIT
Optional Parameter

The name of the default bridge exit associated with the transaction.

CMDSEC
Optional Parameter

Whether command security checking is active.

Values for the parameter are:
`NO`
`YES`

CONFDATA
Optional Parameter

The value of the CONFDATA attribute specified in the transaction definition.

Values for the parameter are:
`NO`
`YES`

DTIMEOUT
Optional Parameter

The deadlock timeout value for the transaction.

DUMP
Optional Parameter

Whether transaction dumps are to be taken.

Values for the parameter are:
`NO`
`YES`

DYNAMIC
: Optional Parameter

  Whether the transaction is defined to be dynamic.

  Values for the parameter are:
  `NO`
  `YES`

INDOUBT
: Optional Parameter

  The action to take if work performed by the transaction becomes indoubt.

  Values for the parameter are:
  `BACKOUT`
  `COMMIT`

INDOUBT_WAIT
: Optional Parameter

  Indicates whether an indoubt unit of work (UOW) is to wait, pending recovery from a failure that occurs after the UOW has entered the indoubt state.

  Values for the parameter are:
  `NO`
  `YES`

INDOUBT_WAIT_TIME
: Optional Parameter

  Indicates how long the transaction is to wait before taking an arbitrary decision about an indoubt unit of work.

INITIAL_PROGRAM
: Optional Parameter

  Initial program of transaction.

ISOLATE
: Optional Parameter

  Whether the transaction runs in its own subspace.

  Values for the parameter are:
  `NO`
  `YES`

LOCAL_QUEUING
: Optional Parameter

  Whether the transaction is eligible to queue locally when it is started on the remote system.

  Values for the parameter are:
  `NO`
  `YES`

OTSTIMEOUT
: Optional Parameter

  The value of the OTSTIMEOUT attribute in the transaction definition.

PARTITIONSET
: Optional Parameter

  The partitionset defined for the transaction.

  Values for the parameter are:
  `KEEP`
  `NAMED`

NONE
OWN

PARTITIONSET_NAME
Optional Parameter

The name of the user defined partitionset used by the transaction.

PROFILE_NAME
Optional Parameter

Profile of transaction.

REMOTE
Optional Parameter

Whether the transaction is remote.

Values for the parameter are:
NO
YES

REMOTE_NAME
Optional Parameter

The name of a remote transaction on the remote system.

REMOTE_SYSTEM
Optional Parameter

The system that a remote transaction is to be routed to.

RESSEC
Optional Parameter

Whether resource security checking is active.

Values for the parameter are:
NO
YES

RESTART
Optional Parameter

Whether the transaction is restartable.

Values for the parameter are:
NO
YES

ROUTABLE_STATUS
Optional Parameter

Specifies whether, if the transaction is the subject of an eligible EXEC CICS START command, it will be routed using the enhanced routing method.

Values for the parameter are:
NOTROUTABLE
ROUTABLE

RUNAWAY_LIMIT
Optional Parameter

The runaway limit associated with the transaction.

SHUTDOWN
Optional Parameter

Whether the transaction can be run during shutdown.

Values for the parameter are:
DISABLED
ENABLED

SPURGE
Optional Parameter

Whether the transaction is system-purgeable.

Values for the parameter are:
`NO`
`YES`

STATUS
Optional Parameter

The status of the transaction.

Values for the parameter are:
`DISABLED`
`ENABLED`

STORAGE_CLEAR
Optional Parameter

Whether task-lifetime storage is to be cleared before it is freemained.

Values for the parameter are:
`NO`
`YES`

STORAGE_FREEZE
Optional Parameter

Whether storage freeze is on for the transaction.

Values for the parameter are:
`NO`
`YES`

SYSTEM_RUNAWAY
Optional Parameter

Whether the transaction uses the default system runaway limit.

Values for the parameter are:
`NO`
`YES`

TASKDATAKEY
Optional Parameter

The storage key that task-lifetime storage is allocated in.

Values for the parameter are:
`CICS`
`USER`

TASKDATALOC
Optional Parameter

The location of task-lifetime storage.

Values for the parameter are:
`ANY`
`BELOW`

TCLASS
Optional Parameter

Whether the transaction belongs to a tclass.

TCLASS_NAME
Optional Parameter

The name of the tclass that the transaction belongs to.

TPURGE
Optional Parameter

Whether the transaction can be purged after a terminal error.

Values for the parameter are:
NO
YES

TRACE
Optional Parameter

The level of tracing associated with the transaction.

Values for the parameter are:
SPECIAL
STANDARD
SUPPRESSED

TRAN_PRIORITY
Optional Parameter

Transaction priority

TRAN_ROUTING_PROFILE
Optional Parameter

Profile to be used to route a remote transaction to a remote system.

TRANSACTION_ID
Optional Parameter

Transaction identifier

TWASIZE
Optional Parameter

Size of Transaction Work Area.

XMBD gate, START_BROWSE_TRANDEF function

The START_BROWSE_TRANDEF function of the XMBD gate is used to initiate a browse of installed transaction definitions.

Input Parameters

START_AT
Optional Parameter

Identifies a transaction identifier that the browse is to start at.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
LOGIC_ERROR

BROWSE_TOKEN
Token identifying this transaction definition browse.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMCL gate, ADD_REPLACE_TCLASS function

The ADD_REPLACE_TCLASS function of the XMCL gate is used to install a tclass definition.

Input Parameters

MAX_ACTIVE
The max-active limit of the tclass.

TCLASS_NAME
The name of the tclass.

PURGE_THRESHOLD
Optional Parameter

The purge-threshold limit of the tclass.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`LOGIC_ERROR`

The following values are returned when RESPONSE is EXCEPTION:
`INVALID_MAX_ACTIVE`
`INVALID_PURGE_THRESHOLD`
`INVALID_TCLASS_NAME`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TCLASS_TOKEN
Optional Parameter

Token identifying the tclass.

XMCL gate, ADD_TCLASS function

The ADD_TCLASS function of the XMCL gate is used to add an internal tclass definition.

Input Parameters

MAX_ACTIVE
The max-active limit of the tclass.

PURGE_THRESHOLD
Optional Parameter

The purge-threshold limit of the tclass.

TCLASS_NAME
Optional Parameter

The name of the tclass.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`LOGIC_ERROR`

The following values are returned when RESPONSE is EXCEPTION:
`DUPLICATE_TCLASS_NAME`
`INVALID_MAX_ACTIVE`
`INVALID_PURGE_THRESHOLD`
`INVALID_TCLASS_NAME`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TCLASS_TOKEN
Token identifying the tclass.

XMCL gate, DELETE_TCLASS function

The DELETE_TCLASS function of the XMCL gate is used to discard an installed tclass definition.

Input Parameters

TCLASS_NAME
The name of the tclass.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`LOGIC_ERROR`

The following values are returned when RESPONSE is EXCEPTION:
`TCLASS_BUSY`
`UNKNOWN_TCLASS`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMCL gate, DEREGISTER_TCLASS_USAGE function

The DEREGISTER_TCLASS_USAGE function of the XMCL gate is used to deregister usage of a tclass by a transaction definition.

Input Parameters

TCLASS_TOKEN
Token identifying tclass being inquired upon.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`LOGIC_ERROR`

The following values are returned when RESPONSE is INVALID:
`INVALID_TCLASS_TOKEN`
`NOT_IN_USE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMCL gate, END_BROWSE_TCLASS function

The END_BROWSE_TCLASS function of the XMCL gate is used to terminate a browse of installed tclass definitions.

Input Parameters

BROWSE_TOKEN
Token identifying this browse of the transaction definitions.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`LOGIC_ERROR`

The following values are returned when RESPONSE is INVALID:
`INVALID_BROWSE_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMCL gate, GET_NEXT_TCLASS function

The GET_NEXT_TCLASS function of the XMCL gate is used to return information about the next tclass definition in the browse.

Input Parameters

BROWSE_TOKEN
Token identifying this browse of the transaction definitions.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`LOGIC_ERROR`

The following values are returned when RESPONSE is EXCEPTION:
`BROWSE_END_TCLASS`

The following values are returned when RESPONSE is INVALID:
`INVALID_BROWSE_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CURRENT_ACTIVE
Optional Parameter

The number of active transactions in the tclass.

CURRENT_QUEUED
Optional Parameter

The number of queuing transactions in the tclass.

MAX_ACTIVE
Optional Parameter

The max-active limit of the tclass.

PURGE_THRESHOLD
Optional Parameter

The purge-threshold limit of the tclass.

TCLASS_NAME
Optional Parameter

The name of the tclass that the transaction belongs to.

XMCL gate, INQUIRE_ALL_TCLASSES function

The INQUIRE_ALL_TCLASSES function of the XMCL gate is used to inquire about the current state of all the tclasses in the system.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`LOGIC_ERROR`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TOTAL_ACTIVE
Optional Parameter

The number of transactions active in a tclass.

TOTAL_QUEUED
Optional Parameter

The number of transactions queueing for a tclass.

XMCL gate, INQUIRE_TCLASS function

The INQUIRE_TCLASS function of the XMCL gate is used to inquire upon a tclass.

Input Parameters

INQ_TCLASS_NAME
The name of the tclass being inquired upon.

TCLASS_TOKEN
Token identifying tclass being inquired upon.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`LOGIC_ERROR`

The following values are returned when RESPONSE is EXCEPTION:
`UNKNOWN_TCLASS`

The following values are returned when RESPONSE is INVALID:
`INVALID_TCLASS_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CURRENT_ACTIVE
Optional Parameter

The number of active transactions in the tclass.

CURRENT_QUEUED
Optional Parameter

The number of queuing transactions in the tclass.

MAX_ACTIVE
Optional Parameter

The max-active limit of the tclass.

PURGE_THRESHOLD
Optional Parameter

The purge-threshold limit of the tclass.

TCLASS_NAME
Optional Parameter

The name of the tclass that the transaction belongs to.

XMCL gate, LOCATE_AND_LOCK_TCLASS function

The LOCATE_AND_LOCK_TCLASS function of the XMCL gate is used to locate a named tclass and lock it against delete.

Input Parameters

TCLASS_NAME
The name of the tclass.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`LOGIC_ERROR`

The following values are returned when RESPONSE is EXCEPTION:
`UNKNOWN_TCLASS`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TCLASS_TOKEN
Token identifying the tclass.

XMCL gate, REGISTER_TCLASS_USAGE function

The REGISTER_TCLASS_USAGE function of the XMCL gate is used to register usage of a tclass by a transaction definition.

Input Parameters

TCLASS_NAME
The name of the tclass.

UNKNOWN_ACTION
Specifies the action to perform if the TCLASS hasn't been installed by the user.

Values for the parameter are:
`CREATE`
`ERROR`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`LOGIC_ERROR`

The following values are returned when RESPONSE is EXCEPTION:
`UNKNOWN_TCLASS`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TCLASS_TOKEN
Token identifying the tclass.

XMCL gate, SET_TCLASS function

The SET_TCLASS function of the XMCL gate is used to modify a tclass definition.

Input Parameters

TCLASS_NAME
The name of the tclass.

TCLASS_TOKEN
Token identifying tclass being inquired upon.

MAX_ACTIVE
Optional Parameter

The max-active limit of the tclass.

PURGE_THRESHOLD
Optional Parameter

The purge-threshold limit of the tclass.

RESET_STATISTICS
Optional Parameter

Indicates whether the statistics for the tclass are to be reset.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`LOGIC_ERROR`

The following values are returned when RESPONSE is EXCEPTION:
`INVALID_MAX_ACTIVE`
`INVALID_PURGE_THRESHOLD`
`UNKNOWN_TCLASS`

The following values are returned when RESPONSE is INVALID:
`INVALID_TCLASS_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMCL gate, START_BROWSE_TCLASS function

The START_BROWSE_TCLASS function of the XMCL gate is used to initiate a browse of installed tclass definitions.

Input Parameters

START_AT
Optional Parameter

Identifies a transaction identifier that the browse is to start at.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`LOGIC_ERROR`

BROWSE_TOKEN
Token identifying this transaction definition browse.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMCL gate, UNLOCK_TCLASS function

The UNLOCK_TCLASS function of the XMCL gate is used to unlock a previously locked tclass.

Input Parameters

TCLASS_TOKEN
Token identifying tclass being inquired upon.

XM_LOCK_HELD
Optional Parameter

A binary parameter that indicates whether the caller already holds the transaction manager lock.

Values for the parameter are:
NO
YES

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
LOGIC_ERROR

The following values are returned when RESPONSE is INVALID:
INVALID_TCLASS_TOKEN
NOT_LOCKED

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMDD gate, DELETE_TRANDEF function

The DELETE_TRANDEF function of the XMDD gate is used to discard an installed transaction definition.

Input Parameters

TRANSACTION_ID
The transaction identifier to attach.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
LOGIC_ERROR

The following values are returned when RESPONSE is EXCEPTION:
AID_PENDING
ICE_PENDING
SIT_PARAMETER
UNKNOWN_TRANSACTION_ID

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMER gate, ABEND_TRANSACTION function

The ABEND_TRANSACTION function of the XMER gate is used abend a transaction whose attach has failed.

Output Parameters

REASON
The values for the parameter are:
ABEND
INVALID_FUNCTION
LOOP

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMER gate, INQUIRE_DEFERRED_ABEND function

The INQUIRE_DEFERRED_ABEND function of the XMER gate is used to retrieve the abend that is to be issued for the transaction whose attach has failed.

Output Parameters

REASON
: The values for the parameter are:
  - ABEND
  - DEFERRED_ABEND_NOT_FOUND
  - INVALID_FUNCTION
  - LOOP

DEFERRED_ABEND_CODE
: The abend code.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TRANSACTION_DUMP
: Optional Parameter

  Indicates whether a transaction dump is to be taken for the abend.

  Values for the parameter are:
  - NO
  - YES

XMER gate, INQUIRE_DEFERRED_MESSAGE function

The INQUIRE_DEFERRED_MESSAGE function of the XMER gate is used to retrieve the message that is to be issued which will indicate the cause of a transaction attach failure.

Output Parameters

REASON
: The values for the parameter are:
  - ABEND
  - INVALID_FUNCTION
  - LOOP
  - MESSAGE_NOT_FOUND

MESSAGE
: The message that is to be issued.

  Values for the parameter are:
  - ALL_SESSIONS_BUSY
  - CONSOLE_AUTOINSTALL_FAILED
  - CONSOLE_AUTOINSTALL_REJECT
  - CONSOLE_NOT_DEFINED
  - CONSOLE_SIGNON_FAILED
  - CONV_RESTART_REQUESTED
  - DBA_NOT_SUPPORTED
  - INVALID_ASIF_LENGTH
  - INVALID_ATTACH_PARAMETER
  - INVALID_CONV_TYPE
  - INVALID_FMH_LENGTH
  - INVALID_SYNC_LEVEL
  - INVALID_TERMINAL_FOR_TRANS
  - INVALID_UOW_IN_ATTACH
  - IO_ERROR_DURING_WRITE
  - LAST_MESSAGE
  - NULL_MESSAGE
  - PROFILE_UNAVAILABLE
  - PROGRAM_UNAVAILABLE
  - REMOTE_CONN_OOS

REMOTE_CONN_OOS_SYS_CHGD
SEC_VIOLATION_DETECTED
SECURITY_NOT_VALID
SECURITY_PROTOCOL_ERROR
SYNC_LEVEL_NOT_SUPPORTED
TRANID_NOT_FOUND
TRANSACTION_DISABLED
TRANSACTION_REMOTE
TXN_UNAVAIL_DURING_QUIESCE
UNRECOGNIZED_PIP
USER_NOT_AUTHORISED
XRF_RECOVERY_NOT_COMPLETE
ZNAC_DETECTED_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMER gate, REPORT_MESSAGE function

The REPORT_MESSAGE function of the XMER gate is used send a deferred message if the attach of a transaction has failed.

Input Parameters

MESSAGE
The message that is to be issued.

Values for the parameter are:

ALL_SESSIONS_BUSY
CONSOLE_AUTOINSTALL_FAILED
CONSOLE_AUTOINSTALL_REJECT
CONSOLE_NOT_DEFINED
CONSOLE_SIGNON_FAILED
CONV_RESTART_REQUESTED
DBA_NOT_SUPPORTED
INVALID_ASIF_LENGTH
INVALID_ATTACH_PARAMETER
INVALID_CONV_TYPE
INVALID_FMH_LENGTH
INVALID_SYNC_LEVEL
INVALID_TERMINAL_FOR_TRANS
INVALID_UOW_IN_ATTACH
IO_ERROR_DURING_WRITE
LAST_MESSAGE
NULL_MESSAGE
PROFILE_UNAVAILABLE
PROGRAM_UNAVAILABLE
REMOTE_CONN_OOS
REMOTE_CONN_OOS_SYS_CHGD
SEC_VIOLATION_DETECTED
SECURITY_NOT_VALID
SECURITY_PROTOCOL_ERROR
SYNC_LEVEL_NOT_SUPPORTED
TRANID_NOT_FOUND
TRANSACTION_DISABLED
TRANSACTION_REMOTE
TXN_UNAVAIL_DURING_QUIESCE
UNRECOGNIZED_PIP

USER_NOT_AUTHORISED
XRF_RECOVERY_NOT_COMPLETE
ZNAC_DETECTED_ERROR

Output Parameters

REASON
The values for the parameter are:
ABEND
INVALID_FUNCTION
LOOP
TRANSACTION_ABEND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMER gate, SET_DEFERRED_ABEND function

The SET_DEFERRED_ABEND function of the XMER gate is used to schedule an abend to be issued if the attach of a transaction fails.

Input Parameters

DEFERRED_ABEND_CODE
The abend code that is to be used.

TRANSACTION_DUMP
Optional Parameter

Indicates whether a transaction dump is to be taken for the abend.

Values for the parameter are:
NO
YES

TRANSACTION_TOKEN
Optional Parameter

Optional token to identify the transaction that the message is to be sent to. Defaults to the current transaction.

Output Parameters

REASON
The values for the parameter are:
ABEND
DEFERRED_ABEND_ALREADY_SET
INVALID_ABEND_CODE
INVALID_FUNCTION
INVALID_TRANSACTION_TOKEN
LOOP
MESSAGE_ALREADY_SET

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMER gate, SET_DEFERRED_MESSAGE function

The SET_DEFERRED_MESSAGE function of the XMER gate is used to store a message to be issued if the attach of a transaction fails.

Input Parameters

MESSAGE
The message that is to be issued.

Values for the parameter are:

```
ALL_SESSIONS_BUSY
CONSOLE_AUTOINSTALL_FAILED
CONSOLE_AUTOINSTALL_REJECT
CONSOLE_NOT_DEFINED
CONSOLE_SIGNON_FAILED
CONV_RESTART_REQUESTED
DBA_NOT_SUPPORTED
INVALID_ASIF_LENGTH
INVALID_ATTACH_PARAMETER
INVALID_CONV_TYPE
INVALID_FMH_LENGTH
INVALID_SYNC_LEVEL
INVALID_TERMINAL_FOR_TRANS
INVALID_UOW_IN_ATTACH
IO_ERROR_DURING_WRITE
LAST_MESSAGE
NULL_MESSAGE
PROFILE_UNAVAILABLE
PROGRAM_UNAVAILABLE
REMOTE_CONN_OOS
REMOTE_CONN_OOS_SYS_CHGD
SEC_VIOLATION_DETECTED
SECURITY_NOT_VALID
SECURITY_PROTOCOL_ERROR
SYNC_LEVEL_NOT_SUPPORTED
TRANID_NOT_FOUND
TRANSACTION_DISABLED
TRANSACTION_REMOTE
TXN_UNAVAIL_DURING_QUIESCE
UNRECOGNIZED_PIP
USER_NOT_AUTHORISED
XRF_RECOVERY_NOT_COMPLETE
ZNAC_DETECTED_ERROR
```

TRANSACTION_TOKEN
Optional Parameter

Optional token to identify the transaction that the message is to be sent to. Defaults to the current transaction.

Output Parameters

REASON
The values for the parameter are:

```
ABEND
DEFERRED_ABEND_ALREADY_SET
INVALID_FUNCTION
INVALID_TRANSACTION_TOKEN
LOOP
MESSAGE_ALREADY_SET
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMFD gate, FIND_PROFILE function

The FIND_PROFILE function of the XMFD gate is used to check whether the given profile is in use by a transaction definition.

Input Parameters

PROFILE_NAME
The profile that is to be found.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
LOGIC_ERROR

The following values are returned when RESPONSE is EXCEPTION:
PROFILE_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TRANSACTION_ID
Optional Parameter

Transaction identifier

XMIQ gate, END_BROWSE_TRANSACTION function

The END_BROWSE_TRANSACTION function of the XMIQ gate is used to terminate a browse of all transactions in the system.

Input Parameters

BROWSE_TOKEN
Token identifying this browse of the transaction definitions.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is INVALID:
INVALID_BROWSE_TOKEN

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMIQ gate, END_BROWSE_TXN_TOKEN function

The END_BROWSE_TXN_TOKEN function of the XMIQ gate is used to terminate a browse of transaction tokens.

Input Parameters

BROWSE_TOKEN
Token identifying this browse of the transaction definitions.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is INVALID:
`INVALID_BROWSE_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMIQ gate, GET_NEXT_TRANSACTION function

The GET_NEXT_TRANSACTION function of the XMIQ gate is used to inquire upon the next transaction in a transaction browse.

Input Parameters

BROWSE_TOKEN
Token identifying this browse of the transaction definitions.

ATTACH_PARMS
Optional Parameter

Parameters to be passed to the attached transaction.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`BROWSE_END`

The following values are returned when RESPONSE is INVALID:
`INVALID_BROWSE_TOKEN`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ATTACH_TIME
Optional Parameter

The time when the transaction was attached.

CICS_UOW_ID
Optional Parameter

The CICS Unit Of Work Identifier associated with the transaction.

CONFDATA
Optional Parameter

The value of the CONFDATA attribute specified in the transaction definition.

Values for the parameter are:
`NO`
`YES`

DS_TASK_TOKEN
Optional Parameter

A token that identifies the dispatcher task associated with the transaction.

DTIMEOUT
Optional Parameter

The deadlock timeout value for the transaction.

DYNAMIC
Optional Parameter

Whether the transaction is defined to be dynamic.

Values for the parameter are:
`NO`
`YES`

`FACILITY_NAME`
Optional Parameter

The name of the principal facility associated with the transaction.

`FACILITY_TOKEN`
Optional Parameter

A token that represents the principal facility associated with the transaction.

`FACILITY_TYPE`
Optional Parameter

The type of the principal facility associated with the transaction.

Values for the parameter are:
`IPECI`
`NONE`
`START`
`TD`
`TERMINAL`

`INITIAL_PROGRAM`
Optional Parameter

Initial program of transaction.

`NETNAME`
Optional Parameter

The network name of a terminal principal facility.

`ORIGINAL_TRANSACTION_ID`
Optional Parameter

The transid that was used to attach the transaction.

`OUT_TRANSACTION_TOKEN`
Optional Parameter

The token that represents this transaction.

`PHASE`
Optional Parameter

The phase of the transaction.

Values for the parameter are:
`BIND`
`INIT`
`PRE_INIT`
`TERM`

`PRIMARY_CLIENT_TOKEN`
Optional Parameter

A token representing the client for which the client was attached.

`PRIMARY_CLIENT_TYPE`
Optional Parameter

The type of client for which the transaction was attached.

Values for the parameter are:
`APPC_SESSION`
`BRIDGE`
`IIRR`
`IP_ECI`

LU61_SESSION
MRO_SESSION
NONE
RRS_UR
RZ_INSTORE_TRPORT
SCHEDULER
SOCKET
START
START_TERMINAL
TERMINAL
TRANDATA
WEB
XM_RUN_TRANSACTION

RE_ATTACHED_TRANSACTION
Optional Parameter

Indicates if the transaction was reattached.

Values for the parameter are:
NO
YES

REMOTE
Optional Parameter

Whether the transaction is remote.

Values for the parameter are:
NO
YES

REMOTE_NAME
Optional Parameter

The name of a remote transaction on the remote system.

REMOTE_SYSTEM
Optional Parameter

The system that a remote transaction is to be routed to.

RESOURCE_NAME
Optional Parameter

The name of a resource that a suspended transaction is waiting for.

RESOURCE_TYPE
Optional Parameter

The type of resource that a suspended transaction is waiting for.

RESTART
Optional Parameter

Whether the transaction is restartable.

Values for the parameter are:
NO
YES

RESTART_COUNT
Optional Parameter

Contains the number of times this transaction instance has been restarted.

SPURGE
Optional Parameter

Whether the transaction is system-purgeable.

Values for the parameter are:
`NO`
`YES`

START_CODE
Optional Parameter

Indicates the reason for the attach of the transaction.

Values for the parameter are:
`C`
`DF`
`QD`
`S`
`SD`
`SZ`
`T`
`TT`

STATUS
Optional Parameter

The status of the transaction.

Values for the parameter are:
`READY`
`RUNNING`
`SUSPENDED`

SUSPEND_TIME
Optional Parameter

Contains the length of time that the transaction has currently been suspended for.

SYSTEM_TRANSACTION
Optional Parameter

Whether the transaction has been attached by CICS.

Values for the parameter are:
`NO`
`YES`

TASK_PRIORITY
Optional Parameter

The combined priority of the transaction.

TCLASS
Optional Parameter

Whether the transaction belongs to a tclass.

TCLASS_NAME
Optional Parameter

The name of the tclass that the transaction belongs to.

TPURGE
Optional Parameter

Whether the transaction can be purged after a terminal error.

Values for the parameter are:
`NO`
`YES`

TRAN_PRIORITY
Optional Parameter

Transaction priority

TRAN_ROUTING_PROFILE
Optional Parameter

Profile to be used to route a remote transaction to a remote system.

TRANDEF_TOKEN
Optional Parameter

The token representing the returned transaction definition.

TRANNUM
Optional Parameter

Is the transaction number assigned to the newly attached transaction.

TRANSACTION_GROUP_ID
Optional Parameter

The identifier of the transaction's monitoring group.

TRANSACTION_ID
Optional Parameter

Transaction identifier

USERID
Optional Parameter

The userid of the user associated with the transaction.

XMIQ gate, GET_NEXT_TXN_TOKEN function

The GET_NEXT_TXN_TOKEN function of the XMIQ gate is used to return the transaction token associated with the next transaction in the system.

Input Parameters

BROWSE_TOKEN
Token identifying this browse of the transaction definitions.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
BROWSE_END

The following values are returned when RESPONSE is INVALID:
INVALID_BROWSE_TOKEN

OWNERS_TOKEN
The transaction token associated with the current transaction.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TRANNUM
Optional Parameter

Is the transaction number assigned to the newly attached transaction.

XMIQ gate, INQUIRE_TRANSACTION function

The INQUIRE_TRANSACTION function of the XMIQ gate is used to inquire upon a particular transaction.

Input Parameters

`ATTACH_PARMS`
Optional Parameter

Parameters to be passed to the attached transaction.

`TRANSACTION_NUMBER`
Optional Parameter

The number of the transaction being inquired upon.

`TRANSACTION_TOKEN`
Optional Parameter

Optional token to identify the transaction that the message is to be sent to. Defaults to the current transaction.

Output Parameters

`ATTACH_TIME`
Optional Parameter

The time when the transaction was attached.

`CICS_UOW_ID`
Optional Parameter

The CICS Unit Of Work Identifier associated with the transaction.

`CONFDATA`
Optional Parameter

The value of the CONFDATA attribute specified in the transaction definition.

Values for the parameter are:
`NO`
`YES`

`DS_TASK_TOKEN`
Optional Parameter

A token that identifies the dispatcher task associated with the transaction.

`DTIMEOUT`
Optional Parameter

The deadlock timeout value for the transaction.

`DYNAMIC`
Optional Parameter

Whether the transaction is defined to be dynamic.

Values for the parameter are:
`NO`
`YES`

`FACILITY_NAME`
Optional Parameter

The name of the principal facility associated with the transaction.

`FACILITY_TOKEN`
Optional Parameter

A token representing the principal facility associated with the transaction.

`FACILITY_TYPE`
Optional Parameter

The type of the principal facility associated with the transaction.

Values for the parameter are:
`IPECI`

`NONE`
`START`
`TD`
`TERMINAL`

INITIAL_PROGRAM
Optional Parameter

Initial program of transaction.

NETNAME
Optional Parameter

The network name of a terminal principal facility.

ORIGINAL_TRANSACTION_ID
Optional Parameter

The transid that was used to attach the transaction.

OUT_TRANSACTION_TOKEN
Optional Parameter

The token that represents this transaction.

PHASE
Optional Parameter

The phase of the transaction.

Values for the parameter are:
`BIND`
`INIT`
`PRE_INIT`
`TERM`

PRIMARY_CLIENT_TOKEN
Optional Parameter

A token representing the client for which the client was attached.

PRIMARY_CLIENT_TYPE
Optional Parameter

The type of client for which the transaction was attached.

Values for the parameter are:
`APPC_SESSION`
`BRIDGE`
`IIRR`
`IP_ECI`
`LU61_SESSION`
`MRO_SESSION`
`NONE`
`RRS_UR`
`RZ_INSTORE_TRPORT`
`SCHEDULER`
`SOCKET`
`START`
`START_TERMINAL`
`TERMINAL`
`TRANDATA`
`WEB`
`XM_RUN_TRANSACTION`

RE_ATTACHED_TRANSACTION
Optional Parameter

Indicates if the transaction was reattached.

Values for the parameter are:
`NO`
`YES`

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`BUFFER_TOO_SMALL`
`INVALID_TRANSACTION_TOKEN`
`NO_TRANSACTION_ENVIRONMENT`
`UNKNOWN_TRANSACTION_NUMBER`

REMOTE
Optional Parameter

Whether the transaction is remote.

Values for the parameter are:
`NO`
`YES`

REMOTE_NAME
Optional Parameter

The name of a remote transaction on the remote system.

REMOTE_SYSTEM
Optional Parameter

The system that a remote transaction is to be routed to.

RESOURCE_NAME
Optional Parameter

The name of a resource that a suspended transaction is waiting for.

RESOURCE_TYPE
Optional Parameter

The type of resource that a suspended transaction is waiting for.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

RESTART
Optional Parameter

Whether the transaction is restartable.

Values for the parameter are:
`NO`
`YES`

RESTART_COUNT
Optional Parameter

Contains the number of times this transaction instance has been restarted.

SPURGE
Optional Parameter

Whether the transaction is system-purgeable.

Values for the parameter are:
`NO`
`YES`

START_CODE
Optional Parameter

Indicates the reason for the attach of the transaction.

Values for the parameter are:
`C`
`DF`
`QD`
`S`
`SD`
`SZ`
`T`
`TT`

STATUS
Optional Parameter

The status of the transaction.

Values for the parameter are:
`READY`
`RUNNING`
`SUSPENDED`

SUSPEND_TIME
Optional Parameter

Contains the length of time that the transaction has currently been suspended for.

SYSTEM_TRANSACTION
Optional Parameter

Whether the transaction has been attached by CICS.

Values for the parameter are:
`NO`
`YES`

TASK_PRIORITY
Optional Parameter

The combined priority of the transaction.

TCLASS
Optional Parameter

Whether the transaction belongs to a tclass.

TCLASS_NAME
Optional Parameter

The name of the tclass that the transaction belongs to.

TPURGE
Optional Parameter

Whether the transaction can be purged after a terminal error.

Values for the parameter are:
`NO`
`YES`

TRAN_PRIORITY
Optional Parameter

Transaction priority

TRAN_ROUTING_PROFILE
Optional Parameter

Profile to be used to route a remote transaction to a remote system.

TRANDEF_TOKEN
Optional Parameter

The token representing the returned transaction definition.

TRANNUM
Optional Parameter

Is the transaction number assigned to the newly attached transaction.

TRANSACTION_GROUP_ID
Optional Parameter

The identifier of the transaction's monitoring group.

TRANSACTION_ID
Optional Parameter

Transaction identifier

USERID
Optional Parameter

The userid of the user associated with the transaction.

XMIQ gate, INQUIRE_TRANSACTION_TOKEN function

The INQUIRE_TRANSACTION_TOKEN function of the XMIQ gate is used to return a transaction token that is associated with a specific transaction.

Input Parameters

TOKEN_OWNER
Identifies the transaction token to retrieve for the transaction.

The parameter can take the following values:

```
AD
AP
BR
DD
DP
EJ
IE
IS
LG
MN
PG
PI
RM
RZ
SM
SO
TD
TF
US
WB
XM
XS
```

TRANSACTION_TOKEN
Optional Parameter

An optional token that identifies the transaction to send the message to. The default is the current transaction.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
    `NO_TRANSACTION_ENVIRONMENT`

  The following values are returned when RESPONSE is INVALID:
    `INVALID_FUNCTION`

OWNERS_TOKEN
: The transaction token associated with the current transaction.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMIQ gate, PURGE_TRANSACTION function

The PURGE_TRANSACTION function of the XMIQ gate is used to purge a particular transaction in the system.

Input Parameters

PURGE_TYPE
: The type of purge that is to be attempted.

  Values for the parameter are:
    `FORCE`
    `KILL`
    `NORMAL`

TRANSACTION_NUMBER
: The number of the transaction being inquired upon.

TRANSACTION_TOKEN
: Optional token to identify the transaction that the message is to be sent to. Defaults to the current transaction.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
    `ABEND`
    `LOOP`

  The following values are returned when RESPONSE is EXCEPTION:
    `FORCEPURGE_NOT_ATTEMPTED`
    `INVALID_STATE`
    `INVALID_TRANSACTION_TOKEN`
    `PURGE_ABENDING_TRANSACTION`
    `PURGE_DEFERRED`
    `PURGE_INHIBITED`
    `PURGE_SYSTEM_TRANSACTION`
    `SPURGE_PROTECTED`
    `TRANSACTION_INITIALIZING`
    `TRANSACTION_TERMINATING`
    `UNKNOWN_TRANSACTION_NUMBER`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMIQ gate, SET_TRANSACTION function

The SET_TRANSACTION function of the XMIQ gate is used to change some attributes associated with a particular transaction.

Input Parameters

FACILITY_TOKEN

Optional Parameter

A token representing the principal facility associated with the transaction.

FACILITY_TYPE

Optional Parameter

The type of principal facility to be associated with the attached transaction.

Values for the parameter are:

```
IPECI
NONE
START
TD
TERMINAL
```

REMOTE_NAME

Optional Parameter

The name of a remote transaction on the remote system.

REMOTE_SYSTEM

Optional Parameter

The system that a remote transaction is to be routed to.

REPORT_CONDITION

Optional Parameter

An indicator that provides a means of communicating the fact that an abend message has already been reported to the principal facility terminal or destination.

Values for the parameter are:

```
NO
YES
```

RESTART

Optional Parameter

Whether the transaction is restartable.

Values for the parameter are:

```
NO
YES
```

START_CODE

Optional Parameter

Indicates the reason for the attach.

Values for the parameter are:

```
C
QD
S
SD
SZ
T
TT
```

STORAGE_VIOLATIONS

Optional Parameter

Set to indicate that the transaction has suffered a storage violation.

Values for the parameter are:

```
INCREMENT
```

TASK_PRIORITY
Optional Parameter

The combined priority of the transaction.

TCLASS_NAME
Optional Parameter

The name of the tclass.

TRANSACTION_NUMBER
Optional Parameter

The number of the transaction being inquired upon.

TRANSACTION_TOKEN
Optional Parameter

Optional token to identify the transaction that the message is to be sent to. Defaults to the current transaction.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
- ABEND
- LOOP

The following values are returned when RESPONSE is EXCEPTION:
- INVALID_TRANSACTION_TOKEN
- NO_TRANSACTION_ENVIRONMENT
- UNKNOWN_TCLASS
- UNKNOWN_TRANSACTION_NUMBER

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMIQ gate, SET_TRANSACTION_TOKEN function

The SET_TRANSACTION_TOKEN function of the XMIQ gate is used to modify a transaction token that is associated with a specific transaction.

Input Parameters

OWNERS_TOKEN
The new value for the transaction token.

TOKEN_OWNER
Identifies the transaction token to set for the transaction.

The parameter can take the following values:
- AD
- AP
- BR
- DD
- DP
- EJ
- IE
- IS
- LG
- MN
- PG
- PI
- RM
- RZ

SM
SO
TD
TF
US
WB
XM
XS

TRANSACTION_TOKEN
Optional Parameter

An optional token that identifies the transaction to send the message to. The default is the current transaction.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
NO_TRANSACTION_ENVIRONMENT

The following values are returned when RESPONSE is INVALID:
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMIQ gate, START_BROWSE_TRANSACTION function

The START_BROWSE_TRANSACTION function of the XMIQ gate is used to initiate a browse of all transactions in the system.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

BROWSE_TOKEN
Token identifying this transaction definition browse.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMIQ gate, START_BROWSE_TXN_TOKEN function

The START_BROWSE_TXN_TOKEN function of the XMIQ gate is used to initiate a browse of a particular components transaction token in all transactions in the system.

Input Parameters

TOKEN_OWNER
Identifies the particular transaction token that is to be browsed in the transactions.

Values for the parameter are:
AD
AP
BR
DD
DP

EJ
IE
IS
LG
MN
PG
PI
RM
RZ
SM
SO
TD
TF
US
WB
XM
XS

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

BROWSE_TOKEN
Token identifying this transaction definition browse.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMLD gate, LOCATE_AND_LOCK_TRANDEF function

The LOCATE_AND_LOCK_TRANDEF function of the XMLD gate is used to locate a particular transaction definition instance.

Input Parameters

TPNAME
Alternative means of specifying the transaction identifier to attach.

TRANSACTION_ID
The transaction identifier to attach.

USE_DTRTRAN
Optional Parameter

If the named transaction-id or tpname cannot be found then indicates whether the DTRTRAN, if installed, should be used instead.

Values for the parameter are:
NO
YES

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
LOGIC_ERROR

The following values are returned when RESPONSE is EXCEPTION:
NOT_FOUND

The following values are returned when RESPONSE is INVALID:

`INVALID_TPNAME`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TRANDEF_TOKEN
: The token representing the returned transaction definition.

PRIMARY_TRANSACTION_ID
: Optional Parameter

  The primary transaction identifier of the returned transaction. definition.

XMLD gate, UNLOCK_TRANDEF function

The UNLOCK_TRANDEF function of the XMLD gate is used to unlock a previously located transaction definition instance.

Input Parameters

TRANDEF_TOKEN
: Transaction definition instance to unlock.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `LOGIC_ERROR`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_TOKEN`
  `NOT_LOCKED`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMRU gate, RUN_TRANSACTION function

Run a BTS transaction.

Input Parameters

TRANID
: The transaction identifier.

CLIENT_DATA_BLOCK
: Optional Parameter

  Client data associated with the request.

CLIENT_TYPE
: Optional Parameter

  A string that indicates the type of client.

PROGRAM
: Optional Parameter

  The program associated with the transaction.

USERID
: Optional Parameter

  the user ID under which the transaction runs.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  `BIND_FAILURE`

NOTAUTH
TASK_ABENDED
TRANSACTION_HANG

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

ABEND_CODE
Optional Parameter

The abend code if an abend occurred in the BTS transaction.

ABEND_PROGRAM
Optional Parameter

The name of the program that ended abnormally if an abend occurred in the BTS transaction.

XMSR gate, INQUIRE_DTRTRAN function

The INQUIRE_DTRTRAN function of the XMSR gate returns the name of the dynamic transaction routing transaction.

Output Parameters

DTRTRAN
The name of the dynamic transaction routing transaction definition.

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

REASON
Optional Parameter

The following values are returned when RESPONSE is DISASTER:
ABEND
LOGIC_ERROR
LOOP

The following values are returned when RESPONSE is EXCEPTION:
INVALID_MXT_LIMIT
LIMIT_TOO_HIGH

The following values are returned when RESPONSE is INVALID:
INVALID_FUNCTION

XMSR gate, INQUIRE_MXT function

The INQUIRE_MXT function of the XMSR gate is used to inquire upon the state of MXT in the system.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
LOGIC_ERROR

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

CURRENT_ACTIVE
Optional Parameter

The number of active transactions in the tclass.

MXT_LIMIT
Optional Parameter

The maximum number of transactions in the transaction class that are allowed to be active.

MXT_QUEUED
Optional Parameter

The number of user transactions queued for MXT.

TCLASS_QUEUED
Optional Parameter

The number of transactions queued for tclass membership.

XMSR gate, SET_DTRTRAN function

The SET_DTRTRAN function of the XMSR gate changes the dynamic transaction routing transaction definition.

Input Parameters

DTRTRAN
The name of the dynamic transaction routing transaction definition.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

REASON
Optional Parameter

The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOGIC_ERROR`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`INVALID_MXT_LIMIT`
`LIMIT_TOO_HIGH`

The following values are returned when RESPONSE is INVALID:
`INVALID_FUNCTION`

XMSR gate, SET_MXT function

The SET_MXT function of the XMSR gate is used to change MXT in the system.

Input Parameters

MXT_LIMIT
The requested setting for MXT.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`LOGIC_ERROR`

The following values are returned when RESPONSE is EXCEPTION:
`INVALID_MXT_LIMIT`
`LIMIT_TOO_HIGH`

MXT_LIMIT_SET
The MXT limit that could be set.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMXD gate, ADD_REPLACE_TRANDEF function

The ADD_REPLACE_TRANDEF function of the XMXD gate is used to install a transaction definition.

Input Parameters

PROFILE_NAME
: The profile that is to be found.

TRAN_PRIORITY
: Transaction priority

TRANSACTION_ID
: The transaction identifier to attach.

ALIAS
: Optional Parameter

  Alternative name for transaction definition.

BREXIT
: Optional Parameter

  The name of the default bridge exit to be associated with this transaction.

CATALOGUED_EXTERNALS
: Optional Parameter

  Block of data specified as an alternative to the above parameters when a transaction definition is being installed from the catalog.

CMDSEC
: Optional Parameter

  Whether command security checking is active.

  Values for the parameter are:
  `NO`
  `YES`

CONFDATA
: Optional Parameter

  The value of the CONFDATA attribute specified in the TRANSACTION definition.

  Values for the parameter are:
  `NO`
  `YES`

DTIMEOUT
: Optional Parameter

  The deadlock timeout value for the transaction.

DUMP
: Optional Parameter

  Whether transaction dumps are to be taken.

  Values for the parameter are:
  `NO`
  `YES`

DYNAMIC
: Optional Parameter

  Whether the transaction is defined to be dynamic.

  Values for the parameter are:
  `NO`
  `YES`

INDOUBT
Optional Parameter

The action to take if work performed by the transaction becomes indoubt.

Values for the parameter are:
`BACKOUT`
`COMMIT`

INDOUBT_WAIT
Optional Parameter

Indicates whether an indoubt unit of work (UOW) is to wait, pending recovery from a failure that occurs after the UOW has entered the indoubt state.

Values for the parameter are:
`NO`
`YES`

INDOUBT_WAIT_TIME
Optional Parameter

Indicates how long the transaction is to wait before taking an arbitrary decision about an indoubt unit of work.

INITIAL_PROGRAM
Optional Parameter

Initial program of transaction.

ISOLATE
Optional Parameter

Whether the transaction runs in its own subspace.

Values for the parameter are:
`NO`
`YES`

LOCAL_QUEUING
Optional Parameter

Whether the transaction is eligible to queue locally when it is started on the remote system.

Values for the parameter are:
`NO`
`YES`

OTSTIMEOUT
Optional Parameter

The value of the OTSTIMEOUT attribute in the transaction definition.

PARTITIONSET
Optional Parameter

The partitionset defined for the transaction.

PARTITIONSET_NAME
Optional Parameter

The name of the user defined partitionset used by the transaction.

REMOTE_NAME
Optional Parameter

The name of a remote transaction on the remote system.

REMOTE_SYSTEM
Optional Parameter

The system that a remote transaction is to be routed to.

RESSEC
Optional Parameter

Whether resource security checking is active.

Values for the parameter are:
`NO`
`YES`

RESTART
Optional Parameter

Whether the transaction is restartable.

Values for the parameter are:
`NO`
`YES`

ROUTABLE_STATUS
Optional Parameter

Specifies whether, if the transaction is the subject of an eligible EXEC CICS START command, it will be routed using the enhanced routing method.

Values for the parameter are:
`NOTROUTABLE`
`ROUTABLE`

RUNAWAY_LIMIT
Optional Parameter

The runaway limit associated with the transaction.

SHUTDOWN
Optional Parameter

Whether the transaction can be run during shutdown.

Values for the parameter are:
`DISABLED`
`ENABLED`

SPURGE
Optional Parameter

Whether the transaction is system-purgeable.

Values for the parameter are:
`NO`
`YES`

STATUS
Optional Parameter

The status of the transaction.

Values for the parameter are:
`DISABLED`
`ENABLED`

STORAGE_CLEAR
Optional Parameter

Whether task-lifetime storage is to be cleared before it is freemained.

Values for the parameter are:
`NO`
`YES`

STORAGE_FREEZE
Optional Parameter

Whether storage freeze is on for the transaction.

Values for the parameter are:
`NO`
`YES`

SYSTEM_DEFINITION
Optional Parameter

A binary value that indicates whether the transaction is defined by the system.

Values for the parameter are:
`NO`
`YES`

SYSTEM_RUNAWAY
Optional Parameter

Whether the transaction uses the default system runaway limit.

TASKDATAKEY
Optional Parameter

The storage key that task-lifetime storage is allocated in.

Values for the parameter are:
`CICS`
`USER`

TASKDATALOC
Optional Parameter

The location of task-lifetime storage.

Values for the parameter are:
`ANY`
`BELOW`

TASKREQ
Optional Parameter

Alternative name for transaction definition so that it can be invoked by PF/PA key, light pen, etc.

TCLASS
Optional Parameter

Whether the transaction belongs to a tclass.

TCLASS_NAME
Optional Parameter

The name of the tclass.

TPNAME
Optional Parameter

Alternative means of specifying the transaction identifier to attach.

TPURGE
Optional Parameter

Whether the transaction can be purged after a terminal error.

Values for the parameter are:
`NO`
`YES`

TRACE
Optional Parameter

The level of tracing associated with the transaction.

Values for the parameter are:

SPECIAL
STANDARD
SUPPRESSED

TRAN_ROUTING_PROFILE
Optional Parameter

Profile to be used to route a remote transaction to a remote system.

TWASIZE
Optional Parameter

Size of Transaction Work Area.

XTRANID
Optional Parameter

Alternative name for transaction definition originally specified in hexadecimal notation.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
LOGIC_ERROR

The following values are returned when RESPONSE is EXCEPTION:
ALIAS_INVALID
RECOVERY_NOT_COMPLETE
RUNAWAY_LIMIT_INVALID
TASKREQ_INVALID
TPNAME_INVALID
TRANSACTION_ID_INVALID
TWASIZE_INVALID
XTRANID_INVALID

The following values are returned when RESPONSE is INVALID:
INITIAL_PROGRAM_EXPECTED
PARTITIONSET_NAME_EXPECTED
REMOTE_NAME_EXPECTED
REMOTE_SYSTEM_EXPECTED
RUNAWAY_LIMIT_EXPECTED
TCLASS_NAME_EXPECTED
TRAN_ROUTING_PROF_EXPECTED

The values for the parameter are:
ALIAS_EXISTS_AS_PRIMARY

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TRANDEF_TOKEN
Optional Parameter

The token representing the returned transaction definition.

XMXD gate, INQUIRE_REMOTE_TRANDEF function

The INQUIRE_REMOTE_TRANDEF function of the XMXD gate is used to inquire upon a remote transaction definition.

Input Parameters

REMOTENAME_KEY
Remote name of remote transaction definition to be found.

REMOTESYSTEM_KEY
: Remote system of remote transaction definition to be found.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
: `LOGIC_ERROR`

: The following values are returned when RESPONSE is EXCEPTION:
: `REMOTE_NOT_FOUND`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BREXIT
: Optional Parameter

: The name of the default bridge exit to be associated with this transaction.

CMDSEC
: Optional Parameter

: Whether command security checking is active.

: Values for the parameter are:
: `NO`
: `YES`

CONFDATA
: Optional Parameter

: The value of the CONFDATA attribute specified in the TRANSACTION definition.

: Values for the parameter are:
: `NO`
: `YES`

DTIMEOUT
: Optional Parameter

: The deadlock timeout value for the transaction.

DTRTRAN
: Optional Parameter

: The name of the dynamic transaction routing transaction definition.

: Values for the parameter are:
: `NO`
: `YES`

DUMP
: Optional Parameter

: Whether transaction dumps are to be taken.

: Values for the parameter are:
: `NO`
: `YES`

DYNAMIC
: Optional Parameter

: Whether the transaction is defined to be dynamic.

: Values for the parameter are:
: `NO`
: `YES`

INDOUBT
: Optional Parameter

  The action to take if work performed by the transaction becomes indoubt.

  Values for the parameter are:
  `BACKOUT`
  `COMMIT`

INDOUBT_WAIT
: Optional Parameter

  Indicates whether an indoubt unit of work (UOW) is to wait, pending recovery from a failure that occurs after the UOW has entered the indoubt state.

  Values for the parameter are:
  `NO`
  `YES`

INDOUBT_WAIT_TIME
: Optional Parameter

  Indicates how long the transaction is to wait before taking an arbitrary decision about an indoubt unit of work.

INITIAL_PROGRAM
: Optional Parameter

  Initial program of transaction.

ISOLATE
: Optional Parameter

  Whether the transaction runs in its own subspace.

  Values for the parameter are:
  `NO`
  `YES`

LOCAL_QUEUING
: Optional Parameter

  Whether the transaction is eligible to queue locally when it is started on the remote system.

  Values for the parameter are:
  `NO`
  `YES`

OTSTIMEOUT
: Optional Parameter

  The value of the OTSTIMEOUT attribute in the transaction definition.

PARTITIONSET
: Optional Parameter

  The partitionset defined for the transaction.

  Values for the parameter are:
  `KEEP`
  `NAMED`
  `NONE`
  `OWN`

PARTITIONSET_NAME
: Optional Parameter

  The name of the user defined partitionset used by the transaction.

PROFILE_NAME
: Optional Parameter

Profile of transaction.

REMOTE

Optional Parameter

Whether the transaction is remote.

Values for the parameter are:

`NO`
`YES`

REMOTE_NAME

Optional Parameter

The name of a remote transaction on the remote system.

REMOTE_SYSTEM

Optional Parameter

The system that a remote transaction is to be routed to.

RESSEC

Optional Parameter

Whether resource security checking is active.

Values for the parameter are:

`NO`
`YES`

RESTART

Optional Parameter

Whether the transaction is restartable.

Values for the parameter are:

`NO`
`YES`

ROUTABLE_STATUS

Optional Parameter

Specifies whether, if the transaction is the subject of an eligible EXEC CICS START command, it will be routed using the enhanced routing method.

Values for the parameter are:

`NOTROUTABLE`
`ROUTABLE`

RUNAWAY_LIMIT

Optional Parameter

The runaway limit associated with the transaction.

SHUTDOWN

Optional Parameter

Whether the transaction can be run during shutdown.

Values for the parameter are:

`DISABLED`
`ENABLED`

SPURGE

Optional Parameter

Whether the transaction is system-purgeable.

Values for the parameter are:

`NO`
`YES`

STATUS
Optional Parameter

The status of the transaction.

Values for the parameter are:
`DISABLED`
`ENABLED`

STORAGE_CLEAR
Optional Parameter

Whether task-lifetime storage is to be cleared before it is freemained.

Values for the parameter are:
`NO`
`YES`

STORAGE_FREEZE
Optional Parameter

Whether storage freeze is on for the transaction.

Values for the parameter are:
`NO`
`YES`

SYSTEM_ATTACH
Optional Parameter

Indicates whether the transaction should be attached as a system transaction.

Values for the parameter are:
`NO`
`YES`

SYSTEM_RUNAWAY
Optional Parameter

Whether the transaction uses the default system runaway limit.

Values for the parameter are:
`NO`
`YES`

TASKDATAKEY
Optional Parameter

The storage key that task-lifetime storage is allocated in.

Values for the parameter are:
`CICS`
`USER`

TASKDATALOC
Optional Parameter

The location of task-lifetime storage.

Values for the parameter are:
`ANY`
`BELOW`

TCLASS
Optional Parameter

Whether the transaction belongs to a tclass.

TCLASS_NAME
Optional Parameter

The name of the tclass that the transaction belongs to.

TPURGE
Optional Parameter

Whether the transaction can be purged after a terminal error.

Values for the parameter are:
`NO`
`YES`

TRACE
Optional Parameter

The level of tracing associated with the transaction.

Values for the parameter are:
`SPECIAL`
`STANDARD`
`SUPPRESSED`

TRAN_PRIORITY
Optional Parameter

Transaction priority

TRAN_ROUTING_PROFILE
Optional Parameter

Profile to be used to route a remote transaction to a remote system.

TRANSACTION_ID
Optional Parameter

Transaction identifier

TWASIZE
Optional Parameter

Size of Transaction Work Area.

XMXD gate, INQUIRE_TRANDEF function

The INQUIRE_TRANDEF function of the XMXD gate is used to inquire upon a named transaction definition.

Input Parameters

INQ_TRANSACTION_ID
Transaction-id to inquire upon.

TRANDEF_TOKEN
Transaction definition instance to unlock.

USE_DTRTRAN
Optional Parameter

If the named transaction-id or tpname cannot be found then indicates whether the DTRTRAN, if installed, should be used instead.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`LOGIC_ERROR`

The following values are returned when RESPONSE is EXCEPTION:
`UNKNOWN_TRANSACTION_ID`

The following values are returned when RESPONSE is INVALID:

`INVALID_TOKEN`

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

BREXIT

Optional Parameter

The name of the bridge exit defined by the BREXIT parameter of the transaction resource definition.

CMDSEC

Optional Parameter

Whether command security checking is active.

Values for the parameter are:

`NO`
`YES`

CONFDATA

Optional Parameter

A binary value that indicates whether CICS should clear storage that is released from a task executing this transaction, to prevent other tasks accidentally viewing confidential data.

Values for the parameter are:

`NO`
`YES`

DTIMEOUT

Optional Parameter

The deadlock timeout value for the transaction.

DTRTRAN

Optional Parameter

The name of the dynamic transaction routing transaction definition.

Values for the parameter are:

`NO`
`YES`

DUMP

Optional Parameter

Whether transaction dumps are to be taken.

Values for the parameter are:

`NO`
`YES`

DYNAMIC

Optional Parameter

Whether the transaction is defined to be dynamic.

Values for the parameter are:

`NO`
`YES`

INDOUBT

Optional Parameter

The action to take if work performed by the transaction becomes indoubt.

Values for the parameter are:

`BACKOUT`

COMMIT

INDOUBT_WAIT
Optional Parameter

A binary value that indicates whether CICS wait to determine whether recoverable resources are to be backed out or committed if a failure occurs while the unit of work associated with the transaction is in an indoubt state.

Values for the parameter are:
NO
YES

INDOUBT_WAIT_TIME
Optional Parameter

The length of time for which CICS should wait to for resolution if a failure occurs while the unit of work associated with the transaction is in an indoubt state.

INITIAL_PROGRAM
Optional Parameter

Initial program of transaction.

ISOLATE
Optional Parameter

Whether the transaction runs in its own subspace.

Values for the parameter are:
NO
YES

LOCAL_QUEUING
Optional Parameter

Whether the transaction is eligible to queue locally when it is started on the remote system.

Values for the parameter are:
NO
YES

OTSTIMEOUT
Optional Parameter

The time for which an OTS transaction, created in an EJB environment executing under this CICS transaction, is allowed to execute before syncpoint.

PARTITIONSET
Optional Parameter

The partitionset defined for the transaction.

Values for the parameter are:
KEEP
NAMED
NONE
OWN

PARTITIONSET_NAME
Optional Parameter

The name of the user defined partitionset used by the transaction.

PROFILE_NAME
Optional Parameter

Profile of transaction.

REMOTE
Optional Parameter

Whether the transaction is remote.

Values for the parameter are:
`NO`
`YES`

REMOTE_NAME
Optional Parameter

The name of a remote transaction on the remote system.

REMOTE_SYSTEM
Optional Parameter

The system that a remote transaction is to be routed to.

RESSEC
Optional Parameter

Whether resource security checking is active.

Values for the parameter are:
`NO`
`YES`

RESTART
Optional Parameter

Whether the transaction is restartable.

Values for the parameter are:
`NO`
`YES`

ROUTABLE_STATUS
Optional Parameter

Specifies whether, if the transaction is the subject of an eligible EXEC CICS START command, it will be routed using the enhanced routing method.

Values for the parameter are:
`NOTROUTABLE`
`ROUTABLE`

RUNAWAY_LIMIT
Optional Parameter

The runaway limit associated with the transaction.

SHUTDOWN
Optional Parameter

Whether the transaction can be run during shutdown.

Values for the parameter are:
`DISABLED`
`ENABLED`

SPURGE
Optional Parameter

Whether the transaction is system-purgeable.

Values for the parameter are:
`NO`
`YES`

STATUS
Optional Parameter

The status of the transaction.

Values for the parameter are:
`DISABLED`
`ENABLED`

STORAGE_CLEAR
Optional Parameter

Whether task-lifetime storage is to be cleared before it is freemained.

Values for the parameter are:
`NO`
`YES`

STORAGE_FREEZE
Optional Parameter

Whether storage freeze is on for the transaction.

Values for the parameter are:
`NO`
`YES`

SYSTEM_ATTACH
Optional Parameter

Whether a system task will be attached using this transaction definition.

Values for the parameter are:
`NO`
`YES`

SYSTEM_RUNAWAY
Optional Parameter

Whether the transaction uses the default system runaway limit.

Values for the parameter are:
`NO`
`YES`

TASKDATAKEY
Optional Parameter

The storage key that task-lifetime storage is allocated in.

Values for the parameter are:
`CICS`
`USER`

TASKDATALOC
Optional Parameter

The location of task-lifetime storage.

Values for the parameter are:
`ANY`
`BELOW`

TCLASS
Optional Parameter

Whether the transaction belongs to a tclass.

TCLASS_NAME
Optional Parameter

The name of the tclass that the transaction belongs to.

TPURGE
Optional Parameter

Whether the transaction can be purged after a terminal error.

Values for the parameter are:
`NO`
`YES`

`TRACE`
Optional Parameter

The level of tracing associated with the transaction.

Values for the parameter are:
`SPECIAL`
`STANDARD`
`SUPPRESSED`

`TRAN_PRIORITY`
Optional Parameter

Transaction priority

`TRAN_ROUTING_PROFILE`
Optional Parameter

Profile to be used to route a remote transaction to a remote system.

`TRANSACTION_ID`
Optional Parameter

Transaction identifier

`TWASIZE`
Optional Parameter

Size of Transaction Work Area.

XMXD gate, SET_TRANDEF function

The SET_TRANDEF function of the XMXD gate is used to modify transaction definition creating a new transaction. definition instance.

Input Parameters

`TRANSACTION_ID`
The transaction identifier to attach.

`DUMP`
Optional Parameter

Whether transaction dumps are to be taken.

Values for the parameter are:
`NO`
`YES`

`RUNAWAY_LIMIT`
Optional Parameter

The runaway limit associated with the transaction.

`SHUTDOWN`
Optional Parameter

Whether the transaction can be run during shutdown.

Values for the parameter are:
`DISABLED`
`ENABLED`

`SHUTDOWN_DISABLEOVERRIDE`
Optional Parameter

Whether to override a SHUTDOWN setting of DISABLED for the transaction definition.

Values for the parameter are:
`NO`
`YES`

`SPURGE`
Optional Parameter

Whether the transaction is system-purgeable.

Values for the parameter are:
`NO`
`YES`

`STATUS`
Optional Parameter

The status of the transaction.

Values for the parameter are:
`DISABLED`
`ENABLED`

`STORAGE_FREEZE`
Optional Parameter

Whether storage freeze is on for the transaction.

Values for the parameter are:
`NO`
`YES`

`SYSTEM_ATTACH`
Optional Parameter

Indicates whether the transaction should be attached as a system transaction.

Values for the parameter are:
`NO`
`YES`

`SYSTEM_RUNAWAY`
Optional Parameter

Whether the transaction uses the default system runaway limit.

`TCLASS`
Optional Parameter

Whether the transaction belongs to a tclass.

`TCLASS_NAME`
Optional Parameter

The name of the tclass.

`TRACE`
Optional Parameter

The level of tracing associated with the transaction.

Values for the parameter are:
`SPECIAL`
`STANDARD`
`SUPPRESSED`

`TRAN_PRIORITY`
Optional Parameter

Transaction priority

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
    `LOGIC_ERROR`

  The following values are returned when RESPONSE is EXCEPTION:
    `RUNAWAY_LIMIT_INVALID`
    `UNKNOWN_TCLASS`
    `UNKNOWN_TRANSACTION_ID`

  The following values are returned when RESPONSE is INVALID:
    `RUNAWAY_LIMIT_EXPECTED`
    `TCLASS_NAME_EXPECTED`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

TRANDEF_TOKEN
: Optional Parameter

  The token representing the returned transaction definition.

XMXE gate, FREE_TXN_ENVIRONMENT function

The FREE_TXN_ENVIRONMENT function of the XMXE gate is used to release a transaction environment for a task that was DS instead XM attached.

Output Parameters

REASON
: The values for the parameter are:
    `ABEND`
    `ATTACHED_TRANSACTION`
    `CALL_NOT_MADE_ON_QR`
    `INVALID_FUNCTION`
    `LOOP`
    `NO_ENVIRONMENT`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMXE gate, GET_TXN_ENVIRONMENT function

The GET_TXN_ENVIRONMENT function of the XMXE gate is used to acquire a transaction environment for a task that was DS instead XM attached.

Output Parameters

REASON
: The values for the parameter are:
    `ABEND`
    `ATTACHED_TRANSACTION`
    `CALL_NOT_MADE_ON_QR`
    `DUPLICATE_ENVIRONMENT`
    `INVALID_FUNCTION`
    `LOOP`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Transaction manager domain's generic gates

Table 87 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 87. Transaction manager domain's generic gates

Gate	Trace	Functions	Format
XMDM	XM 0101 XM 0102	PRE_INITIALIZE INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM
XMST	XM 0C01 XM 0C02	COLLECT_STATISTICS COLLECT_RESOURCE_STATS	STST

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

"Statistics domain's generic formats" on page 1777

Transaction Manager domain's callback formats

Table 88 describes the call-back formats owned by the domain and shows the functions performed on the calls.

Table 88. Transaction Manager domain's call-back formats

Format	Calling module	Function
XMAC	DFHXMTA DFHXMXE	INIT_XM_CLIENT BIND_XM_CLIENT TRANSACTION_HANG ABEND_TERMINATE RELEASE_XM_CLIENT

Note: In the descriptions of the formats, the input parameters are input not to the transaction Manager domain, but to the domain being called by the transaction Manager domain. Similarly, the output parameters are output by the domain that was called by the transaction Manager domain, in response to the call.

XMAC gate, ABEND_TERMINATE function

Clean up after a deferred abend has been noted during transaction initialization.

Input Parameters

CLIENT_REQUEST_BLOCK
A block that refers to data that defines the context of the request.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMAC gate, BIND_XM_CLIENT function

Initialize primary resources and client recoverable resources, and optionally set the program to be called after initialization is complete.

Input Parameters

CLIENT_REQUEST_BLOCK
: A block that refers to data that defines the context of the request.

Output Parameters

APPLICATION_PROGRAM
: The application program to be called after initialization is complete.

LINK_APPLICATION_PROGRAM
: A binary value that indicates whether an application program is to be called after initialization is complete.

  Values for the parameter are:
  - NO
  - YES

ROUTABLE
: A binary value that indicates whether the application program request can be routed.

  Values for the parameter are:
  - NO
  - YES

REASON
: The values for the parameter are:
  - BAD_ENVIRONMENT

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMAC gate, INIT_XM_CLIENT function

Initialize the Transaction Manager client and return the user token extracted from the client token. Also return whether this user token should be used to set up the transaction user.

Input Parameters

CLIENT_REQUEST_BLOCK
: A block that refers to data that defines the context of the request.

Output Parameters

USER_TOKEN
: A token that is used to manage interactions between the transaction manager and the client.

SET_USER_TOKEN
: A binary value that indicates whether the user token is set.

  Values for the parameter are:
  - NO
  - YES

REASON
: The values for the parameter are:
  - INVALID_FORMAT
  - INVALID_FUNCTION
  - ABEND

BAD_ENVIRONMENT
RESTART_FAILURE
REMOTE_TRANSACTION
TRANSACTION_ABEND
INVALID_USERID

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMAC gate, RELEASE_XM_CLIENT function

Clean up resources acquired by INIT_XM_CLIENT and .BIND_XM_CLIENT during Transaction Manager tear-down of the transaction environment.

Input Parameters

TERMINATION_TYPE
Indicates whether the transaction was terminated normally or abnormally.

Values for the parameter are:
NORMAL
ABNORMAL

RESTART_REQUESTED
Optional parameter

A binary value that indicates whether the transaction should be restarted.

Values for the parameter are:
NO
YES

Output Parameters

REASON
The values for the parameter are:
RESTART_FAILURE
TRANSACTION_ABEND
BAD_ENVIRONMENT
ABEND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMAC gate, TRANSACTION_HANG function

Clean up after a severe error has taken place during transaction initialization.

Input Parameters

CLIENT_REQUEST_BLOCK
A block that refers to data that defines the context of the request.

Output Parameters

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Transaction manager domain's generic formats

Table 89 describes the generic formats owned by the domain and shows the functions performed on the calls.

Table 89. Transaction manager domain's generic formats

Format	Calling modules	Functions
XMNT	DFHXMSR DFHXMAT DFHXMTA DFHXMCL	MXT_NOTIFY MXT_CHANGE_NOTIFY
XMDN	DFHXMXD DFHXMQD DFHXMDD	TRANDEF_NOTIFY TRANDEF_DELETE_QUERY
XMPP	DFHXMIQ	FORCE_PURGE_INHIBIT_QUERY

Note: In the descriptions of the formats, the input parameters are input not to the transaction manager domain, but to the domain being called by the transaction manager domain. Similarly, the output parameters are output by the domain that was called by the transaction manager domain, in response to the call.

XMDN gate, TRANDEF_DELETE_QUERY function

The TRANDEF_DELETE_QUERY function of the XMDN format allows other domains to object to the deletion of the named transaction. definition.

Input Parameters

TRANSACTION_ID
The transaction definition subject to the delete request.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
LOGIC_ERROR

The values for the parameter are:
AID_PENDING
ICE_PENDING
SIT_PARAMETER

INHIBIT_DELETE
Indicates whether the called domain wants to inhibit the deletion of the named transaction definition.

Values for the parameter are:
NO
YES

RESPONSE
Indicates whether the domain call was successful. For more information, see “The **RESPONSE** parameter on domain interfaces” on page 9.

XMDN gate, TRANDEF_NOTIFY function

The TRANDEF_NOTIFY function of the XMDN format is used to notify other domains that a transaction definition has been installed, changed, or deleted. The called domain can then modify any transaction definition related data they are keeping for that definition.

Input Parameters

EVENT
: Indicates the event that has caused the notify to be sent.

  Values for the parameter are:
  - CHANGE
  - DELETE
  - INSTALL

TRANDEF_TOKEN
: Token identifying the transaction definition instance subject to the above event.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  - LOGIC_ERROR

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMNT gate, MXT_CHANGE_NOTIFY function

The MXT_CHANGE_NOTIFY function of XMNT format is used to notify other domains of a change to the MXT limit. The called domains indicate whether they can cope with the new limit.

Input Parameters

REQUESTED_MXT
: The new limit requested for MXT.

Output Parameters

REASON
: The following values are returned when RESPONSE is EXCEPTION:
  - LIMIT_TOO_HIGH

ALLOCATED_MXT
: Indicates the limit that the called domain can cope with when the LIMIT_TOO_HIGH exception is returned.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMNT gate, MXT_NOTIFY function

The MXT_NOTIFY function of XMNT format is used to notify other domains when CICS is at, or no longer at, the maximum task limit for user tasks.

Input Parameters

MXTQUEUING
: Indicates whether queuing for MXT has just started or just stopped.

  Values for the parameter are:
  - STARTED
  - STOPPED

Output Parameters

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XMPP gate, FORCE_PURGE_INHIBIT_QUERY function

The FORCE_PURGE_INHIBIT_QUERY function of the XMPP format allows other domains to object to the force purge request for the specified transaction.

Input Parameters

RESOURCE_NAME
The name of the resource for which the task is waiting in the dispatcher.

RESOURCE_TYPE
The type of resource for which the task is waiting in the dispatcher.

TRANSACTION_TOKEN
Token identifying the transaction that is subject to the force purge request.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

INHIBIT_PURGE
Indicates whether the called domain wants to inhibit the force purge of the transaction.

Values for the parameter are:
`NO`
`YES`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Modules

Module	Function
DFHXMAB	XM domain abend program
DFHXMAT	Handles the following requests: ATTACH
DFHXMBD	Handles the following requests: START_BROWSE_TRANDEF GET_NEXT_TRANDEF END_BROWSE_TRANDEF
DFHXMCL	Handles the following requests: ADD_REPLACE_TCLASS ADD_TCLASS INQUIRE_TCLASS SET_TCLASS DELETE_TCLASS START_BROWSE_TCLASS GET_NEXT_TCLASS END_BROWSE_TCLASS REGISTER_TCLASS_USAGE DEREGISTER_TCLASS_USAGE LOCATE_AND_LOCK_TCLASS UNLOCK_TCLASS

Module	Function
DFHXMDD	Handles the following requests: DELETE_TRANDEF
DFHXMDM	Handles the following requests: PRE_INITIALIZE INITIALIZE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN
DFHXMDUF	XM domain offline dump formatting routine
DFHXMER	Handles the following requests: SET_DEFERRED_MESSAGE INQUIRE_DEFERRED_MESSAGE SET_DEFERRED_ABEND INQUIRE_DEFERRED_ABEND REPORT_MESSAGE ABEND_TRANSACTION
DFHXMFD	Handles the following requests: FIND_PROFILE
DFHXMIQ	Handles the following requests: INQUIRE_TRANSACTION SET_TRANSACTION START_BROWSE_TRANSACTION GET_NEXT_TRANSACTION END_BROWSE_TRANSACTION START_BROWSE_TXN_TOKEN GET_NEXT_TXN_TOKEN END_BROWSE_TXN_TOKEN INQUIRE_TRANSACTION_TOKEN SET_TRANSACTION_TOKEN PURGE_TRANSACTION
DFHXMLD	Handles the following requests: LOCATE_AND_LOCK_TRANDEF UNLOCK_TRANDEF
DFHXMQC	Is an internal module which handles the following requests: TCLASS_ACQUIRE TCLASS_RELEASE TCLASS_LIMIT_CHANGE TCLASS_QUEUE_CHANGE
DFHXMQD	Is an internal module which handles the following requests: QUIESCE_TRANDEF DELETE_INSTANCE
DFHXMRP	Is an internal module which handles the following requests: DEFINITION_RECOVERY
DFHXMSR	Handles the following requests: INQUIRE_MXT SET_MXT INQUIRE_DTRTRAN SET_DTRTRAN
DFHXMST	Handles the following requests: COLLECT_STATISTICS COLLECT_RESOURCE_STATS
DFHXMTRI	Interprets XM domain trace entries

Module	Function
DFHXMXD	Handles the following requests: ADD_REPLACE_TRANDEF SET_TRANDEF INQUIRE_TRANDEF INQUIRE_REMOTE_TRANDEF
DFHXMXE	Handles the following requests: GET_TXN_ENVIRONMENT FREE_TXN_ENVIRONMENT

Exits

There is one specific global user exit point in the transaction manager, XXMAT which is called during Attach processing. Note also that the general resource install/discard exit, XRSINDI is also called by transaction manager to log installs and discards of TRANSACTION and TCLASS definitions.

Chapter 115. Security Domain (XS)

The security domain manages the security of CICS resources and the interaction with the security manager.

Security Domain's specific gates

The specific gates provide access for other domains to functions that are provided by the XS domain.

XSAD gate, ADD_USER_WITH_PASSWORD function

The ADD_USER_WITH_PASSWORD function of the XSAD gate is used to add a user to the security domain and verify the associated password or oidcard.

Input Parameters

APPLID
is the application identifier for the CICS region.

PASSWORD
is the current password, 1 through 10 alphanumeric characters, for the userid specified by the USERID value.

SIGNON_TYPE
is the type of signon for the userid (specified by the USERID value).

Values for the parameter are:
- ATTACH_SIGN_ON
- DEFAULT_SIGN_ON
- IRC_SIGN_ON
- LU61_SIGN_ON
- LU62_SIGN_ON
- NON_TERMINAL_SIGN_ON
- PRESET_SIGN_ON
- USER_SIGN_ON
- XRF_SIGN_ON

USERID
is the identifier of the user (a userid of 1 through 10 alphanumeric characters) to be added to the security domain.

USERID_LENGTH
is the length of the USERID value.

ENTRY_PORT_NAME
Optional Parameter

is an optional name of an entry port, 1 through 8 alphanumeric characters, to be assigned to the userid (specified by the USERID value).

ENTRY_PORT_TYPE
Optional Parameter

is the type of the optional entry port to be assigned to the userid. This parameter is only valid if ENTRY_PORT_NAME is also specified.

Values for the parameter are:
- TERMINAL
- CONSOLE

GROUPID
Optional Parameter

is an optional identifier, 1 through 10 alphanumeric characters, of a RACF user group to which the userid is to be assigned.

GROUPID_LENGTH
Optional Parameter

is the 8-bit length of the GROUPID value. This parameter is only valid if GROUPID is also specified.

NEW_PASSWORD
Optional Parameter

is a new password, 1 through 10 alphanumeric characters, to be assigned to the userid (specified by the USERID value). This parameter is only valid if PASSWORD is also specified.

OIDCARD
Optional Parameter

is an optional oidcard (operator identification card); a 65-byte field containing further security data from a magnetic strip reader (MSR) on 32xx devices.

PASSWORD_TYPE
Optional Parameter

specifies if the password is masked.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
- `ABEND`
- `LOOP`

The following values are returned when RESPONSE is EXCEPTION:
- `APPLICATION_NOTAUTH`
- `ENTRY_PORT_NOTAUTH`
- `ESM_INACTIVE`
- `ESM_TRANQUIL`
- `GETMAIN_FAILURE`
- `GROUP_ACCESS_REVOKED`
- `INVALID_GROUPID`
- `INVALID_NEW_PASSWORD`
- `INVALID_USERID`
- `OIDCARD_NOTAUTH`
- `OIDCARD_REQUIRED`
- `PASSWORD_EXPIRED`
- `PASSWORD_NOTAUTH`
- `PASSWORD_REQUIRED`
- `SECLABEL_FAILURE`
- `SECURITY_INACTIVE`
- `UNKNOWN_ESM_ERROR`
- `USERID_NOT_DEFINED`
- `USERID_NOT_IN_GROUP`
- `USERID_REVOKED`

The following values are returned when RESPONSE is INVALID:
- `INVALID_FORMAT`
- `INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SECURITY_TOKEN
is the token identifying the userid.

ESM_RESPONSE
Optional Parameter

is the optional 32-bit ESM response code to the call.

SAF_RESPONSE
Optional Parameter

is the optional 32-bit SAF response code to the call.

XSAD gate, ADD_USER_WITHOUT_PASSWORD function

The ADD_USER_WITHOUT_PASSWORD function of the XSAD gate is used to add a user to the security domain without verification of a associated password or oidcard.

Input Parameters

APPLID
is the application identifier for the CICS region.

SIGNON_TYPE
is the type of signon for the userid (specified by the USERID value).

Values for the parameter are:

```
ATTACH_SIGN_ON
DEFAULT_SIGN_ON
IRC_SIGN_ON
LU61_SIGN_ON
LU62_SIGN_ON
NON_TERMINAL_SIGN_ON
PRESET_SIGN_ON
USER_SIGN_ON
XRF_SIGN_ON
```

USERID
is the identifier of the user (a userid of 1 through 10 alphanumeric characters) to be added to the security domain.

USERID_LENGTH
is the length of the USERID value.

ENTRY_PORT_NAME
Optional Parameter

is an optional name of an entry port, 1 through 8 alphanumeric characters, to be assigned to the userid (specified by the USERID value).

ENTRY_PORT_TYPE
Optional Parameter

is the type of the optional entry port to be assigned to the userid (specified by the USERID value). This parameter is only valid if ENTRY_PORT_NAME is also specified.

Values for the parameter are:

```
CONSOLE
TERMINAL
```

GROUPID
Optional Parameter

is an optional identifier, 1 through 10 alphanumeric characters, of a RACF user group to which the userid (specified by the USERID value) is to be assigned.

GROUPID_LENGTH
Optional Parameter

is the 8-bit length of the GROUPID value. This parameter is only valid if GROUPID is also specified.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:

APPLICATION_NOTAUTH
ENTRY_PORT_NOTAUTH
ESM_INACTIVE
ESM_TRANQUIL
GETMAIN_FAILURE
GROUP_ACCESS_REVOKED
INVALID_GROUPID
INVALID_USERID
SECLABEL_FAILURE
SECURITY_INACTIVE
UNKNOWN_ESM_ERROR
USERID_NOT_DEFINED
USERID_NOT_IN_GROUP
USERID_REVOKED

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SECURITY_TOKEN

is the token identifying the userid.

ESM_RESPONSE

Optional Parameter

is the optional 32-bit ESM response code to the call.

SAF_RESPONSE

Optional Parameter

is the optional 32-bit SAF response code to the call.

XSAD gate, DELETE_USER_SECURITY function

The DELETE_USER_SECURITY function of the XSAD gate is used to delete the storage held to store the ACEE and ACEE pointer for the user represented by the security token.

Input Parameters

SECURITY_TOKEN

is the token identifying the userid.

SIGNOFF_TYPE

is the type of signoff for the userid identified by the SECURITY_TOKEN value.

Values for the parameter are:

ATTACH_SIGN_OFF
DEFERRED_SIGN_OFF
LINK_SIGN_OFF
NON_TERMINAL_SIGN_OFF

PRESET_SIGN_OFF
TIMEOUT_SIGN_OFF
UNFLATTEN_USER_SIGN_OFF
USER_SIGN_OFF
USRDELAY_SIGN_OFF
XRF_SIGN_OFF

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
ESM_INACTIVE
ESM_TRANQUIL
INVALID_SECURITY_TOKEN
SECURITY_INACTIVE
SECURITY_TOKEN_IN_USE
UNKNOWN_ESM_ERROR

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ESM_RESPONSE
Optional Parameter

is the optional 32-bit ESM response code to the call.

SAF_RESPONSE
Optional Parameter

is the optional 32-bit SAF response code to the call.

XSAD gate, INQUIRE_USER_ATTRIBUTES function

The INQUIRE_USER_ATTRIBUTES function of the XSAD gate is used to inquire about the attributes of the user represented by the security token.

Input Parameters

SECURITY_TOKEN
is the token identifying the userid.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
ESTAE_FAILURE
EXTRACT_FAILURE
INVALID_ACEE
INVALID_ESM_PARAMETER
INVALID_SECURITY_TOKEN
NOTAUTH
PROFILE_UNKNOWN

SECURITY_INACTIVE

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ACEE_PTR
Optional Parameter

is a pointer to the access control environment element, the control block that is generated by an external security manager (ESM) when the user signs on. If the user is not signed on, the address of the CICS DFLTUSER's ACEEis returned. If an ACEE does not exist, CICS sets the pointer reference to the null value, X'FF000000'.

CURRENT_GROUPID
Optional Parameter

is the identifier, 1 through 10 alphanumeric characters, of the current RACF user group to which the userid (specified by the SECURITY_TOKEN value) is assigned.

CURRENT_GROUPID_LENGTH
Optional Parameter

is the 8-bit length of the GROUPID value.

ESM_RESPONSE
Optional Parameter

is the optional 32-bit ESM response code to the call.

NATIONAL_LANGUAGE
Optional Parameter

is a three-character code identifying the national language for the userid. It can have any of the values in "National language codes (three-characters)" on page 2011.

OPCLASS
Optional Parameter

is the operator class, in the range 1 through 24, for the userid.

OPIDENT
Optional Parameter

is the operator identification code, 1 through 3 alphanumeric characters, for the userid.

OPPRTY
Optional Parameter

is the operator priority value, in the range 0 through 255 (where 255 is the highest priority), for the userid.

SAF_RESPONSE
Optional Parameter

is the optional 32-bit SAF response code to the call.

TIMEOUT
Optional Parameter

is the number of minutes, in the range 0 through 60, that must elapse since the user last used the terminal before CICS "times-out" the terminal.
1. CICS rounds values up to the nearest multiple of 5.
2. A TIMEOUT value of 0 means that the terminal is not timed out.

USERID
Optional Parameter

is the identifier of the user (a userid of 1 through 10 alphanumeric characters). the userid (specified by the SECURITY_TOKEN value) is assigned.

USERID_LENGTH
Optional Parameter

is the length of the USERID value.

USERNAME
Optional Parameter

is an optional buffer into which the attributes of the user are placed.

XRFSOFF
Optional Parameter

indicates whether or not you want CICS to sign off the userid following an XRF takeover.

Values for the parameter are:
`FORCE`
`NOFORCE`

National language codes (three-characters)

Code	Language Name	Original Name
AFR	Afrikaans	Afrikaans
ARA	Arabic	Arabi
BEL	Byelorussian	Belaruskaja (mova)
BGR	Bulgarian	Bulgarski
CAT	Catalan	Catala
CHT	Traditional Chinese	Zhongwen
CHS	Simplified Chinese	
CSY	Czech	Cesky
DAN	Danish	Dansk
DEU	German	Deutsch
DES	Swiss German	Schweizer-Deutsch
ELL	Greek	Ellinika
ENA	Australian English	
ENG	UK English	English
ENU	US English	
ENP	English Upper Case	
ESP	Spanish	Espanol
FAR	Farsi	Persian
FIN	Finnish	Suomi
FRA	French	Francais
FRB	Belgian French	
FRC	Canadian French	
FRS	Swiss French	Suisse-francais
GAE	Irish Gaelic (Irish)	Gaeilge
HEB	Hebrew	Ivrith
HRV	Croatian	Hrvatski
HUN	Hungarian	Magyar
ISL	Icelandic	Islenska
ITA	Italian	Italiano
ITS	Swiss Italian	Italiano svizzero
JPN	Japanese	Nihongo

Code	Language Name	Original Name
KOR	Korean	Choson-o; Hanguk-o
MKD	Macedonian	Makedonski
NLD	Dutch	Nederlands
NLB	Belgian Dutch	
NOR	Norwegian - Bokmal	Norsk - Bokmal
NON	Norwegian - Nynorsk	Norsk - Nynorsk
PLK	Polish	Polski
PTG	Portuguese	Portugues
PTB	Brazilian Portuguese	
RMS	Rhaeto-Romanic	Romontsch
ROM	Romanian	Romana
RUS	Russian	Russkij
SHC	Serbo-Croatian (Cyr)	Srpsko-hrvatski
SHL	Serbo-Croatian (Lat)	
SKY	Slovakian	Slovensky
SLO	Slovenian	Slovenski
SRL	Serbian (Latin)	Srpski (Latin)
SRB	Serbian	Srpski
SQI	Albanian	Shqip
SVE	Swedish	Svenska
THA	Thai	Thai
TRK	Turkish	Turkce
UKR	Ukrainian	Ukrainska (mova)
URD	Urdu	Urdu

XSAD gate, VALIDATE_USERID function

The VALIDATE_USERID function of the XSAD gate is used to check whether the specified userid is valid. It is used especially when the userid has to be validated without the user being added to the system; usually because the userid was specified in a deferred START command, and the user does not need to be added to the system until the started task begins to execute.

Input Parameters

USERID
is the identifier of the user (a userid of 1 through 10 alphanumeric characters) to be added to the security domain.

USERID_LENGTH
is the length of the USERID value.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:

ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:

GROUP_ACCESS_REVOKED
SECURITY_INACTIVE
USERID_NOT_DEFINED
USERID_NOT_DETERMINED
USERID_REVOKED

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XSAD gate, ADD_USER_VIA_ICRX function

The ADD_USER_VIA_ICRX function of the XSAD gate requests the External Security Manager to add a user, using ICRX details.

Input Parameters

ICRX
Is the extended identity context reference (ICRX) of the user.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following values are returned when RESPONSE is EXCEPTION:
APPLICATION_NOTAUTH
ENTRY_PORT_NOTAUTH
ESM_TRANQUIL
ESM_INACTIVE
GETMAIN_FAILURE
GROUP_ACCESS_REVOKED
INVALID_GROUPID
SECLABEL_FAILURE
SECURITY_INACTIVE
UNKNOWN_ESM_ERROR
USERID_REVOKED
USERID_NOT_DEFINED
INVALID_USERID

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SECURITY_TOKEN
Is the token identifying the ICRX in the user domain.

ESM_RESPONSE
Optional parameter

Is the optional 32-bit ESM response code to the call.

SAF_RESPONSE
Optional parameter

Is the optional 32-bit SAF response code to the call.

XSAD gate, INQUIRE_ICRX function

The INQUIRE_ICRX function of the XSAD gate retrieves an ICRX from the External Security Manager.

Input Parameters

SECURITY_TOKEN
Is the token identifying the ICRX in the user domain.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`ESTAE_FAILURE`
`EXTRACT_FAILURE`
`INVALID_ACEE`
`INVALID_ESM_PARAMETER`
`INVALID_SECURITY_TOKEN`
`NOTAUTH`
`PROFILE_UNKNOWN`
`SECURITY_INACTIVE`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ICRX
Is the extended identity context reference (ICRX) of the user.

ESM_RESPONSE
Optional parameter

Is the optional 32-bit ESM response code to the call.

SAF_RESPONSE
Optional parameter

Is the optional 32-bit SAF response code to the call.

XSAD gate, RELEASE_ICRX function

The RELEASE_ICRX function of the XSAD gate requests that the External Security Manager removes an ICRX that is no longer required.

Input Parameters

SECURITY_TOKEN
Is the token identifying the ICRX in the user domain.

ICRX
Is the extended identity context reference (ICRX) of the user.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is EXCEPTION:
`ESM_INACTIVE`
`ESM_TRANQUIL`
`INVALID_SECURITY_TOKEN`
`SECURITY_INACTIVE`

SECURITY_TOKEN_IN_USE
UNKNOWN_ESM_ERROR

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ESM_RESPONSE
Optional parameter

Is the optional 32-bit ESM response code to the call.

SAF_RESPONSE
Optional parameter

Is the optional 32-bit SAF response code to the call.

XSAD gate, RELEASE_ICRX_STORAGE function

The RELEASE_ICRX_STORAGE function of the XSAD gate requests that the virtual storage associated with an ICRX is made available.

Input Parameters

SECURITY_TOKEN
Is the token identifying the ICRX in the user domain.

ICRX
Is the extended identity context reference (ICRX) or distributed identity of the user.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP

The following value is returned when RESPONSE is EXCEPTION:
INVALID_SECURITY_TOKEN

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION
INVALID_ICRX

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XSCT gate, INQUIRE_CERTIFICATE function

The INQUIRE_CERTIFICATE function extracts data fields out of an X-509 certificate.

Input Parameters

CERTIFICATE
Optional Parameter

On input, contains a full DER-encoded X-509 certificate. Alternatively, CERTIFICATE_LABEL can be used to identify a certificate in the keyring. If neither is specified, the default certificate in the key ring is used. On output, contains the certificate from which the data is extracted.

CERTIFICATE_LABEL
Optional Parameter

Identifies a certificate in the keyring

COMMON_NAME
Optional Parameter

A buffer in which the common name contained within the certificate is returned.

DISTINGUISHED_NAME
Optional Parameter

A buffer in which the BER-encoded distinguished name from the certificate is returned.

EMAIL_ADDRESS
Optional Parameter

A buffer in which the e-mail address contained within the certificate is returned.

FOR
Optional Parameter

Specifies from which of the distinguished names in the certificate the data is to be extracted.

Values for the parameter are:
ISSUER
SUBJECT

LOCALITY
Optional Parameter

A buffer in which the locality contained within the certificate is returned.

ORGANIZATION
Optional Parameter

A buffer in which the organization contained within the certificate is returned.

ORGANIZATIONAL_UNIT
Optional Parameter

A buffer in which the organizational unit contained within the certificate is returned.

SERIAL_NUMBER
Optional Parameter

A buffer in which the serial number of the certificate is returned.

STATE_OR_PROVINCE
Optional Parameter

A buffer in which the organizational unit contained within the certificate is returned.

TITLE
Optional Parameter

A buffer in which the title contained within the certificate is returned.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
LOOP
SEVERE_ERROR

The following values are returned when RESPONSE is EXCEPTION:

`CERTIFICATE_INVALID`
`CERTIFICATE_NOT_FOUND`
`ESM_INACTIVE`
`GETMAIN_FAILED`
`KEYRING_NOT_FOUND`
`NOTAUTH`
`REVOCATION_LIST_INVALID`

The following values are returned when RESPONSE is INVALID:

`INVALID_FORMAT`
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ESM_RESPONSE
Optional Parameter

The external security manager's response to the call.

SAF_RESPONSE
Optional Parameter

The system authorization facility's response to the call.

STATUS
Optional Parameter

The status of the certificate.

Values for the parameter are:

`EXPIRED`
`NOT_OWNER`
`NOT_YET_CURRENT`
`TRUSTED`
`UNREGISTERED`
`UNTRUSTED`

USAGE
Optional Parameter

The intended usage of the certificate, as recorded by the External Security Manager.

Values for the parameter are:

`CERTAUTH`
`PERSONAL`
`SITE`

USERID
Optional Parameter

The user ID of the certificate's owner.

USERID_LENGTH
Optional Parameter

The length of the user ID field.

VALID_FROM_ABSTIME
Optional Parameter

The date and time from when the certificate is valid (in CICS ABSTIME format).

VALID_UNTIL_ABSTIME
Optional Parameter

The date and time until when the certificate is valid (in CICS ABSTIME format).

XSCT gate, INQUIRE_REVOCATION_LIST function

The INQUIRE_REVOCATION_LIST function extracts data fields out of a Certificate Revocation List.

Input Parameters

REVOCATION_LIST
The certificate revocation list from which data is to be extracted.

DISTINGUISHED_NAME
Optional Parameter

A buffer in which the distinguished name of the issuer of the revocation list is returned.

Output Parameters

REASON
The values for the parameter are:

ABEND
LOOP
REVOCATION_LIST_INVALID

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CURRENT_ISSUE_ABSTIME
Optional Parameter

The date and time that this revocation list was issued (in CICS ABSTIME format).

NEXT_ISSUE_ABSTIME
Optional Parameter

The date and time that the next revocation list is due to be issued (in CICS ABSTIME format).

XSEJ gate, ADD_REPL_ROLE_FOR_METHOD function

Add a specified role for a specified method within the CORBASERVER to the in storage look up table.

Input Parameters

BEAN_NAME
The name of the bean.

CORBASERVER
The name of the CORBASERVER.

METHOD_AND_SIGNATURE
The method and signature for which the role is to be added.

ROLE_NAME
The role name to be added.

APPLICATION_NAME
Optional Parameter

An application name that qualifies the role name.

INTERFACE_TYPE
Optional Parameter

The type of interface.

Values for the parameter are:
`HOME`
`REMOTE`

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`GETMAIN_FAILED`
`INVALID_ROLE_NAME`
`LOOP`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XSEJ gate, CHECK_CALLER_IN_ROLE function

Checks whether the user associated with the current transaction is defined to be in the named role.

Input Parameters

BEAN_NAME
The bean name for which the check is being made.

CODED_ROLE_NAME
The name of the coded role.

CORBASERVER
The CORBASERVER for which the check is being made.

APPLICATION_NAME
Optional Parameter

An application name that qualifies the bean name.

LOGMESSAGE
Optional Parameter

Specifes whether access failures are to be logged to the CSCS TD queue and the MVS System Management Facility (SMF). The default is `YES`.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`ESM_INACTIVE`
`LOOP`
`NOT_IN_ROLE`
`NOTAUTH`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ESM_RESPONSE
Optional Parameter

The external security manager's response to the call.

FAILING_USERID
Optional Parameter

The user ID for which the check failed.

FAILING_USERID_LENGTH
Optional Parameter

The length of the user ID for which the check failed.

SAF_RESPONSE
Optional Parameter

The system authorization facility's response to the call.

XSEJ gate, CHECK_EJB_METHOD function

Check whether the user associated with the current transaction is authorized to invoke the specified method of the named bean.

Input Parameters

BEAN_NAME
The name of the bean for which the check is being made.

CORBASERVER
The name of the CORBASERVER for which the check is being made.

METHOD_AND_SIGNATURE
The method and signature name for which the check is being made.

APPLICATION_NAME
Optional Parameter

An application name that qualifies the bean name.

INTERFACE_TYPE
Optional Parameter

The type of interface.

Values for the parameter are:
`HOME`
`REMOTE`

LOGMESSAGE
Optional Parameter

Specifes whether access failures are to be logged to the CSCS TD queue and the MVS System Management Facility (SMF). The default is `YES`.

Values for the parameter are:
`NO`
`YES`

Output Parameters

REASON
The values for the parameter are:
`ABEND`
`ESM_INACTIVE`
`LOOP`
`NOTAUTH`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ESM_RESPONSE
Optional Parameter

The external security manager's response to the call.

FAILING_USERID
Optional Parameter

The user ID for which the check failed.

FAILING_USERID_LENGTH
: Optional Parameter

  The length of the user ID for which the check failed.

SAF_RESPONSE
: Optional Parameter

  The system authorization facility's response to the call.

XSEJ gate, DELETE_BEAN_SECURITY function

Delete all entries at the bean level from the in-storage lookup table. This includes all method and coded_role entries belonging to the specified bean.

Input Parameters

BEAN_NAME
: The name of the bean.

CORBASERVER
: The name of the CORBASERVER.

Output Parameters

REASON
: The values for the parameter are:
  ABEND
  LOOP

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XSEJ gate, INQUIRE_DISTINGUISHED_NAME function

Obtains the sub-fields of the distinguished name from the certificate identified by its label in the key ring.

Input Parameters

CERTIFICATE_LABEL
: Optional Parameter

  The label that identifies the certificate.

COMMON_NAME
: Optional Parameter

  A buffer in which the common came contained within the certificate is returned.

EMAIL_ADDRESS
: Optional Parameter

  A buffer in which the e-mail address contained within the certificate is returned.

LOCALITY
: Optional Parameter

  A buffer in which the locality contained within the certificate is returned.

ORGANIZATION
: Optional Parameter

  A buffer in which the organization contained within the certificate is returned.

ORGANIZATIONAL_UNIT
: Optional Parameter

A buffer in which the organizational unit contained within the certificate is returned.

STATE_OR_PROVINCE
Optional Parameter

A buffer in which the organizational unit contained within the certificate is returned.

TITLE
Optional Parameter

A buffer in which the title contained within the certificate is returned.

Output Parameters

REASON
The values for the parameter are:

```
ABEND
CERTIFICATE_INVALID
CERTIFICATE_NOT_FOUND
ESM_INACTIVE
KEYRING_NOT_FOUND
LOOP
SEVERE_ERROR
```

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

COUNTRY
Optional Parameter

The country name contained in the certificate.

ESM_RESPONSE
Optional Parameter

The external security manager's response to the call.

SAF_RESPONSE
Optional Parameter

The system authorization facility's response to the call.

XSEJ gate, INQUIRE_HASH_CODE function

This function returns a unique hash code to represent the Principal.

Output Parameters

REASON
The values for the parameter are:

```
ABEND
LOOP
```

HASH_CODE
The desired hash code value.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XSEJ gate, INQUIRE_PRINCIPAL function

This function obtains information for creating a Java Principal object and building its distinguished name.

Input Parameters

CLIENT_CERTIFICATE
Optional Parameter

On input, contains a full DER-encoded X-509 certificate. Alternatively, CERTIFICATE_LABEL can be used to identify a certificate in the keyring. If neither is specified, the default certificate in the key ring is used. On output, contains the certificate from which the data is extracted.

CERTIFICATE_LABEL
Optional Parameter

Identifies a certificate in the keyring

COMMON_NAME
Optional Parameter

A buffer in which the common name contained within the certificate is returned.

DISTINGUISHED_NAME
Optional Parameter

A buffer in which the distinguished name in RFC2253 format is returned if the DISTINGUISHED_NAME_URM para,mater is specified.

EMAIL_ADDRESS
Optional Parameter

A buffer in which the e-mail address contained within the certificate is returned.

LOCALITY
Optional Parameter

A buffer in which the locality contained within the certificate is returned.

ORGANIZATION
Optional Parameter

A buffer in which the organization contained within the certificate is returned.

ORGANIZATIONAL_UNIT
Optional Parameter

A buffer in which the organizational unit contained within the certificate is returned.

STATE_OR_PROVINCE
Optional Parameter

A buffer in which the organizational unit contained within the certificate is returned.

TITLE
Optional Parameter

A buffer in which the title contained within the certificate is returned.

DISTINGUISHED_NAME_URM
Optional Parameter

The name of a user-replaceable module that is called to create a distinguished name string.

Output Parameters

REASON
The values for the parameter are:

```
ABEND
CERTIFICATE_INVALID
CERTIFICATE_NOT_FOUND
```

ESM_INACTIVE
KEYRING_NOT_FOUND
LOOP
SEVERE_ERROR
URM_FAILED

COUNTRY
The country name contained in the certificate.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USERID
Optional Parameter

The user ID of the certificate's owner.

USERID_LENGTH
Optional Parameter

The length of the user ID field.

USERNAME
The name of the user as defined in the external security manager.

ESM_RESPONSE
Optional Parameter

The external security manager's response to the call.

SAF_RESPONSE
Optional Parameter

The system authorization facility's response to the call.

XSEJ gate, SET_ROLE_FOR_CODED_ROLE function

Populates a lookup table indexed by CORBASERVER, adding a role for the coded_role names for a bean installed in a CORBASERVER.

Input Parameters

BEAN_NAME
The name of the bean.

CODED_ROLE_NAME
The coded role name.

CORBASERVER
The name of the CORBASERVER.

ROLE_NAME
The role name.

APPLICATION_NAME
Optional Parameter

An application name that qualifies the bean name.

Output Parameters

REASON
The values for the parameter are:

ABEND
INVALID_ROLE_NAME
LOOP

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XSFL gate, FLATTEN_USER_SECURITY function

The FLATTEN_USER_SECURITY function of the XSFL gate is used to flatten the user's security state and place into the FLATTENED_SECURITY buffer provided.

Input Parameters

FLATTENED_SECURITY
is the buffer into which the flattened security state is placed.

SECURITY_TOKEN
is the token identifying the userid.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
ESM_ABENDED
LOOP

The following values are returned when RESPONSE is EXCEPTION:
INVALID_SECURITY_TOKEN
SECURITY_INACTIVE
UNKNOWN_ESM_RESPONSE

The following values are returned when RESPONSE is INVALID:
INVALID_FLATTENED_BUFFER
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ESM_RESPONSE
Optional Parameter

is the optional 32-bit ESM response code to the call.

SAF_RESPONSE
Optional Parameter

is the optional 32-bit SAF response code to the call.

XSFL gate, UNFLATTEN_ESM_UTOKEN function

The UNFLATTEN_ESM_UTOKEN function of the XSFL gate returns userid and groupid information associated with the external security manager's user token.

Input Parameters

ESM_UTOKEN_PTR
is a pointer to a security manager user pointer.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
ESM_ABENDED
LOOP

The following values are returned when RESPONSE is EXCEPTION:
APPLID_NOTAUTH
ENTRY_PORT_NOTAUTH
ESM_INACTIVE

ESM_TRANQUIL
GETMAIN_FAILED
GROUP_ACCESS_REVOKED
SECLABEL_CHECK_FAILED
SECURITY_INACTIVE
UNKNOWN_ESM_RESPONSE
USERID_NOT_DEFINED
USERID_NOT_IN_GROUP
USERID_REVOKED

The following values are returned when RESPONSE is INVALID:
INVALID_FLATTENED_BUFFER
INVALID_FORMAT
INVALID_FUNCTION

CURRENT_GROUPID
is the identifier, 1 through 10 alphanumeric characters, of the current RACF user group to which the userid (specified by the SECURITY_TOKEN value) is assigned.

CURRENT_GROUPID_LENGTH
is the 8-bit length of the GROUPID value.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USERID
is the identifier of the user (a userid of 1 through 10 alphanumeric characters). the userid (specified by the SECURITY_TOKEN value) is assigned.

USERID_LENGTH
is the length of the USERID value.

ESM_RESPONSE
Optional Parameter

is the optional 32-bit ESM response code to the call.

SAF_RESPONSE
Optional Parameter

is the optional 32-bit SAF response code to the call.

XSFL gate, UNFLATTEN_USER_SECURITY function

The UNFLATTEN_USER_SECURITY function of the XSFL gate is used to unflatten the user security state data in the FLATTENED_SECURITY buffer, and add the userid to the security domain.

Input Parameters

FLATTENED_SECURITY
is the buffer into which the flattened security state is placed.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
ESM_ABENDED
LOOP

The following values are returned when RESPONSE is EXCEPTION:
APPLID_NOTAUTH
ENTRY_PORT_NOTAUTH
ESM_INACTIVE

ESM_TRANQUIL
GETMAIN_FAILED
GROUP_ACCESS_REVOKED
SECLABEL_CHECK_FAILED
SECURITY_INACTIVE
UNKNOWN_ESM_RESPONSE
USERID_NOT_DEFINED
USERID_NOT_IN_GROUP
USERID_REVOKED

The following values are returned when RESPONSE is INVALID:
INVALID_FLATTENED_BUFFER
INVALID_FORMAT
INVALID_FUNCTION

ACEE_PTR
is a pointer to the access control environment element, the control block that is generated by an external security manager (ESM) when the user signs on. If the user is not signed on, the address of the CICS DFLTUSER's ACEEis returned. If an ACEE does not exist, CICS sets the pointer reference to the null value, X'FF000000'.

CURRENT_GROUPID
is the identifier, 1 through 10 alphanumeric characters, of the current RACF user group to which the userid (specified by the SECURITY_TOKEN value) is assigned.

CURRENT_GROUPID_LENGTH
is the 8-bit length of the GROUPID value.

ENTRY_PORT_NAME
is the name of an entry port, 1 through 8 alphanumeric characters, for the userid.

ENTRY_PORT_TYPE
is the type of the entry port for the userid.

Values for the parameter are:
CONSOLE
NULL
TERMINAL

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SECURITY_TOKEN
is the token identifying the userid.

USERID
is the identifier of the user (a userid of 1 through 10 alphanumeric characters). the userid (specified by the SECURITY_TOKEN value) is assigned.

USERID_LENGTH
is the length of the USERID value.

ESM_RESPONSE
Optional Parameter

is the optional 32-bit ESM response code to the call.

SAF_RESPONSE
Optional Parameter

is the optional 32-bit SAF response code to the call.

XSIS gate, INQ_SECURITY_DOMAIN_PARMS function

The INQ_SECURITY_DOMAIN_PARMS function of the XSIS gate is used to return the current values of parameters from the security state data.

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:
  `ABEND`
  `LOOP`

  The following values are returned when RESPONSE is INVALID:
  `INVALID_FORMAT`
  `INVALID_FUNCTION`

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

APPLID
: Optional Parameter

  is the generic applid of the CICS region

CMDSEC
: Optional Parameter

  indicates whether or the CICS region should obey the CMDSEC option specified on a transaction's resource definition.

  Values for the parameter are:
  `ALWAYS`
  `ASIS`

EJBROLE_PREFIX
: Optional Parameter

  is the prefix that is used to qualify the security role defined in an enterprise bean's deployment descriptor.

ESMEXITS
: Optional Parameter

  indicates whether or not installation data is to be passed via the RACROUTE interface to the ESM for use in user exits written for the ESM.

  Values for the parameter are:
  `NO`
  `YES`

KEYRING
: Optional Parameter

  is the fully qualified name of the key ring that contains the keys and X.509 certificates used to support the secure sockets layer (SSL).

PREFIX
: Optional Parameter

  returns the value of the prefix that is being applied to all resource names in authorization requests sent to the external security manager. It can contain 0 through 8 alphanumeric characters.

PSBCHK
: Optional Parameter

  indicates whether or not DL/I security checking is to be performed for a remote terminal initiating a transaction with transaction routing.

  Values for the parameter are:

`NO`
`YES`

RESSEC
Optional Parameter

indicates whether the CICS region should obey the RESSEC option specified on a transaction's resource definition.

Values for the parameter are:
`ALWAYS`
`ASIS`

SECURITY
Optional Parameter

indicates whether or not security is active for this CICS region.

Values for the parameter are:
`NO`
`YES`

XAPPC
Optional Parameter

indicates whether or not session security checking is used when establishing APPC sessions.

Values for the parameter are:
`NO`
`YES`

XCMD
Optional Parameter

indicates whether or not EXEC CICS commands are checked by the ESM.

Values for the parameter are:
`NO`
`YES`
`name` where *name* is the resource class name for EXEC CICS commands.

XDB2
Optional Parameter

indicates whether or not CICS performs DB2ENTRY security checking.

Values for the parameter are:
`NO`
`YES`
`name` where *name* is the resource class name for DB2 entries.

XDCT
Optional Parameter

indicates whether or not destination control entries are checked by the ESM.

Values for the parameter are:
`NO`
`YES`
`name` where *name* is the resource class name for destination control entries.

XEJB
Optional Parameter

indicates whether CICS support for enterprise bean security roles is enabled.

Values for the parameter are:
`NO`
`YES`

XFCT
: Optional Parameter

  indicates whether or not file control entries are checked by the ESM.

  Values for the parameter are:
  - `NO`
  - `YES`
  - *name* where *name* is the resource class name for file control entries.

XJCT
: Optional Parameter

  indicates whether or not journal entries are checked by the ESM.

  Values for the parameter are:
  - `NO`
  - `YES`
  - *name* where *name* is the resource class name for journal entries.

XPCT
: Optional Parameter

  indicates whether or not EXEC-started transactions entries are checked by the ESM.

  Values for the parameter are:
  - `NO`
  - `YES`
  - *name* where *name* is the resource class name for EXEC-started transaction entries.

XPPT
: Optional Parameter

  indicates whether or not program entries are checked by the ESM.

  Values for the parameter are:
  - `NO`
  - `YES`
  - *name* where *name* is the resource class name for program entries.

XPSB
: Optional Parameter

  indicates whether or not PSB entries are checked by the ESM.

  Values for the parameter are:
  - `NO`
  - `YES`
  - *name* where *name* is the resource class name for PSB entries.

XTRAN
: Optional Parameter

  indicates whether or not attached transaction entries are checked by the ESM.

  Values for the parameter are:
  - `NO`
  - `YES`
  - *name* where *name* is the resource class name for attached transaction entries.

XTST
: Optional Parameter

  indicates whether or not temporary storage entries are checked by the ESM.

  Values for the parameter are:
  - `NO`

`YES`
`name` where *name* is the resource class name for temporary storage entries.

XUSER
Optional Parameter

indicates whether or not user entries are checked by the ESM.

Values for the parameter are:
`NO`
`YES`
`name` where *name* is the resource class name for user entries.

XSIS gate, INQUIRE_REALM_NAME function

Obtains the realm names under which the CICS system is executing; a realm is an environment in which a userid and password pairing is valid.

Input Parameters

REALM_TYPE
Indicates that the request is for the Basic realm name.

Values for the parameter are:
`BASIC`
`KERBEROS`

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

REALM_NAME
Returns the name of the realsm under which CICS is executing.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XSIS gate, INQUIRE_REGION_USERID function

The INQUIRE_REGION_USERID function of the XSIS gate is used to return the userid and groupid associated with the jobstep that is currently executing this CICS region.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`LOOP`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`
`INVALID_FUNCTION`

REGION_USERID
is the user identifier of the CICS jobstep (a userid of 1 through 8 alphanumeric characters).

REGION_USERID_LENGTH
is the length of the REGION_USERID value.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

REGION_GROUPID
Optional Parameter

is the identifier, 1 through 8 alphanumeric characters, of the current RACF user group to which the region userid is assigned.

REGION_GROUPID_LENGTH
Optional Parameter

is the 8-bit length of the REGION_GROUPID value.

XSIS gate, SET_NETWORK_IDENTIFIER function

When CICS issues an OPEN ACB for VTAM, the CICS SVC is invoked to store the name (netid) of the local network combined with the local luname, and to RACLIST the profiles in the External Security Manager (ESM) APPCLU Class. If you have specified either of the SEC=NO or XAPPC=NO system initialization parameters, no action is performed, and the return code is set to OK.

Input Parameters

CONDITIONAL
indicates whether or not CICS can tolerate errors in XSIS calls due to the APPCLU profiles not being in storage (LU6.2 connections cannot be validated).

Values for the parameter are:
- NO
- YES

LOCAL_LUNAME
is the VTAM LU name of the local CICS region.

LOCAL_LUNAME_LENGTH
is the length of the VTAM LU name specified by LOCAL_LUNAME.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
- ABEND
- LOOP

The following values are returned when RESPONSE is INVALID:
- INVALID_FORMAT
- INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XSIS gate, SET_SECURITY_DOMAIN_PARMS function

At CICS startup, loads information for the security domain from the system initialization table (SIT) into the security state data.

Input Parameters

APPLID
is the application identifier for the CICS region.

ESMEXITS
indicates whether or not installation data is to be passed via the RACROUTE interface to the ESM for use in user exits written for the ESM.

Values for the parameter are:
`NO`
`YES`

PSBCHK
indicates whether or not DL/I security checking is to be performed for a remote terminal initiating a transaction with transaction routing.

Values for the parameter are:
`NO`
`YES`

SECURITY
indicates whether or not security is active for this CICS region.

Values for the parameter are:
`NO`
`YES`

XAPPC
indicates whether or not session security checking is used when establishing APPC sessions.

Values for the parameter are:
`NO`
`YES`

CMDSEC
Optional Parameter

indicates whether or the CICS region should obey the CMDSEC option specified on a transaction's resource definition.

Values for the parameter are:
`ALWAYS`
`ASIS`

EJBROLE_PREFIX
Optional Parameter

is the prefix that is used to qualify the security role defined in an enterprise bean's deployment descriptor.

KEYRING
Optional Parameter

is the fully qualified name of the key ring that contains the keys and X.509 certificates used to support the secure sockets layer (SSL).

PREFIX
Optional Parameter

specifies the prefix to be applied to resource name in any authorization requests send to the external security manager. It can be 1 through 8 alphanumeric characters, or the single character '*', which indicates that the CICS region userid is to be used as the prefix.

RESSEC
Optional Parameter

indicates whether the CICS region should obey the RESSEC option specified on a transaction's resource definition.

Values for the parameter are:
`ALWAYS`

`ASIS`

`XCMD`

Optional Parameter

indicates whether or not EXEC CICS commands are checked by the ESM.

Values for the parameter are:

`NO`
`YES`
`name` where *name* is the resource class name for EXEC CICS commands.

`XDB2`

Optional Parameter

indicates whether or not CICS performs DB2ENTRY security checking.

Values for the parameter are:

`NO`
`YES`
`name` where *name* is the resource class name for DB2 entries.

`XDCT`

Optional Parameter

indicates whether or not destination control entries are checked by the ESM.

Values for the parameter are:

`NO`
`YES`
`name` where *name* is the resource class name for destination control entries.

`XEJB`

Optional Parameter

indicates whether CICS support for enterprise bean security roles is enabled.

Values for the parameter are:

`NO`
`YES`

`XFCT`

Optional Parameter

indicates whether or not file control entries are checked by the ESM.

Values for the parameter are:

`NO`
`YES`
`name` where *name* is the resource class name for file control entries.

`XJCT`

Optional Parameter

indicates whether or not journal entries are checked by the ESM.

Values for the parameter are:

`NO`
`YES`
`name` where *name* is the resource class name for journal entries.

`XPCT`

Optional Parameter

indicates whether or not EXEC-started transactions entries are checked by the ESM.

Values for the parameter are:

`NO`
`YES`

`name` where *name* is the resource class name for EXEC-started transaction entries.

XPPT

Optional Parameter

indicates whether or not program entries are checked by the ESM.

Values for the parameter are:

`NO`
`YES`
`name` where *name* is the resource class name for program entries.

XPSB

Optional Parameter

indicates whether or not PSB entries are checked by the ESM.

Values for the parameter are:

`NO`
`YES`
`name` where *name* is the resource class name for PSB entries.

XTRAN

Optional Parameter

indicates whether or not attached transaction entries are checked by the ESM.

Values for the parameter are:

`NO`
`YES`
`name` where *name* is the resource class name for attached transaction entries.

XTST

Optional Parameter

indicates whether or not temporary storage entries are checked by the ESM.

Values for the parameter are:

`NO`
`YES`
`name` where *name* is the resource class name for temporary storage entries.

XUSER

Optional Parameter

indicates whether or not user entries are checked by the ESM.

Values for the parameter are:

`NO`
`YES`
`name` where *name* is the resource class name for user entries.

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

```
ABEND
CWA_WAIT_PHASE_FAILURE
INQUIRE_CWA_FAILURE
LOOP
```

The following values are returned when RESPONSE is EXCEPTION:

```
GETMAIN_FAILED
KEYRING_NOT_FOUND
KEYRING_NOTAUTH
```

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ESM_RESPONSE
Optional Parameter

is the optional 32-bit ESM response code to the call.

SAF_RESPONSE
Optional Parameter

is the optional 32-bit SAF response code to the call.

XSIS gate, SET_SPECIAL_TOKENS function

The SET_SPECIAL_TOKENS function of the XSIS gate sets the security tokens for the default user ID and the region user ID.

Input Parameters

DEFAULT_SECURITY_TOKEN
The security token for the default user ID.

REGION_SECURITY_TOKEN
The security token for the region user ID.

Output Parameters

REASON
The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XSLU gate, GENERATE_APPC_BIND function

The GENERATE_APPC_BIND function of the XSLU gate generates a random number which is sent to the partner LU for partner verification.

Output Parameters

REASON
The following values are returned when RESPONSE is EXCEPTION:
BINDSECURITY_INACTIVE
SECURITY_INACTIVE

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

RANDOM_STRING
A random eight-character string.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XSLU gate, GENERATE_APPC_RESPONSE function

The GENERATE_APPC_RESPONSE function of the XSLU gate encrypts the string received from the LU partner, and generates a new random string for the partner to validate.

Input Parameters

LOCAL_LUNAME
: is the VTAM LU name of the local CICS region.

REMOTE_LUNAME
: is the VTAM LU name of the remote CICS region (that sent the bind).

TEST_STRING
: is a random eight-character string receive with a bind request (RANDOM_STRING of the GENERATE_APPC_BIND function).

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:

```
ABEND
ESM_ABENDED
ESTAE_FAILURE
EXTRACT_FAILURE
LOOP
```

The following values are returned when RESPONSE is EXCEPTION:

```
BINDSECURITY_INACTIVE
NOTAUTH
PROFILE_EXPIRED
PROFILE_LOCKED
PROFILE_UNKNOWN
SECURITY_INACTIVE
SECURITY_INACTIVE
SESSION_KEY_NULL
UNKNOWN_ESM_RESPONSE
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
```

ENCRYPTED_TEST_STRING
: is an eight-character string formed by encrypting the test string using shared DES (Data Encryption Standard/System) encryption keys.

RANDOM_STRING
: A random eight-character string.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ESM_RESPONSE
: Optional Parameter

is the optional 32-bit ESM response code to the call.

SAF_RESPONSE
: Optional Parameter

is the optional 32-bit SAF response code to the call.

XSLU gate, VALIDATE_APPC_RESPONSE function

The VALIDATE_APPC_RESPONSE function of the XSLU gate encrypts the string that was previously sent to the partner, and compares it with the encrypted string received from the partner.

Input Parameters

ENCRYPTED_TEST_STRING
: is an eight-character string formed by encrypting the test string using shared DES (Data Encryption Standard/System) encryption keys.

LOCAL_LUNAME
: is the VTAM LU name of the local CICS region.

REMOTE_LUNAME
: is the VTAM LU name of the remote CICS region (that sent the bind).

TEST_STRING
: is a random eight-character string receive with a bind request (RANDOM_STRING of the GENERATE_APPC_BIND function).

Output Parameters

REASON

The following values are returned when RESPONSE is DISASTER:

- ABEND
- ESM_ABENDED
- ESTAE_FAILURE
- EXTRACT_FAILURE
- LOOP

The following values are returned when RESPONSE is EXCEPTION:

- BINDSECURITY_INACTIVE
- NOTAUTH
- PROFILE_EXPIRED
- PROFILE_LOCKED
- PROFILE_UNKNOWN
- SECURITY_INACTIVE
- SESSION_KEY_NULL
- UNKNOWN_ESM_RESPONSE
- VALIDATION_ERROR

The following values are returned when RESPONSE is INVALID:

- INVALID_FORMAT
- INVALID_FUNCTION

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ESM_RESPONSE

Optional Parameter

is the optional 32-bit ESM response code to the call.

SAF_RESPONSE

Optional Parameter

is the optional 32-bit SAF response code to the call.

XSPW gate, CREATE_PASSTICKET function

The CREATE_PASSTICKET function of the XSPW gate is used to create a RACF PassTicket (an alternative to a password). When created, the RACF PassTicket can be presented for userid verification once only.

Input Parameters

APPLID

is the application identifier for the CICS region.

TRANSACTION_NUMBER

Optional Parameter

is an optional number that identifies a transaction from which the caller's security token is located. If not specified, the caller's security token is located from the principal security token associated with the current CICS task.

Output Parameters

ESM_REASON
: is the optional 32-bit ESM reason returned with ESM_RESPONSE.

ESM_RESPONSE
: is the optional 32-bit ESM response code to the call.

PASSTICKET
: is the 10-character passticket to be used for the CICS region specified by the APPLID value.

PASSTICKET_LENGTH
: is the 8-bit length of the PASSTICKET value.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XSPW gate, INQUIRE_CERTIFICATE_USERID function

The INQUIRE_CERTIFICATE_USERID function of the XSPW gate obtains the userid associated with an X.509 certificate that has been installed into the External Security Manager.

Input Parameters

CERTIFICATE
: an X.509 certificate

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:

```
ABEND
ESM_ABENDED
ESTAE_FAILURE
EXTRACT_FAILURE
LOOP
```

The following values are returned when RESPONSE is EXCEPTION:

```
ESM_INACTIVE
FREEMAIN_FAILED
GETMAIN_FAILED
INVALID_CERTIFICATE
LENGTH_ERROR
NOTAUTH
SECURITY_INACTIVE
UNKNOWN_CERTIFICATE
UNKNOWN_ESM_ERROR
UNTRUSTED_CERTIFICATE
```

The following values are returned when RESPONSE is INVALID:

```
INVALID_FORMAT
INVALID_FUNCTION
```

ESM_REASON
: is the optional 32-bit ESM reason returned with ESM_RESPONSE.

ESM_RESPONSE
: is the optional 32-bit ESM response code to the call.

RESPONSE
: Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

USERID
: is the identifier of the user (a userid of 1 through 10 alphanumeric characters). the userid (specified by the SECURITY_TOKEN value) is assigned.

USERID_LENGTH
: is the length of the USERID value.

XSPW gate, INQUIRE_PASSWORD_DATA function

The INQUIRE_PASSWORD_DATA function of the XSPW gate provides information from the ESM.

Input Parameters

PASSWORD
: is the current password, 1 through 10 alphanumeric characters, for the userid specified by the USERID value.

PASSWORD_LENGTH
: is the 8-bit length of the PASSWORD value. This parameter is only valid if PASSWORD is also specified.

USERID
: is the identifier of the user (a userid of 1 through 10 alphanumeric characters) to be added to the security domain.

USERID_LENGTH
: is the length of the USERID value.

PASSWORD_TYPE
: Optional Parameter

specifies if the password is masked.

Values for the parameter are:

```
CLEAR
MASKED
```

Output Parameters

REASON
: The following values are returned when RESPONSE is DISASTER:

```
ABEND
ESM_ABENDED
ESTAE_FAILURE
EXTRACT_FAILURE
LOOP
```

The following values are returned when RESPONSE is EXCEPTION:

```
APPLID_NOTAUTH
ESM_INACTIVE
GROUP_CONNECTION_REVOKED
NOTAUTH
PASSWORD_EXPIRED
PASSWORD_NOTAUTH
SECURITY_INACTIVE
UNKNOWN_ESM_ERROR
USERID_FORMAT_ERROR
USERID_REVOKED
USERID_UNDEFINED
```

The following values are returned when RESPONSE is INVALID:

`INVALID_FORMAT`
`INVALID_FUNCTION`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

CHANGE_ABSTIME
Optional Parameter

is the date and time of when the password was last changed.

DAYS_LEFT
Optional Parameter

is the number of days left before the password must be changed.

ESM_RESPONSE
Optional Parameter

is the optional 32-bit ESM response code to the call.

EXPIRY_ABSTIME
Optional Parameter

is the date and time of when the password will expire.

LASTUSE_ABSTIME
Optional Parameter

is the date and time of when the password was last used.

PASSWORD_FAILURES
Optional Parameter

is the number of times that the user has unsuccessfully entered tried to enter the password.

SAF_RESPONSE
Optional Parameter

is the optional 32-bit SAF response code to the call.

XSPW gate, REGISTER_CERTIFICATE_USER function

The REGISTER_CERTIFICATE_USER function of the XSPW gate associates a user with an X.509 certificate that has been installed into the External Security Manager.

Input Parameters

CERTIFICATE
an X.509 certificate

PASSWORD
is the current password, 1 through 10 alphanumeric characters, for the userid specified by the USERID value.

PASSWORD_LENGTH
is the 8-bit length of the PASSWORD value. This parameter is only valid if PASSWORD is also specified.

USERID
is the identifier of the user (a userid of 1 through 10 alphanumeric characters) to be added to the security domain.

USERID_LENGTH
is the length of the USERID value.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`ABEND`
`ESM_ABENDED`

ESTAE_FAILURE
EXTRACT_FAILURE
LOOP

The following values are returned when RESPONSE is EXCEPTION:
ESM_INACTIVE
FREEMAIN_FAILED
GETMAIN_FAILED
INVALID_CERTIFICATE
NOTAUTH
SECURITY_INACTIVE
UNKNOWN_CERTIFICATE
UNKNOWN_ESM_ERROR
UNTRUSTED_CERTIFICATE

The following values are returned when RESPONSE is INVALID:
INVALID_FORMAT
INVALID_FUNCTION

ESM_REASON
is the optional 32-bit ESM reason returned with ESM_RESPONSE.

ESM_RESPONSE
is the optional 32-bit ESM response code to the call.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XSPW gate, UPDATE_PASSWORD function

The UPDATE_PASSWORD function of the XSPW gate assigns a new password to the userid, if the current password is input correctly and the new password meets ESM and installation defined password quality rules.

Input Parameters

NEW_PASSWORD
is the new password, 1 through 10 alphanumeric characters, for the userid specified by the USERID value.

NEW_PASSWORD_LENGTH
is the 8-bit length of the NEW_PASSWORD value.

PASSWORD
is the current password, 1 through 10 alphanumeric characters, for the userid specified by the USERID value.

PASSWORD_LENGTH
is the 8-bit length of the PASSWORD value.

USERID
is the identifier of the user (a userid of 1 through 10 alphanumeric characters) requesting the ESM information.

USERID_LENGTH
is the length of the USERID value.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
ABEND
ESM_ABENDED
ESTAE_FAILURE
EXTRACT_FAILURE
LOOP

The following values are returned when RESPONSE is EXCEPTION:
- ESM_INACTIVE
- GROUP_CONNECTION_REVOKED
- INVALID_NEW_PASSWORD
- PASSWORD_NOTAUTH
- SECLABEL_FAILURE
- SECURITY_INACTIVE
- UNKNOWN_ESM_ERROR
- USERID_REVOKED
- USERID_UNDEFINED

The following values are returned when RESPONSE is INVALID:
- INVALID_FORMAT
- INVALID_FUNCTION

ESM_REASON
is the external security manager's reason code.

ESM_RESPONSE
is the external security manager's response code.

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

SAF_REASON
The system authorization facility's reason code.

SAF_RESPONSE
The system authorization facility's response to the call.

XSRC gate, CHECK_CICS_COMMAND function

The CHECK_CICS_COMMAND function of the XSRC gate performs CICS command access checks.

Input Parameters

ACCESS
is the type of access to be made on the resource.

Values for the parameter are:
- COLLECT
- CREATE
- DEFINE
- DELETE
- DISCARD
- INQUIRE
- INSTALL
- PERFORM
- SET

RESOURCE_TYPE
is the type of the resource.

Values for the parameter are:
- AUTINSTMODEL
- AUTOINSTALL
- BEAN
- BRFACILITY
- CFDTPOOL
- CLASSCACHE
- CONNECTION
- CORBASERVER
- DB2CONN

```
DB2ENTRY
DB2TRAN
DELETSHIPPED
DISPATCHER
DJAR
DOCTEMPLATE
DSNAME
DUMP
DUMPDS
ENQMODEL
EXCI
EXITPROGRAM
FEPIRESOURCE
FILE
HOST
IRBATCH
IRC
JOURNALMODEL
JOURNALNAME
JVM
JVMPOOL
JVMPROFILE
LINE
LSRPOOL
MAPSET
MODENAME
MONITOR
MVSTCB
NONVTAM
PARTITIONSET
PARTNER
PIPELINE
PROCESSTYPE
PROFILE
PROGRAM
PSB
REQID
REQUESTMODEL
RESETTIME
RRMS
SECURITY
SESSIONS
SHUTDOWN
STATISTICS
STORAGE
STREAMNAME
SUBPOOL
SYSDUMPCODE
SYSTEM
TASK
TCLASS
TCPIP
TCPIPSERVICE
TDQUEUE
TERMINAL
TIME
```

TRACE
TRACEDEST
TRACEFLAG
TRACETYPE
TRANCLASS
TRANDUMPCODE
TRANSACTION
TRANSATTACH
TSMODEL
TSPOOL
TSQUEUE
TYPETERM
UOW
UOWDSNFAIL
UOWENQ
UOWLINK
URIMAP
VOLUME
VTAM
WEB
WEBSERVICE
WORKREQUEST

FORCE
Optional Parameter

indicates (optionally) whether or not security checking is forced regardless of the setting of RESSEC in the Security Domain's transaction token.

Values for the parameter are:
NO
YES

LOGMESSAGE
Optional Parameter

indicates whether access failures are logged to the CSCS transient data queue and the MVS System Management Facility (SMF).

Values for the parameter are:
NO
YES

Output Parameters

REASON
The values for the parameter are:
NOTAUTH

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ESM_RESPONSE
Optional Parameter

is the optional 32-bit ESM response code to the call.

FAILING_USERID
Optional Parameter

is the userid that failed to access the resource.

FAILING_USERID_LENGTH
Optional Parameter

is the length of the userid (specified by the FAILING_USERID value).

SAF_RESPONSE
Optional Parameter

is the optional 32-bit SAF response code to the call.

XSRC gate, CHECK_CICS_RESOURCE function

The CHECK_CICS_RESOURCE function of the XSRC gate performs CICS resource access checks.

Input Parameters

ACCESS
is the type of access to be made on the resource.

Values for the parameter are:

```
COLLECT
CREATE
DEFINE
DELETE
DISCARD
EXECUTE
INQUIRE
INSTALL
PERFORM
READ
SET
UPDATE
```

RESOURCE
is the name of the resource, padded with blanks to eight-characters.

RESOURCE_TYPE
is the type of the resource.

Values for the parameter are:

```
DB2ENTRY
FILE
JOURNALNAME
PROGRAM
PSB
TDQUEUE
TRANSACTION
TRANSATTACH
TSQUEUE
```

FORCE
Optional Parameter

indicates (optionally) whether or not security checking is forced regardless of the setting of RESSEC in the Security Domain's transaction token.

Values for the parameter are:

```
NO
YES
```

LOGMESSAGE
Optional Parameter

indicates whether access failures are logged to the CSCS transient data queue and the MVS System Management Facility (SMF).

Values for the parameter are:

```
NO
```

`YES`

Output Parameters

`REASON`
: The values for the parameter are:
  `NOTAUTH`

`RESPONSE`
: Indicates whether the domain call was successful. For more information, see "The **`RESPONSE`** parameter on domain interfaces" on page 9.

`ESM_RESPONSE`
: Optional Parameter

  is the optional 32-bit ESM response code to the call.

`FAILING_USERID`
: Optional Parameter

  is the userid that failed to access the resource.

`FAILING_USERID_LENGTH`
: Optional Parameter

  is the length of the userid (specified by the FAILING_USERID value).

`SAF_RESPONSE`
: Optional Parameter

  is the optional 32-bit SAF response code to the call.

XSRC gate, CHECK_NON_CICS_RESOURCE function

The CHECK_NON_CICS_RESOURCE function of the XSRC gate performs non-CICS resource access checks.

Input Parameters

`ACCESS`
: is the type of access to be made on the resource.

  Values for the parameter are:
  `ALTER`
  `CONTROL`
  `READ`
  `UPDATE`

`CLASSNAME`
: is the ESM class name in which the resource is defined.

`RESOURCE_NAME`
: is the address and length of the resource name, in the form RESOURCE_NAME(addr,length).

`LOGMESSAGE`
: Optional Parameter

  indicates whether access failures are logged to the CSCS transient data queue and the MVS System Management Facility (SMF).

  Values for the parameter are:
  `NO`
  `YES`

Output Parameters

`REASON`
: The values for the parameter are:
  `CLASS_NOT_FOUND`
  `ESM_INACTIVE`

ESM_NOT_PRESENT
INVALID_RESOURCE_NAME
NOTAUTH
RESOURCE_NOT_FOUND

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ESM_RESPONSE
Optional Parameter

is the optional 32-bit ESM response code to the call.

FAILING_USERID
Optional Parameter

is the userid that failed to access the resource.

FAILING_USERID_LENGTH
Optional Parameter

is the length of the userid (specified by the FAILING_USERID value).

SAF_RESPONSE
Optional Parameter

is the optional 32-bit SAF response code to the call.

XSRC gate, CHECK_SURROGATE_USER function

The CHECK_SURROGATE_USER function of the XSRC gate performs surrogate user checking.

Input Parameters

ACCESS
is the type of access to be made on the resource.

Values for the parameter are:
CHANGE
INSTALL
START

USERID
is the identifier of the user (a userid of 1 through 10 alphanumeric characters) to be added to the security domain.

USERID_LENGTH
is the length of the USERID value.

Output Parameters

REASON
The values for the parameter are:
NOTAUTH

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ESM_RESPONSE
Optional Parameter

is the optional 32-bit ESM response code to the call.

FAILING_USERID
Optional Parameter

is the userid that failed to access the resource.

FAILING_USERID_LENGTH
Optional Parameter

is the length of the userid (specified by the FAILING_USERID value).

SAF_RESPONSE
Optional Parameter

is the optional 32-bit SAF response code to the call.

XSRC gate, REBUILD_RESOURCE_CLASSES function

The REBUILD_RESOURCE_CLASSES function of the XSRC gate rebuilds the resource-class profiles.

Output Parameters

REASON
The values for the parameter are:
`ESM_INACTIVE`
`REBUILD_ALREADY_ACTIVE`
`REBUILD_ERROR`
`REBUILD_NOT_NEEDED`
`SECURITY_INACTIVE`

RESPONSE
Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

ESM_RESPONSE
Optional Parameter

is the optional 32-bit ESM response code to the call.

SAF_RESPONSE
Optional Parameter

is the optional 32-bit SAF response code to the call.

XSXM gate, ADD_TRANSACTION_SECURITY function

The ADD_TRANSACTION_SECURITY function of the XSXM gate sets the transaction options input to be stored as extended security tokens maintained by the transaction manager.

Input Parameters

EDF_SECURITY_TOKEN
Optional Parameter

is the optional EDF security token.

PRINCIPAL_SECURITY_TOKEN
Optional Parameter

is the optional principal security token.

SESSION_SECURITY_TOKEN
Optional Parameter

is the optional session security token.

Output Parameters

REASON
The following values are returned when RESPONSE is DISASTER:
`GETMAIN_FAILED`

The following values are returned when RESPONSE is EXCEPTION:
`NO_SECURITY_TOKEN`

The following values are returned when RESPONSE is INVALID:
`INVALID_FORMAT`

INVALID_FUNCTION

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XSXM gate, DEL_TRANSACTION_SECURITY function

The DEL_TRANSACTION_SECURITY function of the XSXM gate deletes the security token of the specified token type for the transaction.

Input Parameters

TOKEN_TYPE

is the type of security token for the transaction.

Values for the parameter are:

EDF
PRINCIPAL
SESSION

Output Parameters

REASON

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

XSXM gate, END_TRANSACTION function

The END_TRANSACTION function of the XSXM gate deletes transaction-related data.

Output Parameters

REASON

The following values are returned when RESPONSE is INVALID:

INVALID_FORMAT
INVALID_FUNCTION

RESPONSE

Indicates whether the domain call was successful. For more information, see "The **RESPONSE** parameter on domain interfaces" on page 9.

Security manager domain's generic gates

Table 90 summarizes the domain's generic gates. It shows the level-1 trace point IDs of the modules providing the functions for the gates, the functions provided by the gates, and the generic formats for calls to the gates.

Table 90. Security manager domain's generic gates

Gate	Trace	Functions	Format
XSDM	XS 0101 XS 0102	INITIALISE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN	DMDM

In initialization processing, the security manager domain performs internal routines, and sets the initial security options, as for "XSIS gate, SET_SECURITY_DOMAIN_PARMS function" on page 2032.

For all starts the information comes from the system initialization parameters.

Security manager domain also issues console messages during initialization to report whether or not security is active.

In quiesce and termination processing, the security manager domain performs internal routines only.

For descriptions of these functions and their input and output parameters, refer to descriptions of the following generic formats:

"Domain Manager domain's generic formats" on page 956

Modules

Module	Function
DFHXSAD	Handles the following requests: ADD_USER_WITH_PASSWORD ADD_USER_WITHOUT_PASSWORD DELETE_USER_SECURITY INQUIRE_USER_ATTRIBUTES VALIDATE_USERID ADD_USER_VIA_ICRX INQUIRE_ICRX RELEASE_ICRX RELEASE_ICRX_STORAGE
DFHXSDM	Handles the following requests: INITIALIZE_DOMAIN QUIESCE_DOMAIN TERMINATE_DOMAIN
DFHXSDUF	XS domain offline dump formatting routine
DFHXSFL	Handles the following requests: FLATTEN_USER_SECURITY UNFLATTEN_USER_SECURITY UNFLATTEN_ESM_UTOKEN
DFHXSIS	Handles the following requests: INQUIRE_SECURITY_DOMAIN_PARMS INQUIRE_REGION_USERID SET_SECURITY_DOMAIN_PARMS SET_NETWORK_IDENTIFIER SET_SPECIAL_TOKENS INQUIRE_REALM_NAME
DFHXSLU	Handles the following requests: GENERATE_APPC_BIND GENERATE_APPC_RESPONSE VALIDATE_APPC_RESPONSE
DFHXSPW	Handles the following requests: INQUIRE_PASSWORD_DATA UPDATE_PASSWORD CREATE_PASSTICKET INQUIRE_CERTIFICATE_USERID REGISTER_CERTIFICATE_USER

Module	Function
DFHXSRC	Handles the following requests: CHECK_CICS_RESOURCE CHECK_CICS_COMMAND CHECK_NON_CICS_RESOURCE CHECK_SURROGATE_USER REBUILD_RESOURCE_CLASSES
DFHXSSA	Manages the routing of all security domain supervisor requests, and handles those requests that are concerned with adding and deleting users.
DFHXSSB	Handles all the supervisor state interfaces with the ESM that are concerned with extracting data from the ESM database.
DFHXSSC	Handles all the supervisor state interfaces with the ESM that are concerned with resource checking, including the building and deleting of in-storage profiles for the use of the resource check functions.
DFHXSSD	Handles supervisor state interfaces with RACF that are concerned with PassTicket generation.
DFHXSSI	Handles the following requests: DEACTIVATE_SECURITY INITIALIZE_SECURITY_SVC TERMINATE_SECURITY_SVC
DFHXSTRI	Interprets XS domain trace entries.

Part 4. CICS modules

This part contains:

Chapter 116. CICS directory

This section lists, in alphanumeric order by element name, the contents of the distribution tapes listed in Table 91 on page 2056.

The list shows, for each element:
- The name of the element
- The type of element
- A description of the element
- The names of the source and object distribution libraries containing the element.

Classification of elements

Name

This is the name of the element in the distribution library.

Type

The types of elements are:

CSECT.
A control section or, in the case of a source element only, the first part of a control section (other source elements may be copied by the CSECT). Where an object module is OCO, this is indicated following the type CSECT; no source code is provided for modules thus classified.

DSECT.
A dummy section (or appropriate high-level language equivalent) defining a CICS data area.

Macro.
A macro definition.

Source.
Source code that is not a CSECT.

Sample.
Sample tables, programs, map sets, partition sets, or data files.

Symbolic.
A definition (with no DSECT statement) of a CICS data area, or a group of EQU statements that symbolically define values used throughout a program.

Other. Job control language statements or cataloged procedures. See The *CICS Transaction Server for z/OS Installation Guide* and the *CICS System Definition Guide* for the handling of these elements.

Library

Two columns are given under the heading **Library**. These correspond to source code and object code distribution respectively. The distribution tapes are in SMP/E RELFILE format, and a RELFILE number indicates the position of each data set on a particular tape.

Some elements have several COBOL, PL/I, C, and assembler-language versions with the same name; these elements are shown here as cataloged in more than one source distribution library.

The meanings of the letters in the library columns is given in Table 91.

Table 91. CICS Transaction Server for z/OS, Version 4 Release 1 distribution tapes

Letter	Tape volser	File name	Library
02	CI6100	HCI6100.F2	CICSTS41.CICS.ADFHINST
03	CI6100	HCI6100.F3	CICSTS41.CICS.ADFHMOD *
04	CI6100	HCI6100.F4	CICSTS41.CICS.ADFHAPD1
05	CI6100	HCI6100.F5	CICSTS41.CICS.ADFHAPD2
06	CI6100	HCI6100.F6	CICSTS41.CICS.ADFHCLIB
07	CI6100	HCI6100.F7	CICSTS41.CICS.ADFHCOB
08	CI6100	HCI6100.F8	CICSTS41.CICS.ADFHAC370
09	CI6100	HCI6100.F9	CICSTS41.CICS.ADFHENV
10	CI6100	HCI6100.F10	CICSTS41.CICS.ADFHLANG
11	CI6100	HCI6100.F11	CICSTS41.CICS.ADFHMAC
12	CI6100	HCI6100.F12	CICSTS41.CICS.ADFHMLIB
13	CI6100	HCI6100.F13	CICSTS41.CICS.ADFHMSGS
14	CI6100	HCI6100.F14	CICSTS41.CICS.ADFHMSRC
15	CI6100	HCI6100.F15	CICSTS41.CICS.ADFHPARM
16	CI6100	HCI6100.F16	CICSTS41.CICS.ADFHPLIB
17	CI6100	HCI6100.F17	CICSTS41.CICS.ADFHPL1
18	CI6100	HCI6100.F18	CICSTS41.CICS.ADFHPROC
19	CI6100	HCI6100.F19	CICSTS41.CICS.ADFHSAMP
20	CI6100	HCI6100.F20	CICSTS41.CICS.ADFHSDCK
C2	CI6100	JCI6101.F1	CICSTS41.CICS.ADFHCOB
C3	CI6100	JCI6101.F2	COBOL elements of CICSTS41.CICS.ADFHSAMP
C4	CI6100	JCI6101.F2	COBOL elements of CICSTS41.CICS.ADFHMOD
P2	CI6100	JCI6102.F1	CICSTS41.CICS.ADFHPLI
P3	CI6100	JCI6102.F2	PL/I elements of CICSTS41.CICS.ADFHSAMP
D2	CI6100	JCI6103.F1	CICSTS41.CICS.ADFHC370
D3	CI6100	JCI6103.F2	C elements of CICSTS41.CICS.ADFHSAMP
OS	CI610S	CICSTS41.CICS.OPTSRC01	-

An asterisk (*) following the RELFILE number indicates that the distribution library contains object modules.

Note: Object modules only are supplied for the Japanese language feature; corresponding source code is **not** provided for these modules.

Optional listings

Assembled listings of programs and source listings of macros, DSECTs, and symbolic definitions are available with CICS, and can be supplied on CD-ROM.

For further information about the optional listings, see the *Program Directory for CICS Transaction Server for z/OS*.

Contents of the distribution tapes

Table 92. CICS modules directory

Name	Type	Description	Library	
ACCTINDX	Sample	Primer - batch index file recovery - COBOL	C3	-
ACCTREC	Sample	Primer - account record - COBOL	C3	-
ACCTSET	Sample	Primer - map set - COBOL	19	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
ACCT00	Sample	Primer - menu display - COBOL	C3	-
ACCT01	Sample	Primer - initial request processing - COBOL	C3	-
ACCT02	Sample	Primer - update processing - COBOL	C3	-
ACCT03	Sample	Primer - requests for printing - COBOL	C3	-
ACCT04	Sample	Primer - error processing - COBOL	C3	-
ACIXREC	Sample	Primer - index record - COBOL	C3	-
AXMBF	CSECT	Buffer management routine	-	03
AXMER	CSECT	Server task error recovery	-	03
AXMEV	CSECT	Event control and task management routine	-	03
AXMEV1	CSECT	Event management MVS POST exit	-	03
AXMFL	CSECT	Sequential file I/O routine	-	03
AXMHP	CSECT	Heap storage routine	-	03
AXMHS	CSECT	Hash value generation subroutine	-	03
AXMLF	CSECT	Server environment LIFO storage routine	-	03
AXMLFMVS	CSECT	LIFO storage routine - MVS batch version	-	03
AXMLK	CSECT	Lock management routine	-	03
AXMMS	CSECT	Message editing and processing routine	-	03
AXMMSTAB	CSECT	Message filtering table	-	03
AXMOP	CSECT	Operator communication routine	-	03
AXMOS	CSECT	Server operating system interface	-	03
AxphG	CSECT	Page storage routine	-	03
AXMRM	CSECT	Resource manger initialization/termination	-	03
AXMRS	CSECT	Resource tracking routine	-	03
AXMSC	CSECT	Server connection routine	-	03
AXMSC1	CSECT	Locate server connection system area	-	03
AXMSC2	CSECT	Server connection services interface	-	03
AXMSI	CSECT	Subsystem initialization routine	-	03
AXMTI	CSECT	Timer interval service	-	03
AXMTK	CSECT	Task attach and detach routine	-	03
AXMTM	CSECT	Mode-independent time and date service	-	03
AXMTR	CSECT	Server trace management routine	-	03
AXMVS	CSECT	Variable sized shared storage routine	-	03
AXMWH	CSECT	AXMWH - data areas	-	03
AXMWT	CSECT	AXMWT - data areas	-	03
AXMXM	CSECT	Cross memory interface	-	03
AXMXM1	CSECT	Cross memory interface POST module	-	03
CALLDLI	Macro	CALL DL/I services	11	-
CAUBLD	CSECT	CAU builder front end	-	03
CAUBLDIN	CSECT	CAU builder input processor	-	03
CAUBLDMR	CSECT	CAU builder merge processor	-	03
CAUBLDOT	CSECT	CAU builder output processor	-	03
CAUCAFBE	CSECT	CAU CAFB abend exit	-	03
CAUCAFB1	CSECT	CAU CAFB main program	-	03
CAUCAFB2	CSECT	CAU CAFB data save program	-	03
CAUCAFDT	CSECT	CAU CAFF date utility	-	03
CAUCAFFE	CSECT	CAU CAFF abend exit	-	03
CAUCAFF1	CSECT	CAU CAFF main program	-	03
CAUCAFF2	CSECT	CAU CAFF options	-	03
CAUCAFF3	CSECT	CAU CAFF start program	-	03
CAUCAFF4	CSECT	CAU CAFF stop program	-	03
CAUCAFF5	CSECT	CAU CAFF pause program	-	03
CAUCAFF6	CSECT	CAU CAFF continue program	-	03
CAUCAFF7	CSECT	CAU CAFF help program	-	03
CAUCAFP	CSECT	CAU CAFB request handler	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
CAUJCLBL	Sample	Sample JCL for running CAU builder	02	-
CAUJCLCA	Sample	Sample JCL for CAU Affinity data files	02	-
CAUJCLCC	Sample	Sample JCL for CAU Affinity control file	02	-
CAUJCLLD	Sample	Sample JCL for running CAU scanner (Detail mode)	02	-
CAUJCLLS	Sample	Sample JCL for running CAU scanner (Summary mode)	02	-
CAUJCLRP	Sample	Sample JCL for running CAU Reporter	02	-
CAULMS	CSECT	CAU load module scanner	-	03
CAUMAP1	CSECT	CAU BMS map CAFF01	-	03
CAUMAP1U	CSECT	CAU BMS map CAFF01	-	19
CAUMAP2	CSECT	CAU BMS map CAFF02	-	03
CAUMAP2U	CSECT	CAU BMS map CAFF02	-	19
CAUMAP3	CSECT	CAU BMS map CAFFH1	-	03
CAUMAP4	CSECT	CAU BMS map CAFFH2	-	03
CAUMSGCS	CSECT	CAU message manager CICS stub	-	03
CAUMSGMN	CSECT	CAU message manager	-	03
CAUMSGTB	CSECT	CAU message table	-	03
CAUREP	CSECT	CAU reporter main module	-	03
CAUREPFM	CSECT	CAU reporter file manager	-	03
CAUREPPM	CSECT	CAU reporter print manager	-	03
CAUREPRM	CSECT	CAU reporter report manager	-	03
CAUTABM	CSECT	CAU detector table manager	-	03
CAUTABS	CSECT	CAU detector table storage manager	-	03
CAUXDUMM	CSECT	CAU detector dummy exit	-	03
CAUXITBA	CSECT	CAU detector BAM process exit	-	03
CAUXITBB	CSECT	CAU detector BAM activity exit	-	03
CAUXITB1	CSECT	CAU detector XBADEACT exit	-	03
CAUXITIR	CSECT	CAU detector pseudo-conv end exit	-	03
CAUXITI1	CSECT	CAU detector TRUE	-	03
CAUXITML	CSECT	CAU detector logoff exit	-	03
CAUXITMS	CSECT	CAU detector signoff exit	-	03
CAUXITM1	CSECT	CAU detector XMEOUT exit	-	03
CAUXITOA	CSECT	CAU detector ADDRESS exit	-	03
CAUXITOC	CSECT	CAU detector CANCEL exit	-	03
CAUXITOE	CSECT	CAU detector ENQ/DEQ exit	-	03
CAUXITOG	CSECT	CAU detector GETMAIN exit	-	03
CAUXITOL	CSECT	CAU detector LOAD/RELEASE exit	-	03
CAUXITOQ	CSECT	CAU detector TS exit	-	03
CAUXITOR	CSECT	CAU detector RETRIEVE exit	-	03
CAUXITOS	CSECT	CAU detector SPI exit	-	03
CAUXITOW	CSECT	CAU detector WAIT exit	-	03
CAUXITOY	CSECT	CAU detector LOAD/FREEMAIN exit	-	03
CAUXITO1	CSECT	CAU detector XEIOUT exit	-	03
CAUXITXX	CSECT	CAU detector ICE expiry exit	-	03
CAUXITX1	CSECT	CAU detector XICEXP exit	-	03
CMC	Symbolic	SAA communications pseudonyms for C	D2	-
CMCOBOL	Symbolic	SAA communications pseudonyms for COBOL	C2	-
CMHASM	Symbolic	SAA communications pseudonyms for assembler	11	-
CMPLI	Symbolic	SAA communications pseudonyms for PL/I	P2	-
DFHABAB	CSECT	AP domain abend handling	-	03
DFHABABA	DSECT	ABAB parameter list	OS	-
DFHABABM	Macro	ABAB request	OS	-
DFHABABT	CSECT	ABAB trace interpretation data	-	03
DFHABEND	Macro	Issue an ABEND macro	OS	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHABREV	CSECT	String abbreviation checker	OS	03
DFHACP	CSECT	Abnormal condition program	OS	03
DFHACPTB	Macro	ACP abend table	OS	-
DFHADINS	CSECT	AD EJB CICS resource definitions	-	03
DFHADJAR	CSECT	AD JAR to DJAR mapping	-	03
DFHADSTR	CSECT	AD JAR to DJAR mapping	-	03
DFHADUR@	CSECT		-	03
DFHADURM	Sample	Sample URM to set CICS user id (C version)	19	-
DFHAFCD	Macro	Authorized function control block (AFCB)	11	-
DFHAFCS	Macro	Authorized function common storage anchor	OS	-
DFHAIBD	Macro	Application interface control block	11	-
DFHAICB	Macro	Application interface control block	11	-
DFHAICBP	CSECT	Application interface control block module	OS	03
DFHAID	Symbolic	3270 attention identifiers	11	07
DFHAID	Symbolic	3270 attention identifiers - COBOL	C2	-
DFHAID	Symbolic	3270 attention identifiers - PL/I	P2	-
DFHAID	Symbolic	3270 attention identifiers - C/370	D2	-
DFHAIDDS	DSECT	Automatic initiate descriptor	11	-
DFHAIDUF	CSECT (OCO)	Autoinstall terminal model manager (AITMM) SDUMP formatter	-	03
DFHAIINA	DSECT	AIIN parameter list	OS	-
DFHAIINM	Macro	AIIN request	OS	-
DFHAIINT	CSECT (OCO)	AIIN trace interpretation data	-	03
DFHAIIN1	CSECT (OCO)	AITMM - initialization management program	-	03
DFHAIIN2	CSECT (OCO)	AITMM - initialization subtask program	-	03
DFHAIIQ	CSECT (OCO)	AITMM - locate/unlock/inquire/browse	-	03
DFHAIIQA	DSECT	AIIQ parameter list	OS	-
DFHAIIQM	Macro	AIIQ request	OS	-
DFHAIIQT	CSECT (OCO)	AIIQ trace interpretation data	-	03
DFHAIRP	CSECT (OCO)	AITMM - initialization/recovery	-	03
DFHAIRPA	DSECT	AIRP parameter list	OS	-
DFHAIRPM	Macro	AIRP request	OS	-
DFHAIRPT	CSECT (OCO)	AIRP trace interpretation data	-	03
DFHAITDS	DSECT	AITMM - static storage	OS	-
DFHAITM	CSECT (OCO)	AITMM - add replace/delete	-	03
DFHAITMA	DSECT	AITM parameter list	OS	-
DFHAITMM	Macro	AITM request	OS	-
DFHAITMT	CSECT (OCO)	AITM trace interpretation data	-	03
DFHALP	CSECT	Terminal allocation	OS	03
DFHALRC	CSECT	Automatic initiate descriptor recovery	-	03
DFHALXM	CSECT	AL XM transaction attach	-	03
DFHAM	Macro	Address mode switching macro	-	11
DFHAMBA	CSECT	RDO install of Processtype resources	-	03
DFHAMCSD	CSECT	RDO command logger	-	03
DFHAMDH	CSECT	RDO install of Document resources	-	03
DFHAMD2	CSECT		-	03
DFHAMEJ	CSECT	RDO install of EJB objects	OS	03
DFHAMER	CSECT	RDO error message builder	-	03
DFHAMFC	CSECT	RDO install for FCT resources	-	03
DFHAMGL	CSECT	RDO list generator	-	03
DFHAMLM	CSECT	Program to install log manager objects	-	03
DFHAMNQ	CSECT	RDO install of Enqmodel resources	-	03
DFHAMOP	CSECT	RDO install of Requestmodel resources	-	03
DFHAMPAB	CSECT	RDO AMP error handler	OS	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHAMPAD	CSECT	RDO add command	-	03
DFHAMPAP	CSECT	RDO append command	-	03
DFHAMPCH	CSECT	RDO check command	-	03
DFHAMPCO	CSECT	RDO copy and rename commands	-	03
DFHAMPC1	CSECT	SPI generic names match	-	03
DFHAMPC2	CSECT	SPI check list name and produce list of groups	-	03
DFHAMPC3	CSECT	SPI diagnose duplicate objects	-	03
DFHAMPDF	CSECT	RDO define/redefine command	OS	03
DFHAMPDI	CSECT	RDO display command	OS	03
DFHAMPDL	CSECT	RDO delete/remove commands	OS	03
DFHAMPEN	CSECT	RDO end AMP handler	OS	03
DFHAMPEX	CSECT	RDO expand command	OS	03
DFHAMPFI	CSECT	RDO begin AMP handler	OS	03
DFHAMPG	CSECT	RDO install of PG resources	-	03
DFHAMPIL	CSECT	RDO install command	OS	03
DFHAMPLO	CSECT	RDO lock/unlock command	OS	03
DFHAMPN	CSECT	RDO install for partner resources	OS	03
DFHAMPVW	CSECT	RDO view command	OS	03
DFHAMP00	CSECT	RDO allocation manager (DFHAMP)	OS	03
DFHAMRDI	CSECT	RDO install logger	OS	03
DFHAMSN	CSECT	RDO set name/type/set/stype from arg list	OS	03
DFHAMSO	CSECT	RDO install of TCPIP services	-	03
DFHAMST	CSECT	RDO update time and date in arg list	OS	03
DFHAMTD	CSECT	Program to install Transient Data objects	-	03
DFHAMTP	CSECT	RDO AMP request processor	OS	03
DFHAMTS	CSECT	RDO install of Tsmodel resources	OS	03
DFHAMXM	CSECT	Install XM domain resources (transaction and tranclass objects)	OS	03
DFHANRAT	Macro	3270 attribute character resolution	11	-
DFHANRWC	Macro	3270 control character resolution	11	-
DFHAPAC	DSECT	AP domain abnormal condition reporting interface	-	03
DFHAPACA	DSECT	APAC parameter list	OS	-
DFHAPACM	Macro	APAC request	OS	-
DFHAPACT	CSECT	APAC translate table	-	03
DFHAPAPA	DSECT	APAP parameter list	OS	-
DFHAPAPM	Macro	APAP request	OS	-
DFHAPAPT	CSECT	APAP trace interpretation data	OS	03
DFHAPATT	CSECT	AP domain - entrypoint attach	-	03
DFHAPCBT	CSECT		-	03
DFHAPDDS	DSECT	DFHAPDM static storage	OS	-
DFHAPDM	CSECT	AP domain - initialization/termination	-	03
DFHAPDN	CSECT	AP domain - transaction definition notify	-	03
DFHAPDUF	CSECT (OCO)	AP domain - formatted dump print	-	03
DFHAPEVI	Macro	AP domain - environment initialization	OS	-
DFHAPEX	CSECT	AP domain - user exit service	-	03
DFHAPEXA	DSECT	APEX parameter list	OS	-
DFHAPEXM	Macro	APEX request	OS	-
DFHAPEXT	CSECT	APEX trace interpretation data	OS	03
DFHAPH8@	CSECT		-	03
DFHAPH8O	CSECT	Java hotpooling runtime options 0 H8 PIPI	19	03
DFHAPID	DSECT	Inquire on AP data	-	03
DFHAPIDS	DSECT	Interval control static storage	OS	-
DFHAPIDT	DSECT		-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHAPIN	CSECT	AP domain - special initialization for programs and user-replaceable modules	OS	03
DFHAPIQ	CSECT (OCO)	AP domain - user exit data access service	-	03
DFHAPIQT	CSECT (OCO)	APIQ trace interpretation data	-	03
DFHAPIQX	Macro	APIQ request	11	-
DFHAPIQY	DSECT	APIQ parameter list	11	-
DFHAPJC	CSECT	AP domain - journal interface gate service	OS	03
DFHAPLH1	CSECT		-	03
DFHAPLH3	CSECT		-	03
DFHAPLIA	CSECT	AP domain - language interface program	OS	-
DFHAPLIT	CSECT (OCO)	AP domain - language interface service	-	03
DFHAPLI1	CSECT (OCO)	AP domain - language interface functions 1	-	03
DFHAPLI2	CSECT (OCO)	AP domain - language interface functions 2	-	03
DFHAPLI3	CSECT (OCO)	AP domain - language interface functions 3	-	03
DFHAPLI4	CSECT		-	03
DFHAPLI5	CSECT		-	03
DFHAPLI6	CSECT		-	03
DFHAPLI7	CSECT		-	03
DFHAPLJ1	CSECT		-	03
DFHAPLJ3	CSECT		-	03
DFHAPNT	CSECT	AP domain - MXT notify gate	OS	03
DFHAPPG	CSECT	AP domain - optimize initial_link for DFHMIRS	-	03
DFHAPPIS	CSECT	Java hotpooling PIPI service routines	-	03
DFHAPPIV	CSECT	Java hotpooling PIPI service routines	-	03
DFHAPRC	CSECT	User log record recovery module	-	03
DFHAPRDA	CSECT	APRD interface parameter area	OS	-
DFHAPRDR	CSECT	Resource definition recovery gate	-	03
DFHAPRDT	CSECT	APRD translate table	-	03
DFHAPRT	CSECT	AP Domain - route transaction gate	OS	03
DFHAPRTA	DSECT	APRT parameter list	OS	-
DFHAPRTM	Macro	APRT request	OS	-
DFHAPRTT	CSECT	APRM trace interpretation data	OS	03
DFHAPSDF	CSECT	AP domain - formatted dump print module	OS	03
DFHAPSI	CSECT	AP domain - gate initialization	OS	03
DFHAPSIP	CSECT	AP domain - system initialization program	OS	03
DFHAPSM	CSECT	AP domain - storage notify gate	OS	03
DFHAPST	CSECT	AP domain - statistics collection	OS	03
DFHAPTC	CSECT	AP domain - TC transport for Requeststreams	-	03
DFHAPTCA	CSECT	APTC interface parameter area	OS	-
DFHAPTCM	CSECT	APTC interface macro	OS	-
DFHAPTCT	CSECT		-	03
DFHAPTC1	CSECT	AP TC trace interpretation	-	03
DFHAPTI	CSECT	AP domain - timer notify gate	OS	03
DFHAPTIM	CSECT	AP domain - interval control midnight task	OS	03
DFHAPTIX	CSECT	AP domain - expiry analysis task	OS	03
DFHAPTPA	Symbolic	IRC trace point ID aliases	OS	-
DFHAPTRA	CSECT	IRC trace interpreter	OS	03
DFHAPTRB	CSECT	XRF trace interpreter	OS	03
DFHAPTRC	CSECT	User exit trace interpreter	OS	03
DFHAPTRD	CSECT	DFHAPDM/DFHAPAP trace interpreter	OS	03
DFHAPTRE	CSECT (OCO)	Data tables trace interpreter	-	03
DFHAPTRF	CSECT (OCO)	SAA communications and resource recovery interfaces trace interpreter	-	03
DFHAPTRG	CSECT	ZC exception and VTAM exit trace interpreter	OS	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHAPTRI	CSECT	AP domain - trace interpretation router	OS	03
DFHAPTRJ	CSECT	ZC VTAM interface trace interpreter	OS	03
DFHAPTRK	CSECT	AP domain - resource definition interpretation module	-	03
DFHAPTRL	CSECT	CICS OS/2 LU2 mirror trace interpreter	OS	03
DFHAPTRN	CSECT (OCO)	Autoinstall terminal model manager trace interpreter	-	03
DFHAPTRO	CSECT	LU6.2 application request logic trace interpreter	OS	03
DFHAPTRP	CSECT	Program control trace interpreter	OS	03
DFHAPTRR	CSECT (OCO)	Partner resource manager trace interpreter	-	03
DFHAPTRS	CSECT (OCO)	AP domain - DFHEISR trace interpreter	-	03
DFHAPTRU	CSECT	ZC install trace interpretation	OS	03
DFHAPTRV	CSECT (OCO)	AP domain - DFHSRP trace interpreter	-	03
DFHAPTRW	CSECT (OCO)	AP domain - FEPI trace interpreter	-	03
DFHAPTRX	CSECT	ZC persistent sessions trace interpretation	OS	03
DFHAPTRY	CSECT	AP domain - trace formatting (APRM, APXM, ICXM, and TDXM)	OS	03
DFHAPTR0	CSECT	Trace interpreter for old-style AP trace	OS	03
DFHAPTR2	CSECT	AP domain - statistics trace interpreter	OS	03
DFHAPTR5	CSECT	File control trace interpreter	OS	03
DFHAPTR6	CSECT	DBCTL trace interpreter	OS	03
DFHAPTR7	CSECT	Transaction routing trace interpreter	OS	03
DFHAPTR8	CSECT	Security trace interpreter	OS	03
DFHAPTR9	CSECT	Interval control trace interpreter	OS	03
DFHAPUEA	DSECT	APUE parameter list	OS	-
DFHAPUEM	Macro	APUE request	OS	-
DFHAPUET	CSECT	APUE trace interpretation data	OS	03
DFHAPXDD	CSECT	AP domain - transaction definition extension	OS	-
DFHAPXM	CSECT	AP domain - transaction initialization and termination services	OS	03
DFHAPXMA	DSECT	APXM parameter list	OS	-
DFHAPXME	CSECT	AP domain - XM exception handler	OS	03
DFHAPXMT	CSECT (OCO)	APXM trace interpretation data	-	03
DFHASMVS	Other	Cataloged procedure to assemble CICS programs and user-written macro-level programs	18	-
DFHASSUA	DSECT	ASSU parameter list	OS	-
DFHASSUM	Macro	ASSU request	OS	-
DFHASSUT	CSECT	ASSU trace interpretation data	OS	03
DFHASV	CSECT	Authorized services interface	OS	03
DFHATUP	CSECT	Audit trail Utility Program	-	03
DFHAUDUF	CSECT		-	03
DFHAUPLE	Other	Cataloged procedure to assemble and link-edit CICS control tables, and provide information to SMP/E	02	-
DFHAUTH	Macro	Verify environment and activate CICS SVCs	OS	-
DFHAXI	Macro	XRF alternate subsystem identifier table	OS	-
DFHA03DS	DSECT	VTAM statistics	11	-
DFHA03DS	DSECT	VTAM statistics - COBOL	C2	07
DFHA03DS	DSECT	VTAM statistics - PL/I	P2	-
DFHA04DS	DSECT	Autoinstall statistics	11	-
DFHA04DS	DSECT	Autoinstall statistics - COBOL	C2	07
DFHA04DS	DSECT	Autoinstall statistics - PL/I	P2	-
DFHA06DS	DSECT	Terminal statistics	11	-
DFHA06DS	DSECT	Terminal statistics - COBOL	C2	07
DFHA06DS	DSECT	Terminal statistics - PL/I	P2	-
DFHA08DS	DSECT	LSR pool statistics	11	-
DFHA08DS	DSECT	LSR pool statistics - COBOL	C2	07

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHA08DS	DSECT	LSR pool statistics - PL/I	P2	-
DFHA09DS	DSECT	LSR pool file-related statistics	11	-
DFHA09DS	DSECT	LSR pool file-related statistics	C2	07
DFHA09DS	DSECT	LSR pool file-related statistics	P2	-
DFHA14DS	DSECT	ISC/IRC statistics for system entries	11	-
DFHA14DS	DSECT	ISC/IRC statistics for system entries	C2	07
DFHA14DS	DSECT	ISC/IRC statistics for system entries	P2	-
DFHA16DS	DSECT	Table manager statistics	11	-
DFHA16DS	DSECT	Table manager statistics	C2	07
DFHA16DS	DSECT	Table manager statistics	P2	-
DFHA17DS	DSECT	File control statistics	11	-
DFHA17DS	DSECT	File control statistics	C2	07
DFHA17DS	DSECT	File control statistics	P2	-
DFHA20DS	DSECT	ISC/IRC statistics for mode entries	11	-
DFHA20DS	DSECT	ISC/IRC statistics for mode entries	C2	07
DFHA20DS	DSECT	ISC/IRC statistics for mode entries	P2	-
DFHA21DS	DSECT	ISC/IRC attach-time statistics	11	-
DFHA21DS	DSECT	ISC/IRC attach-time statistics	C2	07
DFHA21DS	DSECT	ISC/IRC attach-time statistics	P2	-
DFHA22DS	DSECT	FEPI pool statistics	11	-
DFHA22DS	DSECT	FEPI pool statistics	C2	07
DFHA22DS	DSECT	FEPI pool statistics	P2	-
DFHA23DS	DSECT	FEPI connection statistics	11	-
DFHA23DS	DSECT	FEPI connection statistics	C2	07
DFHA23DS	DSECT	FEPI connection statistics	P2	-
DFHA24DS	DSECT	FEPI target statistics	11	-
DFHA24DS	DSECT	FEPI target statistics	C2	07
DFHA24DS	DSECT	FEPI target statistics	P2	-
DFHBAAC	CSECT	BAAC CDURUN and Gate module	-	03
DFHBAACT	CSECT	BAM Activity Class class declaration	-	03
DFHBAAC0	CSECT		-	03
DFHBAAC1	CSECT		-	03
DFHBAAC2	CSECT		-	03
DFHBAAC3	CSECT		-	03
DFHBAAC4	CSECT		-	03
DFHBAAC5	CSECT		-	03
DFHBAAC6	CSECT		-	03
DFHBAAR1	CSECT		-	03
DFHBAAR2	CSECT		-	03
DFHBAA10	CSECT		-	03
DFHBAA11	CSECT		-	03
DFHBAA12	CSECT		-	03
DFHBABR	CSECT	BABR CDURUN and Gata Module	-	03
DFHBABRA	CSECT	BABR interface parameter area	OS	-
DFHBABRM	Macro	BABR interface macro	OS	-
DFHBABRT	CSECT		-	03
DFHBABU1	CSECT		-	03
DFHBACR	CSECT	BACR CDURUN and Gate Module	-	03
DFHBACRT	CSECT		-	03
DFHBADM	CSECT	BA Domain Management	-	03
DFHBADUF	CSECT	BA Domain Dump Formatting	-	03
DFHBADU1	CSECT		-	03
DFHBAGDT	CSECT		-	03
DFHBALR2	CSECT		-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHBALR3	CSECT		-	03
DFHBALR4	CSECT		-	03
DFHBALR5	CSECT		-	03
DFHBALR6	CSECT		-	03
DFHBALR7	CSECT		-	03
DFHBALR8	CSECT		-	03
DFHBALR9	CSECT		-	03
DFHBAM51	CSECT	CSDUP - SPI offline messages table (51xx)	OS	03
DFHBAM52	CSECT	CSDUP - SPI offline messages table (52xx)	OS	03
DFHBAM55	CSECT	CSDUP - SPI offline messages table (55xx)	OS	03
DFHBAM56	CSECT	CSDUP - SPI offline messages table (56xx)	OS	03
DFHBAOFI	CSECT		-	03
DFHBAPR	CSECT	BAPR CDURUN and Gate Module	-	03
DFHBAPRT	CSECT		-	03
DFHBAPR0	CSECT		-	03
DFHBAPT1	CSECT		-	03
DFHBAPT2	CSECT		-	03
DFHBAPT3	CSECT		-	03
DFHBARUC	CSECT		-	03
DFHBARUD	CSECT		-	03
DFHBARUP	CSECT	CBTS Repository Utility Program	-	03
DFHBASCH	CSECT	BRDATA for CBTS Constants	-	08
DFHBASCL	CSECT	BRDATA for CBTS Constants	-	17
DFHBASCO	CSECT	BRDATA for CBTS Constants	-	07
DFHBASDD	CSECT	BRDATA for CBTS Bridge Exit	11	-
DFHBASDH	CSECT	BRDATA for CBTS Bridge Exit	-	08
DFHBASDL	CSECT	BRDATA for CBTS Bridge Exit	-	17
DFHBASDO	CSECT	BRDATA for CBTS Bridge Exit	-	19
DFHBASP	CSECT	BASP Gate Module and BA Context Class	-	03
DFHBATRI	CSECT	BAM Domain Trace Interpretation	-	03
DFHBATT	CSECT	BAM CDURUN and Gate Module	-	03
DFHBATTT	CSECT		-	03
DFHBAUE	CSECT	BAUE Gate Module	-	03
DFHBAVP1	CSECT		-	03
DFHBAXM	CSECT	BA XM Interfaces	-	03
DFHBAXMT	CSECT		-	03
DFHBEPB	CSECT	RDO batch error program	OS	03
DFHBEPC	CSECT	RDO message formatting module	OS	03
DFHBFTCA	Macro	Built-in functions TCA macro	11	-
DFHBMPIC	Macro	BMS picture analysis	11	-
DFHBMS	Macro	Basic mapping support request	11	-
DFHBMSCA	Symbolic	BMS attribute definitions	11	08
DFHBMSCA	Symbolic	BMS attribute definitions	C2	07
DFHBMSU	Macro		-	18
DFHBMSUP	Macro		-	03
DFHBMUTM	Macro	Trace BMS module generation options	OS	-
DFHBPXPA	Sample		-	02
DFHBPXP0	Sample		-	02
DFHBPXP1	Sample		-	02
DFHBRACD	Symbolic	Bridge copybook	11	-
DFHBRACH	Symbolic	Bridge copybook	D2	-
DFHBRACL	Symbolic	Bridge copybook	P2	17
DFHBRACO	Symbolic	Bridge copybook	C2	-
DFHBRARD	Symbolic	Bridge copybook	11	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHBRARH	Symbolic	Bridge copybook	D2	-
DFHBRARL	Symbolic	Bridge copybook	P2	17
DFHBRARO	Symbolic	Bridge copybook	C2	-
DFHBRAT	CSECT	Design Bridge - BRAT Gate Functions	-	03
DFHBRATA	CSECT	BRAT interface parameter area	OS	-
DFHBRATM	CSECT	DFHBRAT interface macro	OS	-
DFHBRATT	CSECT		-	03
DFHBRBFB	CSECT	Bridge module	OS	-
DFHBRDCD	CSECT		OS	-
DFHBRDUF	CSECT	Bridge module	-	03
DFHBRFM	CSECT	Bridge module	-	03
DFHBRFMT	Symbolic	Trace interpretation data	-	03
DFHBRIC	CSECT	Bridge module	-	03
DFHBRIQ	CSECT	Design Bridge - BRIQ Gate Functions	-	03
DFHBRIQA	CSECT	BRIQ interface parameter area	OS	-
DFHBRIQI	CSECT		OS	-
DFHBRIQM	CSECT	DFHBRIQ interface macro	OS	-
DFHBRIQT	CSECT		-	03
DFHBRIQX	Macro	Bridge XPI macro	11	-
DFHBRIQY	Symbolic	Copybook	11	-
DFHBRMCD	Symbolic	Bridge copybook	19	-
DFHBRMCH	Symbolic	Bridge copybook	D3	-
DFHBRMCL	Symbolic	Bridge copybook	P3	-
DFHBRMCO	Symbolic	Bridge copybook	C3	-
DFHBRME	CSECT	BR Exit Program	-	03
DFHBRMF	CSECT	BR Formatter Program	-	03
DFHBRMHD	Symbolic	Bridge copybook	19	-
DFHBRMHH	Symbolic	Bridge copybook	D3	-
DFHBRMHL	Symbolic	Bridge copybook	P3	-
DFHBRMHO	Symbolic	Bridge copybook	C3	-
DFHBRMQD	Symbolic	Bridge copybook	19	-
DFHBRMQH	Symbolic	Bridge copybook	D3	-
DFHBRMQL	Symbolic	Bridge copybook	P3	-
DFHBRMQO	Symbolic	Bridge copybook	C3	-
DFHBRMS	CSECT	Bridge module	-	03
DFHBRRM	CSECT	DFHBRRM Design Bridge - Recovery Manager	-	03
DFHBRSCD	Symbolic	Bridge copybook	19	-
DFHBRSCH	Symbolic	Bridge copybook	D3	-
DFHBRSCL	Symbolic	Bridge copybook	P3	-
DFHBRSCO	Symbolic	Bridge copybook	C3	-
DFHBRSDD	Symbolic	Bridge copybook	19	-
DFHBRSDH	Symbolic	Bridge copybook	D3	-
DFHBRSDL	Symbolic	Bridge copybook	P3	-
DFHBRSDO	Symbolic	Bridge copybook	C3	-
DFHBRSP	CSECT	Bridge module	-	03
DFHBRSPA	Symbolic	Bridge copybook	OS	-
DFHBRSPM	Symbolic	Bridge copybook	OS	-
DFHBRSPT	Symbolic	Bridge copybook	-	03
DFHBRTB	CSECT	Bridge Virtual Terminal Buffer	-	03
DFHBRTC	CSECT	Bridge module	-	03
DFHBRTQ	CSECT		-	03
DFHBRTRI	Macro	Bridge module	-	03
DFHBRXM	CSECT	BR XM Principal Client	-	03
DFHBSC	Macro	Generate binary search code	11	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHBSG	Macro	Switch subspace request	OS	-
DFHBSIB3	CSECT	BMS 3270 builder	OS	03
DFHBSIZ1	CSECT	Add SCS support	OS	03
DFHBSIZ3	CSECT	Add DFHZCP 3270 support	OS	03
DFHBSMIR	CSECT	Build terminal session	OS	03
DFHBSMPP	CSECT	Build pipeline pool table entry	OS	03
DFHBSM61	CSECT	Generate sessions for modegroup	OS	03
DFHBSM62	CSECT	Build a modegroup	OS	03
DFHBSS	CSECT	Build a connection	OS	03
DFHBSSA	CSECT	Build DFHKCP support in a system entry	OS	03
DFHBSSF	CSECT	Build stats support in a system entry	OS	03
DFHBSSS	CSECT	Build security support in a system entry	OS	03
DFHBSSZ	CSECT	Build VTAM support in a system entry	OS	03
DFHBSSZG	CSECT	Add an APPC single-session	OS	03
DFHBSSZI	CSECT	Add an indirect terminal system	OS	03
DFHBSSZL	CSECT	Add a local terminal system	OS	03
DFHBSSZM	CSECT	Introduce new system to ZCP	OS	03
DFHBSSZP	CSECT	Add an APPC parallel-session	OS	03
DFHBSSZR	CSECT	Add an MRO system	OS	03
DFHBSSZS	CSECT	Add an APPC	OS	03
DFHBSSZ6	CSECT	Add an LU6.1 connection	OS	03
DFHBST	CSECT	Common TCTTE builder	OS	03
DFHBSTB	CSECT	Add a resource for BMS	OS	03
DFHBSTBL	CSECT	Add logical device support	OS	03
DFHBSTB3	CSECT	Add partition support	OS	03
DFHBSTC	CSECT	Add install-time options support	OS	03
DFHBSTD	CSECT	Add DFHDIP support	OS	03
DFHBSTE	CSECT	Add EDF support	OS	03
DFHBSTH	CSECT	EXEC interface builder	OS	03
DFHBSTI	CSECT	Add DFHICP support	OS	03
DFHBSTM	CSECT	Add DFHMGP support	OS	03
DFHBSTO	CSECT	Spooler terminal builder	OS	03
DFHBSTP3	CSECT	Add 3270-copy support	OS	03
DFHBSTS	CSECT	Add DFHSNT support	OS	03
DFHBSTT	CSECT	Add DFHKCP support	OS	03
DFHBSTZ	CSECT	Build terminal or session resource	OS	03
DFHBSTZA	CSECT	Add DFHZCP support	OS	03
DFHBSTZB	CSECT	Add or delete bind-image	OS	03
DFHBSTZC	CSECT	Add single-session to APPC	OS	03
DFHBSTZE	CSECT	Set error message writer fields	OS	03
DFHBSTZL	CSECT	Add logical device code support	OS	03
DFHBSTZO	CSECT	Add an MVS console	OS	03
DFHBSTZP	CSECT	Pipeline terminal builder	OS	03
DFHBSTZR	CSECT	Add IRC session	OS	03
DFHBSTZS	CSECT	Add an APPC session	OS	03
DFHBSTZV	CSECT	Add VTAM and IRC information	OS	03
DFHBSTZZ	CSECT	Add non-APPC session	OS	03
DFHBSTZ1	CSECT	Add remote terminal support	OS	03
DFHBSTZ2	CSECT	Remote APPC builder	OS	03
DFHBSTZ3	CSECT	Add 3270 support	OS	03
DFHBSZZ	CSECT	Add terminal or session	OS	03
DFHBSZZS	CSECT	Add session to LU6.2 support	OS	03
DFHBSZZV	CSECT	Add VTAM terminal or session	OS	03
DFHBT	Macro	Parameter sublist translation	11	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHCALLA	CSECT	CZ Direct-to-CICS	-	03
DFHCAPB	CSECT	CSDUP - command analysis program (DFHCAP)	OS	03
DFHCAPC	CSECT	RDO utility - RDL command locator	OS	03
DFHCCCC	CSECT (OCO)	GC/LC domains - functions	-	03
DFHCCCCA	DSECT	CCCC parameter list	OS	-
DFHCCCCM	Macro	CCCC request	OS	-
DFHCCCCT	CSECT (OCO)	CCCC trace interpretation data	-	03
DFHCCDM	CSECT (OCO)	GC/LC domains - initialization/termination	-	03
DFHCCDUF	CSECT (OCO)	SDUMP formatter for GC/LC domains	-	03
DFHCCNV	CSECT	Data conversion for CICS OS/2 ISC users	OS	03
DFHCCNVG	CSECT	Data conversion Gate	-	03
DFHCCNVT	CSECT		-	03
DFHCCNV2	CSECT	Convert characters in multi-byte representation	OS	03
DFHCCTRI	CSECT (OCO)	Trace interpreter for GC/LC domains	-	03
DFHCCUTL	CSECT	CICS local catalog initialization program	OS	03
DFHCDBLK	Symbolic	CONVDATA area	11	D2
DFHCDBMI	Other	CDBM group file definition JCL	-	02
DFHCDBTC	Macro	Domain call argument conversion	11	-
DFHCDC	Macro	Syntax analysis and code generation for DFHxxyyM/X domain call macros	11	-
DFHCDCON	CSECT	Formatted parameter list translator	OS	03
DFHCDEDA	DSECT	CDED parameter list	OS	-
DFHCDEDM	Macro	CDED request	OS	-
DFHCDEDT	CSECT	CDED trace interpretation data	OS	03
DFHCDKRN	CSECT	KE Java to CDURUN Interface	-	03
DFHCDMIK	Macro	Domain call inner macro - generate assignments for IN keywords	11	-
DFHCDMOK	Macro	Domain call inner macro - generate assignments for OUT keywords	11	-
DFHCDSPL	Macro	Domain call inner macro - subvalues of character list	11	-
DFHCDSUB	Macro	Domain call inner macro - subvalues of sub-parameter list	11	-
DFHCDSYN	Macro	Syntax analysis on positional operands for DFHxxyyM/X domain call macros	11	-
DFHCDTST	Macro	DFHTEST inner macro	11	-
DFHCDTYP	Macro	Determine domain call argument data type	11	-
DFHCEGN	CSECT	Goodnight transaction stub	-	03
DFHCESC	CSECT	Terminal, XRF, and enable timeout routines	-	03
DFHCESD	CSECT	CICS shutdown assist program	19	-
DFHCESDP	CSECT	CICS shutdown assist program	-	03
DFHCETRA	CSECT	Trace control transaction (CETR) - main program	OS	03
DFHCETRB	CSECT	CETR - trace component flags inquire/set	OS	03
DFHCETRC	CSECT	CETR - terminal/transaction trace control	OS	03
DFHCETRD	CSECT	CETR - common subroutines	OS	03
DFHCFCF	CSECT	CFDT Server CF Interface	-	03
DFHCFCN	CSECT	CFDT Server Client Connect/Disconnect	-	03
DFHCFDF	CSECT	CFDT AXM Server Definitions	-	03
DFHCFEN	CSECT	CFDT ENF event interface	-	03
DFHCFIF	CSECT	CFDT Server Interface Module	-	03
DFHCFIQ	CSECT	CFDT Table Inquire Routines	-	03
DFHCFLW	CSECT	CFDT Server Lock Wait Routines	-	03
DFHCFMN	CSECT	CFDT Server Main Program	-	03
DFHCFMS	CSECT	CFDT Server Messages	-	03
DFHCFOC	CSECT	CFDT Server Table Open/Close	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHCFOP	CSECT	CFDT Server Operator Command Support	-	03
DFHCFPR	CSECT	CFDT Server Parameter Processing	-	03
DFHCFRL	CSECT	CFDT Server Pool Reload routine	-	03
DFHCFRQ	CSECT	CFDT Server Record Request Routines	-	03
DFHCFRS	CSECT	CFDT ARM Restart Support	-	03
DFHCFSP	CSECT	CFDT Server Syncpoint and Restart	-	03
DFHCFST	CSECT	CFDT Server Statistics Routines	-	03
DFHCFS6D	CSECT	CFDT Statistics for list structure	11	-
DFHCFS7D	CSECT	CFDT Statistics for table accesses	11	-
DFHCFS8D	CSECT	CFDT Request statistics	11	-
DFHCFS9D	CSECT	CFDT Statistics for server storage	11	-
DFHCFUL	CSECT	CFDT Server Pool Unload Routine	-	03
DFHCFXS	CSECT	CFDT Server External Security Support	-	03
DFHCHS	CSECT	CICS mirror for CICS OS/2 and CICS/VM	OS	03
DFHCJVMA	CSECT	JVM Interface assembler routines	-	03
DFHCICS	CSECT	CICS copyright information	OS	03
DFHCLID	Macro	CICS service-level identifier	11	-
DFHCLS3	CSECT (OCO)	APPC signoff transaction program	-	03
DFHCLS4	CSECT (OCO)	APPC signon transaction program	-	03
DFHCLS5	CSECT (OCO)	Connection Quiesce Protocol	-	03
DFHCLT	Macro	Command list table	11	-
DFHCLT1$	Sample	Command list table	19	03
DFHCMAC	CSECT (OCO)	ME domain - CICS messages and codes transaction (CMAC)	-	03
DFHCMACD	Other	Source data file for CMAC transaction	13	-
DFHCMACI	Other	JCL to install the CICS messages data set	02	-
DFHCMACU	Other	JCL to update the CICS messages data set	02	-
DFHCMASM	Macro	CPI pseudonym file for assembler	11	-
DFHCMC	CSECT (OCO)	CMAC transaction map set (C/370)	-	D2
DFHCMCM	CSECT (OCO)	CMAC transaction map set	-	03
DFHCMCOB	CSECT (OCO)	CMAC transaction map set (COBOL)	-	C2
DFHCMP	CSECT	CICS monitoring compatibility interface	OS	03
DFHCMPLI	CSECT (OCO)	CMAC transaction map set (PL/I)	-	P2
DFHCNEDS	Macro	TCT console control element	11	-
DFHCNV	Macro	ISC template definition	11	-
DFHCNVCA	DSECT	DFHCNV commarea layout	OS	-
DFHCNVE	Macro	DFHCNV data conversion tables	OS	-
DFHCNVH	Macro	DFHCNV data conversion tables	OS	-
DFHCNVW$	Macro		19	03
DFHCNVXX	Macro	DFHCNV data conversion related	OS	-
DFHCNV00	CSECT	DFHCNV data conversion tables	OS	03
DFHCNV01	CSECT	DFHCNV data conversion tables	OS	03
DFHCNV02	CSECT	DFHCNV data conversion tables	OS	03
DFHCNV03	CSECT	DFHCNV data conversion tables	OS	03
DFHCNV04	CSECT	DFHCNV data conversion tables	OS	03
DFHCNV05	CSECT	DFHCNV data conversion tables	OS	03
DFHCNV06	CSECT	DFHCNV data conversion tables	OS	03
DFHCNV07	CSECT	DFHCNV data conversion tables	OS	03
DFHCNV08	CSECT	DFHCNV data conversion tables	OS	03
DFHCNV09	CSECT	DFHCNV data conversion tables	OS	03
DFHCNV10	CSECT	DFHCNV data conversion tables	OS	03
DFHCNV11	CSECT	DFHCNV data conversion tables	OS	03
DFHCNV12	CSECT	DFHCNV data conversion tables	OS	03
DFHCNV13	CSECT	DFHCNV data conversion tables	OS	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library
DFHCNV14	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV15	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV16	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV17	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV18	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV19	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV20	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV21	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV22	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV23	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV24	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV25	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV26	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV27	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV28	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV29	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV30	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV31	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV32	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV33	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV34	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV35	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV36	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV37	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV38	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV39	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV40	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV41	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV42	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV43	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV44	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV45	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV46	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV47	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV48	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV49	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV50	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV51	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV52	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV53	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV54	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV55	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV56	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV57	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV58	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV59	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV60	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV61	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV62	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV63	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV64	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV65	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV66	CSECT	DFHCNV data conversion tables	OS 03
DFHCNV67	CSECT	DFHCNV data conversion tables	OS 03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHCNV68	CSECT	DFHCNV data conversion tables	OS	03
DFHCNV69	CSECT	DFHCNV data conversion tables	OS	03
DFHCNV70	CSECT	DFHCNV data conversion tables	OS	03
DFHCNV71	CSECT	DFHCNV data conversion tables	OS	03
DFHCNV72	CSECT	DFHCNV data conversion tables	OS	03
DFHCNV75	CSECT	DFHCNV data conversion tables	OS	03
DFHCNV76	CSECT	DFHCNV data conversion tables	OS	03
DFHCNV77	CSECT	DFHCNV data conversion tables	OS	03
DFHCN06A	CSECT	DFHCNV data conversion tables	OS	-
DFHCN06B	CSECT	DFHCNV data conversion tables	OS	-
DFHCN06C	CSECT	DFHCNV data conversion tables	OS	-
DFHCN06D	CSECT	DFHCNV data conversion tables	OS	-
DFHCN06E	CSECT	DFHCNV data conversion tables	OS	-
DFHCN06F	CSECT	DFHCNV data conversion tables	OS	-
DFHCN13A	CSECT	DFHCNV data conversion tables	OS	-
DFHCN13E	CSECT	DFHCNV data conversion tables	OS	-
DFHCN28A	CSECT	DFHCNV data conversion tables	OS	-
DFHCN28E	CSECT	DFHCNV data conversion tables	OS	-
DFHCN45A	CSECT	DFHCNV data conversion tables	OS	-
DFHCN45B	CSECT	DFHCNV data conversion tables	OS	-
DFHCN45E	CSECT	DFHCNV data conversion tables	OS	-
DFHCN45F	CSECT	DFHCNV data conversion tables	OS	-
DFHCN46A	CSECT	DFHCNV data conversion tables	OS	-
DFHCN46B	CSECT	DFHCNV data conversion tables	OS	-
DFHCN46E	CSECT	DFHCNV data conversion tables	OS	-
DFHCN46F	CSECT	DFHCNV data conversion tables	OS	-
DFHCOAP	Other		OS	-
DFHCOMDS	Other	JCL to delete and re-create CICS system data sets common to all regions	02	-
DFHCOMP	Macro	Generate compare equate values	OS	-
DFHCOVER	Macro	Cover page generator	11	-
DFHCPARH	CSECT (OCO)	CPIC - CMxxxx application request handler	-	03
DFHCPCAC	CSECT (OCO)	CPIC - Accept_Conversation	-	03
DFHCPCAL	CSECT (OCO)	CPIC - Allocate	-	03
DFHCPCBA	CSECT (OCO)	CPIC - Create_CPC (Accept)	-	03
DFHCPCBB	CSECT (OCO)	CPIC - Increment_Last_Convid	-	03
DFHCPCBD	CSECT (OCO)	CPIC - Delete_Conversation	-	03
DFHCPCBE	CSECT (OCO)	CPIC - Extract_Syncpoint_rc	-	03
DFHCPCBG	CSECT (OCO)	CPIC - Initialize_CPC	-	03
DFHCPCBI	CSECT (OCO)	CPIC - Create_CPC (Initialize)	-	03
DFHCPCBL	CSECT (OCO)	CPIC - Locate_CPC	-	03
DFHCPCBS	CSECT (OCO)	CPIC - Set_CPC_Log_Data	-	03
DFHCPCBT	CSECT (OCO)	CPIC - Load module branch table	-	03
DFHCPCCA	DSECT	CPCC parameter list	OS	-
DFHCPCCD	CSECT (OCO)	CPIC - Confirmed	-	03
DFHCPCCF	CSECT (OCO)	CPIC - Confirm	-	03
DFHCPCCM	Macro	CPCC request	OS	-
DFHCPCCT	CSECT (OCO)	CPCC trace interpretation data	-	03
DFHCPCDE	CSECT (OCO)	CPIC - Deallocate	-	03
DFHCPCEA	CSECT (OCO)	CPIC - Extract_Conversation_Type	-	03
DFHCPCEB	CSECT (OCO)	CPIC - Extract_Mode_Name	-	03
DFHCPCEC	CSECT (OCO)	CPIC - Extract_Partner_LU_Name	-	03
DFHCPCED	CSECT (OCO)	CPIC - Extract_Sync_Level	-	03
DFHCPCEE	CSECT (OCO)	CPIC - Extract_Conversation_State	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHCPCFL	CSECT (OCO)	CPIC - Flush	-	03
DFHCPCFS	CSECT (OCO)	CPIC - finite state machine	-	03
DFHCPCIC	CSECT (OCO)	CPIC - Initialize_Conversation	-	03
DFHCPCLC	CSECT (OCO)	CPIC - interface to DFHLUC	-	03
DFHCPCLM	CSECT (OCO)	CPIC - build send list	-	03
DFHCPCLR	CSECT (OCO)	DFHLUC to CPIC return code conversion	-	03
DFHCPCND	CSECT (OCO)	CPIC - Send_Data	-	03
DFHCPCNE	CSECT (OCO)	CPIC - Send_Error	-	03
DFHCPCN1	CSECT (OCO)	CPIC - Send_and_Buffer	-	03
DFHCPCN2	CSECT (OCO)	CPIC - Send_and_Flush	-	03
DFHCPCN3	CSECT (OCO)	CPIC - Send_and_Prep_To_Receive	-	03
DFHCPCN4	CSECT (OCO)	CPIC - Send_and_Confirm	-	03
DFHCPCN5	CSECT (OCO)	CPIC - Send_and_Deallocate	-	03
DFHCPCOJ	CSECT (OCO)	CPIC - Output_Journaling	-	03
DFHCPCPR	CSECT (OCO)	CPIC - Prepare_To_Receive	-	03
DFHCPCRA	CSECT (OCO)	CPIC - Receive mapped data	-	03
DFHCPCRB	CSECT (OCO)	CPIC - Receive GDS header	-	03
DFHCPCRC	CSECT (OCO)	CPIC - Receive basic data	-	03
DFHCPCRI	CSECT (OCO)	CPIC - Receive_Immediate	-	03
DFHCPCRS	CSECT (OCO)	CPIC - Request_To_Send	-	03
DFHCPCRV	CSECT (OCO)	CPIC - Receive	-	03
DFHCPCRW	CSECT (OCO)	CPIC - Receive_and_Wait	-	03
DFHCPCSA	CSECT (OCO)	CPIC - Set_Conversation_Type	-	03
DFHCPCSB	CSECT (OCO)	CPIC - Set_Deallocate_Type	-	03
DFHCPCSC	CSECT (OCO)	CPIC - Set_Error_Direction	-	03
DFHCPCSD	CSECT (OCO)	CPIC - Set_Fill	-	03
DFHCPCSE	CSECT (OCO)	CPIC - Set_Log_Data	-	03
DFHCPCSF	CSECT (OCO)	CPIC - Set_Mode_Name	-	03
DFHCPCSG	CSECT (OCO)	CPIC - Set_Partner_LU_Name	-	03
DFHCPCSH	CSECT (OCO)	CPIC - Set_Prepare_To_Receive	-	03
DFHCPCSI	CSECT (OCO)	CPIC - Set_Receive_Type	-	03
DFHCPCSJ	CSECT (OCO)	CPIC - Set_Return_Control	-	03
DFHCPCSK	CSECT (OCO)	CPIC - Set_Send_Type	-	03
DFHCPCSL	CSECT (OCO)	CPIC - Set_Sync_Level	-	03
DFHCPCSM	CSECT (OCO)	CPIC - Set_TP_Name	-	03
DFHCPCTE	CSECT (OCO)	CPIC - Test_Request_To_Send_Received	-	03
DFHCPDUF	CSECT (OCO)	SDUMP formatter for CP keyword	-	03
DFHCPI	CSECT (OCO)	Common programming interface (CPI) program	-	03
DFHCPINA	DSECT	CPIN parameter list	OS	-
DFHCPINM	Macro	CPIN request	OS	-
DFHCPINT	CSECT (OCO)	CPIN trace interpretation data	-	03
DFHCPIN1	CSECT (OCO)	CPI initialization management program	-	03
DFHCPIN2	CSECT (OCO)	CPI initialization subtask program	-	03
DFHCPIR	CSECT (OCO)	SRRxxxx application request processor	-	03
DFHCPLC	CSECT (OCO)	Link-edit stub for application programs using SAA communications interface	-	03
DFHCPLRR	CSECT (OCO)	Link-edit stub for application programs using SAA resource recovery interface	-	03
DFHCPOST	Macro	POST macro for extended ECBs	OS	-
DFHCPSDS	DSECT	CPI static storage	OS	-
DFHCPSPA	DSECT	CPSP parameter list	OS	-
DFHCPSPM	Macro	CPSP request	OS	-
DFHCPSPT	CSECT (OCO)	CPSP trace interpretation data	-	03
DFHCPSRH	CSECT (OCO)	CPIC - syncpoint request handler	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHCPY	CSECT	3270 hard copy support	OS	03
DFHCRBDS	DSECT	CICS region control block	OS	-
DFHCRBU	CSECT	UOW back-to-front processor module	-	03
DFHCRC	CSECT	Interregion abnormal exit module	OS	03
DFHCRD	DSECT	Communications recovery services declares	11	-
DFHCRERI	DSECT	AP domain - Communications recovery management - resync	OS	-
DFHCRERP	DSECT	Perform unshunt invoked by RM	-	03
DFHCRERS	DSECT	Session failure during syncpoint	-	03
DFHCRESI	DSECT	AP domain - communication recovery management	OS	-
DFHCRIU	CSECT	IRC RMC syncpoint event processor	-	03
DFHCRL	CSECT	RMC logging back-to-front processor	-	03
DFHCRLB	CSECT	RMC bind time logging for old MRO/LU6.2	-	03
DFHCRLBA	CSECT	CRLB parameter list	OS	-
DFHCRLBM	Macro	CRLB parameter list	OS	-
DFHCRLBT	CSECT	CRLB translate tables	-	03
DFHCRNP	CSECT	Interregion connection manager	OS	03
DFHCRQ	CSECT	ATI purge program	OS	03
DFHCRR	CSECT	Interregion session recovery program	OS	03
DFHCRRSY	CSECT	Communications resynchronization	-	03
DFHCRS	CSECT	Remote scheduler program	OS	03
DFHCRSP	CSECT	CICS IRC startup module	OS	03
DFHCRT	CSECT	Transaction routing relay program for	OS	03
DFHCRTRI	CSECT	Offline trace formatting - interpretation routine parameter list	-	03
DFHCR1U	CSECT	IRC LU61 syncpoint event processor	-	03
DFHCR2U	CSECT	IRC LU62 RMC syncpoint event processor	-	03
DFHCSA	CSECT	Common system area	OS	03
DFHCSAD	Macro	Common system area	11	-
DFHCSADS	DSECT	Common system area definition	11	-
DFHCSCDS	Symbolic	CICS SVC startup return codes	OS	-
DFHCSDUF	CSECT (OCO)	SDUMP formatter for CSA and CSA optional features list	-	03
DFHCSVC	CSECT	CICS SVC startup	OS	03
DFHCTRH	CSECT	CETR transaction help screens map set	OS	03
DFHCTRM	CSECT	CETR transaction main screens map set	OS	03
DFHCTRMU	Sample		-	19
DFHCUADD	CSECT	CSDUP - add command	OS	03
DFHCUALG	CSECT	RDO off-line generic alter utility program	-	03
DFHCUALT	CSECT	CSDUP - alter command	OS	03
DFHCUAPP	CSECT	CSDUP - append command	OS	03
DFHCUCAB	CSECT	CSDUP - command analyzer (DFHCUCA)	OS	03
DFHCUCAC	CSECT	CSD manager - return and reason codes	OS	03
DFHCUCB	CSECT	CSDUP - command builder	OS	03
DFHCUCCB	CSECT	CSDUP - RDL command locator (DFHCUCC)	OS	03
DFHCUCDB	CSECT	CSDUP - default values (DFHCUCD)	OS	03
DFHCUCDC	CSECT	CSD manager - return and reason codes	OS	03
DFHCUCOG	CSECT	CSDUP - generic copy command	OS	03
DFHCUCOM	CSECT		-	03
DFHCUCOP	CSECT	CSDUP - copy command	OS	03
DFHCUCP	CSECT	CSDUP - command processor	OS	03
DFHCUCS	CSECT	CSDUP - CSD open and close	OS	03
DFHCUCSE	CSECT	CSDUP - CSD error check routine	OS	03
DFHCUCV	CSECT	CSDUP - command validation	OS	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHCUDEF	CSECT	CSDUP - define command	OS	03
DFHCUERA	CSECT	CSDUP - delete/erase command	OS	03
DFHCUFA	CSECT	Offline utilities - free automatic storage	OS	03
DFHCUFAM	Macro	Offline DFHPROC - free automatic storage	OS	-
DFHCUGA	CSECT	Offline utilities - get automatic storage	OS	03
DFHCUGAM	Macro	Offline DFHPROC - get automatic storage	OS	-
DFHCUINI	CSECT	CSDUP - initialize command	OS	03
DFHCULIS	CSECT	CSDUP - extract and list commands	OS	03
DFHCULOC	CSECT	CSDUP - lock/unlock routine	OS	03
DFHCUMD2	CSECT		-	03
DFHCUMIG	CSECT	CSDUP - migrate command	OS	03
DFHCUMT	CSECT	CSDUP - TCT migration	OS	03
DFHCUMTD	CSECT	RDO migration utility program for the DCT	-	03
DFHCUMTS	CSECT	RDO migration utility program for the TST	OS	03
DFHCUMWR	CSECT	CSDUP - CSD record write routine	OS	03
DFHCUMXI	CSECT	SPI offline utility for handling cross reference of IBM groups	OS	03
DFHCUPRC	CSECT	RDO off line utility	OS	03
DFHCUPRO	CSECT	CSDUP - CSD upgrade routine	OS	03
DFHCURDD	CSECT	CSD utilities - delete all existing CICS- supplied groups from previous releases	OS	03
DFHCURDI	CSECT	CSD utilities - RDL for basic initialize	OS	03
DFHCURDM	CSECT	CSD utilities - RDL for maintenance	OS	03
DFHCURDS	CSECT	CSD utilities - RDL for sample definitions	OS	03
DFHCURDX	CSECT	CSD utilities - RDL for compatibility gp	OS	03
DFHCUREM	CSECT	CSDUP - remove command	OS	03
DFHCURUG	CSECT	CSDUP - upgrade command	OS	03
DFHCUSER	CSECT	CSDUP - service command	OS	03
DFHCUSHL	CSECT	CSDUP - short lock/unlock routine	OS	03
DFHCUS1	CSECT	CSD utilities - sample service request	OS	03
DFHCUUSR	CSECT		OS	03
DFHCUVER	CSECT	CSDUP - verify command	OS	03
DFHCUXRT	CSECT	RDO offline utility for building cross reference table of IBM groups	OS	03
DFHCVDAA	Symbolic	System programming command cvda names	OS	-
DFHCVTRI	CSECT	CCNV Gate trace interpretation	-	03
DFHCZTRI	CSECT	CICS Foundation Classes trace interpretation	-	03
DFHCZTRT	CSECT	Foundation classes trace interprete tables	-	03
DFHCWTO	CSECT	Write to console operator program	OS	03
DFHCXCU	CSECT	XRF catch-up transaction	OS	03
DFHC3TRI	CSECT (OCO)	Trace interpreter for DFHCLS3 trace points	-	03
DFHC5TRI	CSECT		-	03
DFHDATE	Macro	Date formatting	OS	-
DFHDBAT	CSECT	CICS-DBCTL adapter/transformer	OS	03
DFHDBCON	CSECT	CICS-DBCTL connection program	OS	03
DFHDBCR	CSECT	CICS-DBCTL XRF tracking program	OS	03
DFHDBCT	CSECT	CICS-DBCTL control program	OS	03
DFHDBCTX	CSECT	CICS-DBCTL control exit	OS	03
DFHDBDE	CSECT	CICS-DBCTL operator transaction map set	-	03
DFHDBDI	CSECT	CICS-DBCTL disable program	OS	03
DFHDBDSC	CSECT	CICS-DBCTL disconnection program	OS	03
DFHDBDUF	CSECT (OCO)	SDUMP formatter for DBCTL, local DL/I, and remote DL/I	-	03
DFHDBIE	CSECT	CICS-DBCTL inquiry screens map set	OS	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHDBIK	CSECT (OCO)	CICS-DBCTL inquiry screens map set	-	03
DFHDBIQ	CSECT	CICS-DBCTL inquiry program	OS	03
DFHDBME	CSECT	CICS-DBCTL menu program	OS	03
DFHDBMOX	CSECT	CICS-DBCTL monitoring exit	OS	03
DFHDBMP	CSECT	EDF browse map set	-	03
DFHDBMS	CSECT	EDF browse map set	OS	03
DFHDBNE	CSECT	CICS-DBCTL menu screens map set	OS	03
DFHDBNK	CSECT (OCO)	CICS-DBCTL menu screens map set	-	03
DFHDBP	CSECT	Dynamic backout program	OS	03
DFHDBREX	CSECT	CICS-DBCTL resume exit	OS	03
DFHDBSPX	CSECT	CICS-DBCTL suspend exit	OS	03
DFHDBSSX	CSECT	CICS-DBCTL status exit	OS	03
DFHDBSTX	CSECT	CICS-DBCTL statistics exit	OS	03
DFHDBTI	CSECT	EXEC DLI LD table	OS	03
DFHDBTOX	CSECT	CICS-DBCTL token exit	OS	03
DFHDBUCA	DSECT	COMMAREA passed to DFHDBUEX	11	-
DFHDBUDS	DSECT	DBCTL unsolicited statistics	11	07
DFHDBUDS	DSECT	DBCTL unsolicited statistics	C2	-
DFHDBUEX	CSECT	User-replaceable CICS-DBCTL exit	19	03
DFHDC	Macro	Dump service request	11	-
DFHDCPR	CSECT	Transaction dump macro-compatibility program	OS	03
DFHDCRDS	DSECT	Transaction dump control record format	OS	-
DFHDCT	Macro	Destination control table	11	-
DFHDCTD	Macro	Destination control table	11	-
DFHDCTDS	DSECT	Destination control table	11	-
DFHDDBR	CSECT (OCO)	DD domain - browse Services	-	03
DFHDDBRT	CSECT (OCO)	DDBR trace interpretation data	-	03
DFHDDDI	CSECT (OCO)	DD domain - directory services	-	03
DFHDDDIA	CSECT (OCO)	DDDI parameter list	OS	-
DFHDDDIM	CSECT (OCO)	DDDI parameter list	OS	-
DFHDDDIT	CSECT (OCO)	DDDI trace interpretation data	-	03
DFHDDDM	CSECT (OCO)	DD domain - domain services	-	03
DFHDDDU	CSECT (OCO)	DD domain - dump browse services	-	03
DFHDDDUF	CSECT (OCO)	DD domain - dump formatting	-	03
DFHDDLO	CSECT (OCO)	DD domain - locate service	-	03
DFHDDLOA	CSECT (OCO)	DDLO parameter list	OS	-
DFHDDLOM	CSECT (OCO)	DDLO parameter list	OS	-
DFHDDLOT	CSECT (OCO)	DDLO trace interpretation data	-	03
DFHDDTRI	CSECT (OCO)	DD domain - trace interpretation	-	03
DFHDEFDS	Other	JCL to delete and re-create CICS system data sets unique to each region	02	-
DFHDEIST	CSECT	DEIS trace interpretation data	-	03
DFHDESVT	DSECT	DESV trace interpretation data	-	03
DFHDFST	CSECT		OS	03
DFHDHDH	CSECT	Document Handler Domain	-	03
DFHDHDHT	CSECT		-	03
DFHDHDM	CSECT	Document Handler Domain	-	03
DFHDHDUF	CSECT	DH Document System Dump Formatter	-	03
DFHDHEI	CSECT	DH Document Template EXEC resources	-	03
DFHDHPB	CSECT		-	03
DFHDHPD	CSECT		-	03
DFHDHPM	CSECT		-	03
DFHDHPR	CSECT	DH Document Handler Read PDS routine	-	03
DFHDHPS	CSECT		-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHDHPT	CSECT		-	03
DFHDHPU	CSECT		-	03
DFHDHPX	CSECT		-	03
DFHDHRM	CSECT	DHRM CDURUN and Gate module	-	03
DFHDHRP	CSECT	Document Handler Recovery Program	-	03
DFHDHRPT	CSECT		-	03
DFHDHSL	CSECT	Document Handler Domain	-	03
DFHDHSLT	CSECT		-	03
DFHDHTM	CSECT	DH Document Handler Template Manager	-	03
DFHDHTMT	CSECT		-	03
DFHDHTRI	CSECT	DH Domain Trace Formatter	-	03
DFHDHTXD	CSECT		11	-
DFHDHTXH	CSECT		-	08
DFHDHTXL	CSECT		-	17
DFHDHTXO	CSECT		-	07
DFHDHUE	CSECT	Document Domain (DH) user Exit Services	-	03
DFHDI	Macro	Data interchange request	11	-
DFHDIBDS	Macro	Data interchange	OS	-
DFHDIP	CSECT	Data interchange program	OS	03
DFHDIPDY	CSECT	Data interchange program (dummy)	OS	03
DFHDITOP	Macro	Data interchange internal macro	OS	-
DFHDKMRA	DSECT	DKMR parameter list	OS	-
DFHDKMRM	Macro	DKMR request	OS	-
DFHDKMRT	CSECT	DKMR trace interpretation data	-	03
DFHDKTRI	CSECT (OCO)	DD domain - trace interpreter	-	03
DFHDLI	CSECT	DL/I call router	OS	03
DFHDLIAI	CSECT	Application interface for DL/I	OS	03
DFHDLIDP	CSECT	DBCTL call processor	OS	03
DFHDLIRP	CSECT	DL/I remote call processor	OS	03
DFHDLLO@	CSECT		-	03
DFHDLP	Macro	CICS-DL/I interface	11	-
DFHDLPSB	Macro	Generate DL/I PSB directory list	11	-
DFHDLXDF	CSECT	DU domain - transaction dump formatter for DL/I related areas	OS	03
DFHDMDM	CSECT (OCO)	DM domain - domain initialization/quiesce	-	03
DFHDMDMA	DSECT	DMDM parameter list	OS	-
DFHDMDMM	Macro	DMDM request	OS	-
DFHDMDMT	CSECT (OCO)	DMDM trace interpretation data	-	03
DFHDMDS	CSECT (OCO)	DM domain - task reply handler	-	03
DFHDMDUF	CSECT (OCO)	SDUMP formatter for DM domain	-	03
DFHDMEN	CSECT (OCO)	Domain manager ENF support	-	03
DFHDMENF	CSECT (OCO)	Domain manager event notification routine	-	03
DFHDMENS	CSECT (OCO)	CICS ENF SRBEXIT	-	03
DFHDMENT	CSECT (OCO)	DMEN translation tables	-	03
DFHDMIQ	CSECT (OCO)	DM domain - browse and inquiry	-	03
DFHDMIQA	DSECT	DMIQ parameter list	OS	-
DFHDMIQM	Macro	DMIQ request	OS	-
DFHDMIQT	CSECT (OCO)	DMIQ trace interpretation data	-	03
DFHDMPB	CSECT	CSDUP - definition file (CSD) manager, batch environment router (DFHDMP batch)	OS	03
DFHDMPBA	CSECT	CSDUP - batch environment adapter	OS	03
DFHDMPC	CSECT	CSD manager - CICS environment router (DFHDMP CICS)	OS	03
DFHDMPCA	CSECT	CSD manager - CICS environment adapter	OS	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHDMPH	Symbolic	DM domain - phase definitions	OS	-
DFHDMRM	CSECT (OCO)	CSD manager - CSD close routine	-	03
DFHDMSVC	CSECT (OCO)	DM domain - SVC processing routine	-	03
DFHDMTRI	CSECT (OCO)	DM domain - trace interpreter	-	03
DFHDMWQ	CSECT (OCO)	DM domain - wait queue subroutine	-	03
DFHDMWQA	DSECT	DMWQ parameter list	OS	-
DFHDMWQM	Macro	DMWQ request	OS	-
DFHDMWQT	CSECT (OCO)	DMWQ trace interpretation data	-	03
DFHDM01B	CSECT	CSDUP - connect (DFHDM01 batch)	OS	03
DFHDM01C	CSECT	CSD manager - connect (DFHDM01 CICS)	OS	03
DFHDM02B	CSECT	CSDUP - disconnect (DFHDM02 batch)	OS	03
DFHDM02C	CSECT	CSD manager - disconnect (DFHDM02 CICS)	OS	03
DFHDM03B	CSECT	CSDUP - write (DFHDM03 batch)	OS	03
DFHDM03C	CSECT	CSD manager - write (DFHDM03 CICS)	OS	03
DFHDM04B	CSECT	CSDUP - read (DFHDM04 batch)	OS	03
DFHDM04C	CSECT	CSD manager - read (DFHDM04 CICS)	OS	03
DFHDM05B	CSECT	CSDUP - delete (DFHDM05 batch)	OS	03
DFHDM05C	CSECT	CSD manager - delete (DFHDM05 CICS)	OS	03
DFHDM06B	CSECT	CSDUP - lock/unlock (DFHDM06 batch)	OS	03
DFHDM06C	CSECT	CSD manager - lock/unlock (DFHDM06 CICS)	OS	03
DFHDM08B	CSECT	CSDUP - setbrowse (DFHDM08 batch)	OS	03
DFHDM08C	CSECT	CSD manager - setbrowse (DFHDM08 CICS)	OS	03
DFHDM09B	CSECT	CSDUP - getnext (DFHDM09 batch)	OS	03
DFHDM09C	CSECT	CSD manager - getnext (DFHDM09 CICS)	OS	03
DFHDM10B	CSECT	CSDUP - endbrowse (DFHDM10 batch)	OS	03
DFHDM10C	CSECT	CSD manager - endbrowse (DFHDM10 CICS)	OS	03
DFHDM11B	CSECT	CSDUP - createset (DFHDM11 batch)	OS	03
DFHDM11C	CSECT	CSD manager - createset (DFHDM11 CICS)	OS	03
DFHDM12B	CSECT	CSDUP - eraseset (DFHDM12 batch only)	OS	03
DFHDM13B	CSECT	CSDUP - queryset (DFHDM13 batch)	OS	03
DFHDM13C	CSECT	CSD manager - queryset (DFHDM13 CICS)	OS	03
DFHDM15B	CSECT	CSDUP - read/write control records (DFHDM15 batch)	OS	03
DFHDM15C	CSECT	CSD manager - read/write control records (DFHDM15 CICS)	OS	03
DFHDM16B	CSECT	CSDUP - buildkey (DFHDM16 batch)	OS	03
DFHDM16C	CSECT	CSD manager - buildkey (DFHDM16 CICS)	OS	03
DFHDM17B	CSECT	CSDUP - relsekwa (DFHDM17 batch)	OS	03
DFHDM17C	CSECT	CSD manager - relsekwa (DFHDM17 CICS)	OS	03
DFHDM18B	CSECT	CSDUP - tokenize utilities (DFHDM18 batch)	OS	03
DFHDM18C	CSECT	CSD manager - tokenize utilities (DFHDM18 CICS)	OS	03
DFHDM19B	CSECT	CSDUP - free generic tokens chain (DFHDM19 batch)	OS	03
DFHDM19C	CSECT	CSD manager - free generic tokens chain (DFHDM19 CICS)	OS	03
DFHDM21B	CSECT	CSDUP - generic qualification (DFHDM21 batch)	OS	03
DFHDM21C	CSECT	CSD manager - generic qualification (DFHDM21 CICS)	OS	03
DFHDM22B	CSECT	CSDUP - resequence utility (DFHDM22 batch)	OS	03
DFHDM22C	CSECT	CSD manager - resequence utility (DFHDM22 CICS)	OS	03
DFHDM23B	CSECT	CSDUP - verify key work area (DFHDM23 batch)	OS	03
DFHDM23C	CSECT	CSD manager - verify key work area (DFHDM23 CICS)	OS	03
DFHDNSRT	Macro	Internal index sorting macro	OS	-
DFHDRX	Macro	DL/I resource table	OS	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHDSAT	CSECT (OCO)	DS domain - attach, change mode, change/set priority, cancel task	-	03
DFHDSATA	DSECT	DSAT parameter list	0S	-
DFHDSATM	Macro	DSAT request	0S	-
DFHDSATT	CSECT (OCO)	DSAT trace interpretation data	-	03
DFHDSATX	Macro	DSAT request (XPI)	11	-
DFHDSATY	DSECT	DSAT parameter list (XPI)	11	-
DFHDSAUT	CSECT (OCO)	DS domain - authorized services	-	03
DFHDSB	CSECT	BMS data stream build	0S	-
DFHDSBA$	CSECT	BMS data stream build (standard)	0S	03
DFHDSBR	CSECT (OCO)	DS domain - browse, inquire task	-	03
DFHDSBRA	DSECT	DSBR parameter list	0S	-
DFHDSBRM	Macro	DSBR request	0S	-
DFHDSBRT	CSECT (OCO)	DSBR trace interpretation data	-	03
DFHDSB1$	CSECT	BMS data stream build (full)	0S	03
DFHDSCPX	CSECT (OCO)	POST routine for DS WAIT_MVS requests	-	03
DFHDSCSA	CSECT (OCO)	DS domain - update CSA on task dispatch	-	03
DFHDSDM	CSECT (OCO)	DS domain - initialization/termination	-	03
DFHDSDSA	DSECT	DSDS parameter list	0S	-
DFHDSDSM	Macro	DSDS request	0S	-
DFHDSDST	CSECT (OCO)	DSDS trace interpretation data	-	03
DFHDSDS2	CSECT (OCO)	DS domain - broadcast new max task limit	-	03
DFHDSDS3	CSECT (OCO)	DS domain - main dispatch loop	-	03
DFHDSDS4	CSECT (OCO)	DS domain - task purge routine	-	03
DFHDSDUF	CSECT (OCO)	SDUMP formatter for DS domain	-	03
DFHDSGDS	DSECT	DS domain - global statistics	11	07
DFHDSGDS	DSECT	DS domain - global statistics	C2	-
DFHDSIT	CSECT (OCO)	DS domain - set/inquire DS parameters	-	03
DFHDSITA	DSECT	DSIT parameter list	0S	-
DFHDSITM	Macro	DSIT request	0S	-
DFHDSITT	CSECT (OCO)	DSIT trace interpretation data	-	03
DFHDSKE	CSECT (OCO)	DS domain - kernel interfaces	-	03
DFHDSND	Macro	File control data set name	11	-
DFHDSPEX	CSECT (OCO)	DS domain - MVS POST exit stub	-	03
DFHDSRP	Sample	Distributed Dynamic Routing Program (COBOL)	-	07
DFHDSRP	Sample	Distributed Dynamic Routing Program (C)	C2	08
DFHDSRP	Sample	Distributed Dynamic Routing Program (Asm)	19	03
DFHDSSM	CSECT (OCO)	DS domain - storage notify handler	-	03
DFHDSSR	CSECT (OCO)	DS domain - suspend/resume/wait	-	03
DFHDSSRA	DSECT	DSSR parameter list	0S	-
DFHDSSRM	Macro	DSSR request	0S	-
DFHDSSRT	CSECT (OCO)	DSSR trace interpretation data	-	03
DFHDSSRV	Macro	DS domain - inline dispatcher services	0S	-
DFHDSSRX	Macro	DSSR request (XPI)	11	-
DFHDSSRY	DSECT	DSSR parameter list (XPI)	11	-
DFHDSST	CSECT (OCO)	DS domain - statistics collection	-	03
DFHDSSTX	CSECT (OCO)	DS domain - STIMERM exit	-	03
DFHDSTA	Macro	DBCTL statistics area (DFSDSTA)	0S	-
DFHDSTCB	CSECT (OCO)	DS domain - KEDS TCB_REPLY handler	-	03
DFHDSTI	CSECT	DS domain Timer Domain Gate Service Module	-	03
DFHDSTIQ	Macro	DS domain - obtain domain index of task issuing trace put	0S	-
DFHDSTRI	CSECT (OCO)	DS domain - Trace interpreter	-	03
DFHDSTSD	DSECT	DS domain - Task Area	0S	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHDSUE	CSECT (OCO)	DS domain - enable/disable user exits	-	03
DFHDTCF	CSECT (OCO)	Shared data tables connect file PC function	-	03
DFHDTCP	CSECT (OCO)	Shared data tables cell pool management	-	03
DFHDTCV	CSECT (OCO)	Shared data tables connection validation	-	03
DFHDTDA	CSECT (OCO)	Shared data tables data space and ALET code	-	03
DFHDTDM	CSECT (OCO)	Shared data tables data management	-	03
DFHDTINS	CSECT (OCO)	Shared data tables initialization	-	03
DFHDTIX	CSECT (OCO)	Shared data tables index management	-	03
DFHDTLA	CSECT (OCO)	Shared data table load attach	-	03
DFHDTLI	CSECT (OCO)	Shared data tables local initialization	-	03
DFHDTLX	CSECT (OCO)	Shared data tables load transaction	-	03
DFHDTPDS	DSECT	Data tables - services interface block	OS	-
DFHDTPC	CSECT (OCO)	Shared data tables program call stub	-	03
DFHDTRC	CSECT (OCO)	Shared data tables remote file connection and disconnection	-	03
DFHDTRE	CSECT (OCO)	Shared data tables remote file connection	-	03
DFHDTRI	CSECT (OCO)	Shared data tables remote environment initialization	-	03
DFHDTRM	CSECT (OCO)	Shared data tables record management	-	03
DFHDTRR	CSECT (OCO)	Shared data tables remote retrieval	-	03
DFHDTSR	CSECT (OCO)	Shared data tables shared retrieval	-	03
DFHDTSS	CSECT (OCO)	Shared data table server status	-	03
DFHDTST	CSECT (OCO)	Shared data table state services	-	03
DFHDTSVS	CSECT (OCO)	Shared data tables SVC services	-	03
DFHDTUP	CSECT (OCO)	Shared data tables update and syncpoint services	-	03
DFHDTXS	CSECT (OCO)	Shared data tables connection security	-	03
DFHDUDDA	DSECT	DUDD parameter list	OS	-
DFHDUDDM	Macro	DUDD request	OS	-
DFHDUDDT	CSECT	DUDD trace interpretation data	OS	03
DFHDUDM	CSECT	DU domain - initialization/termination	OS	03
DFHDUDT	CSECT	DU domain - dump table services	OS	03
DFHDUDTA	DSECT	DUDT parameter list	OS	-
DFHDUDTM	Macro	DUDT request	OS	-
DFHDUDTT	CSECT	DUDT trace interpretation data	OS	03
DFHDUDU	CSECT	DU domain - take system/transaction dump	OS	03
DFHDUDUA	DSECT	DUDU parameter list	OS	-
DFHDUDUF	CSECT (OCO)	SDUMP formatter for DU domain	-	03
DFHDUDUM	Macro	DUDU request	OS	-
DFHDUDUT	CSECT	DUDU trace interpretation data	OS	03
DFHDUDUX	Macro	DUDU request (XPI)	11	-
DFHDUDUY	DSECT	DUDU parameter list (XPI)	11	-
DFHDUF	CSECT (OCO)	SDUMP formatting router	-	03
DFHDUFFT	CSECT (OCO)	PRDUMP formatter - service functions	OS	03
DFHDUFT	CSECT (OCO)	Dump domain services	OS	03
DFHDUFTA	DSECT	DUFT parameter list	OS	-
DFHDUFTD	DSECT	Dump formatting routines parameter declares	OS	-
DFHDUFTM	Macro	DUFT macro	OS	-
DFHDUFTT	DSECT (OCO)	DUFT translate tables	OS	03
DFHDUFTX	Macro	DUFT macro	11	-
DFHDUFTY	DSECT	DUFT call structured parameter list	11	-
DFHDUFUT	CSECT (OCO)	SDUMP formatting - service functions	-	03
DFHDUIO	CSECT	DU domain - open/close/switch/write	OS	03
DFHDUIOA	DSECT	DUIO parameter list	OS	-
DFHDUIOM	Macro	DUIO request	OS	-
DFHDUIOT	CSECT	DUIO trace interpretation data	OS	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHDUMPX	CSECT	DU domain - SDUMPX IEASDUMP.QUERY exit	OS	03
DFHDUPH	CSECT	Dump utility program - dump index summary	OS	03
DFHDUPM	CSECT	Dump utility program - module index	OS	03
DFHDUPMC	DSECT	Dump utility program - parameter block for module index routine	OS	-
DFHDUPP	CSECT	Dump utility program - I/O routines	OS	03
DFHDUPPC	DSECT	Dump utility program - parameter block for print routine	OS	-
DFHDUPR	CSECT	Dump utility program - main component	OS	03
DFHDUPS	CSECT	Dump utility program - dump selection	OS	03
DFHDUPSC	DSECT	Dump utility program - parameter block for dump selection routine	OS	-
DFHDUSR	CSECT	DU domain - dump services	OS	03
DFHDUSRA	DSECT	DUSR parameter list	OS	-
DFHDUSRM	Macro	DUSR request	OS	-
DFHDUSRT	CSECT	DUSR trace interpretation data	OS	03
DFHDUSU	CSECT	DU domain - subroutines	OS	03
DFHDUSUA	DSECT	DUSU parameter list	OS	-
DFHDUSUM	Macro	DUSU request	OS	-
DFHDUSUT	CSECT	DUSU trace interpretation data	OS	03
DFHDUSVC	CSECT	DU domain - SVC processing routine	OS	03
DFHDUTM	CSECT	DU domain - dump table manager	OS	03
DFHDUTRI	CSECT	Trace interpreter for DU domain	OS	03
DFHDUXD	CSECT	DU domain - transaction dump control	OS	03
DFHDUXFA	DSECT	DUXF parameter list	OS	-
DFHDUXFM	Macro	DUXF request	OS	-
DFHDUXFT	CSECT	DUXF trace interpretation data	OS	03
DFHDUXW	CSECT	DU domain - transaction dump buffer control	OS	03
DFHDUXWA	DSECT	DUXW parameter list	OS	-
DFHDUXWM	Macro	DUXW request	OS	-
DFHDUXWT	CSECT	DUXW trace interpretation data	OS	03
DFHDWE	Macro	Deferred work element	OS	-
DFHDWEDS	DSECT	Deferred work element	11	-
DFHDXACH	CSECT	CICS-DBCTL XRF subtask router	OS	03
DFHDXAX	CSECT	CICS-DBCTL XRF connection handling	OS	03
DFHDXCU	CSECT	CICS-DBCTL XRF catch-up transaction	OS	03
DFHDXSTM	CSECT	CICS-DBCTL XRF subtask manager	OS	03
DFHDXUEP	DSECT	CICS-DBCTL XRF plist to global user exits	11	-
DFHDYP	Sample	Dynamic routing program	C2	07
DFHDYP	Sample	Dynamic routing program	D2	-
DFHDYP	CSECT	User-replaceable dynamic routing program	19	03
DFHDYPDS	DSECT	COMMAREA passed to DFHDYP	11	-
DFHDYPDS	DSECT	COMMAREA passed to DFHDYP	C2	07
DFHDYPDS	DSECT	COMMAREA passed to DFHDYP	D2	-
DFHD2CC	CSECT	DB2 module	-	03
DFHD2CCT	CSECT	DB2 module	-	03
DFHD2CMP	CSECT	DB2 module	-	03
DFHD2CM0	CSECT	DB2 module	-	03
DFHD2CM1	CSECT	DB2 module	-	03
DFHD2CM2	CSECT	DB2 module	-	03
DFHD2CM3	CSECT	DB2 module	-	03
DFHD2COT	CSECT	DB2 module	-	03
DFHD2DUF	CSECT	DB2 module	-	03
DFHD2D2T	CSECT	DB2 module	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHD2EDF	CSECT	DB2 module	-	03
DFHD2EXS	CSECT	DB2 module	-	03
DFHD2EX1	CSECT	DB2 module	-	03
DFHD2EX2	CSECT	DB2 module	-	03
DFHD2EX3	CSECT	DB2 module	-	03
DFHD2GDS	CSECT	DB2 module	11	07
DFHD2INI	CSECT	DB2 module	-	03
DFHD2IN1	CSECT	DB2 module	-	03
DFHD2IN2	CSECT	DB2 module	-	03
DFHD2LI	CSECT	CICS-DB2 stub (Language interface module)	-	03
DFHD2MSB	CSECT	DB2 module	-	03
DFHD2RDS	CSECT	DB2 module	11	07
DFHD2RP	CSECT	DB2 module	-	03
DFHD2SSD	CSECT	DB2 module	OS	-
DFHD2ST	CSECT	DB2 module	-	03
DFHD2STP	CSECT	DB2 module	-	03
DFHD2STR	CSECT	DB2 module	-	03
DFHD2TM	CSECT	DB2 module	-	03
DFHD2TMT	CSECT	DB2 module	-	03
DFHD2TRI	CSECT	DB2 module	-	03
DFHEAI	CSECT	EXEC interface link-edit stub for EXEC calls in assembler language programs	OS	03
DFHEAI0	CSECT	EXEC interface link-edit stub for prolog and epilog calls in assembler language programs	OS	03
DFHEAMAA	CSECT	Assembler-language translator - advanced	OS	03
DFHEAMEE	CSECT	Assembler-language translator - error editor	OS	03
DFHEAMPA	CSECT	Assembler-language translator - primary code generation functions	OS	03
DFHEAMSA	CSECT	Assembler-language translator - source scanner	OS	03
DFHEAM02	CSECT	Assembler-language translator - initialization	OS	03
DFHEAM07	CSECT	Assembler-language translator - options card	OS	03
DFHEAM08	CSECT	Assembler-language translator - check options	OS	03
DFHEAM11	CSECT	Assembler-language translator - atomization	OS	03
DFHEBBND	Sample	Part of the CICS EJB sample	-	19
DFHEBCBJ	Sample	Part of the CICS EJB sample	-	19
DFHEBCB1	Sample	COBOL source for V2ACTDB program	-	19
DFHEBCB2	Sample	COBOL source for V2CSTDB program	-	19
DFHEBCNV	Sample	EJB Sample COMMAREA Conversion Table	-	19
DFHEBDAT	Sample	Part of the CICS EJB sample	-	19
DFHEBDEF	Sample	CICS EJB Sample Resource Definitions	-	19
DFHEBF	CSECT	EXEC interface for BIF DEEDIT command	OS	03
DFHEBGRT	Sample	Part of the CICS EJB sample	-	19
DFHEBRCT	CSECT	CBRC LD table	OS	03
DFHEBREB	Sample	Part of the CICS EJB sample	-	19
DFHEBTAB	Sample	Part of the CICS EJB sample	-	19
DFHEBTAL	Other	Cataloged procedure to translate, assemble and link-edit assembler-language application programs that use EXEC DLI and will run in a batch or CICS shared database region	-	18
DFHEBTPL	Other	Cataloged procedure to translate, compile and link-edit PL/I application programs that use EXEC DLI and will run in a batch or CICS shared database region	-	18

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHEBTVL	Other	Cataloged procedure to translate, compile and link-edit VS COBOL II application programs that use EXEC DLI and will run in a batch or CICS shared database region	-	18
DFHEBU	CSECT	EXEC FMH construction	OS	03
DFHECADS	DSECT	Event control area for interval control elements	OS	-
DFHECALL	Macro	EXEC interface call macro for assembler-language	11	-
DFHECB	Macro	CICS posting and testing of operating system ECBs	OS	-
DFHECBAM	CSECT		OS	03
DFHECI	CSECT	EXEC interface stub for EXEC calls (COBOL)	OS	03
DFHECMAC	CSECT	COBOL translator - advanced code generation functions	OS	03
DFHECMEE	CSECT	COBOL translator - error editor	OS	03
DFHECMPC	CSECT	COBOL translator - primary code generation functions	OS	03
DFHECMSC	CSECT	COBOL translator - input scanner	OS	03
DFHECM02	CSECT	COBOL translator - initialization	OS	03
DFHECM07	CSECT	COBOL translator - options card	OS	03
DFHECM08	CSECT	COBOL translator - check options	OS	03
DFHECM10	CSECT	COBOL translator - analyze program	OS	03
DFHECM11	CSECT	COBOL translator - atomization	OS	03
DFHECM14	CSECT	COBOL translator - read input	OS	03
DFHECM17	CSECT	COBOL translator - generate output	OS	03
DFHEDC	CSECT	EXEC interface for dump control	OS	03
DFHEDCP	CSECT (OCO)	EXEC interface for dump system/transaction	-	03
DFHEDFBR	CSECT	Temporary-storage browse transaction, CEBR	OS	03
DFHEDFCB	CSECT	Build one page	OS	03
DFHEDFCC	CSECT	Parameter copy program	OS	03
DFHEDFCE	CSECT	Extract from one page	OS	03
DFHEDFCR	CSECT	LD table utilities	OS	03
DFHEDFCS	CSECT	CICS special cases	OS	03
DFHEDFCX	CSECT	Display unformatted arguments	OS	03
DFHEDFD	CSECT	EDF display program	OS	03
DFHEDFDL	CSECT	DL/I special cases	OS	03
DFHEDFDS	DSECT	EDF communication area	OS	-
DFHEDFE	CSECT	EDF attach error handler	OS	03
DFHEDFM	CSECT	EDF map set	OS	03
DFHEDFP	CSECT	EDF control program	OS	03
DFHEDFR	CSECT	EDF response table	OS	03
DFHEDFS	CSECT	EDF display handling routines	OS	03
DFHEDFU	CSECT	Data utilities	OS	03
DFHEDFW	CSECT	Display working storage	OS	03
DFHEDFX	CSECT	EDF task switch program	OS	03
DFHEDI	CSECT	EXEC interface for data interchange	OS	03
DFHEDMAD	CSECT	C/370 translator - advanced code generation functions	OS	03
DFHEDMEE	CSECT	C/370 translator - error editor	OS	03
DFHEDMPD	CSECT	C/370 translator - primary code generation functions	OS	03
DFHEDMSD	CSECT	C/370 translator - input scanner	OS	03
DFHEDM02	CSECT	C/370 translator - initialization	OS	03
DFHEDM07	CSECT	C/370 translator - options card	OS	03
DFHEDM08	CSECT	C/370 translator - check options	OS	03
DFHEDM10	CSECT	C/370 translator - analyze program	OS	03
DFHEDM11	CSECT	C/370 translator - atomization	OS	03
DFHEDM14	CSECT	C/370 translator - read input	OS	03
DFHEDM17	CSECT	C/370 translator - generate output	OS	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHEDP	CSECT	EXEC DLI command stub	OS	03
DFHEEI	CSECT	EXEC interface for HANDLE, ADDRESS, ASSIGN	OS	03
DFHEEX	CSECT	EXEC FMH extraction	OS	03
DFHEGL	CSECT	EXEC interface for unmapped LU6.2 commands	OS	03
DFHEIACQ	CSECT (OCO)	EXEC ACQUIRE TERMINAL	-	03
DFHEIAR	Macro	EIP arguments macro	OS	-
DFHEIBAM	CSECT		-	03
DFHEIBLC	DSECT	EXEC interface block	C2	07
DFHEIBLK	DSECT	EXEC interface block	11	-
DFHEIBLK	DSECT	EXEC interface block	C2	07
DFHEICDS	DSECT	EXEC interface COMMAREA	11	-
DFHEICRE	DSECT	EXEC CICS CREATE command	-	03
DFHEIDDS	Macro	EXEC interface argument 0 descriptor	11	-
DFHEIDH	CSECT	Document Language Table and EI Layer	-	03
DFHEIDI	CSECT	Address set for COBOL	OS	-
DFHEIDTI	CSECT	EXEC ask-time, format-time program	OS	03
DFHEIEIA	DSECT	EIEI parameter list	OS	-
DFHEIEIM	Macro	EIEI request	OS	-
DFHEIEIT	CSECT	EIEI trace interpretation data	OS	03
DFHEIEM	CSECT	DFHEIEM Design Exec EM request handler	-	03
DFHEIEND	Macro	EXEC interface storage end macro	11	-
DFHEIENT	Macro	EXEC interface prolog macro	11	-
DFHEIFC	Macro	File control exec interface module	-	03
DFHEIFSP	Macro	Free space	OS	-
DFHEIGBL	Macro	EXEC interface globals definition macro	11	-
DFHEIGDS	CSECT	Translator table (GDS commands)	OS	03
DFHEIGSP	Macro	Get space	OS	-
DFHEIIC	CSECT (OCO)	EXEC interface IC module	-	03
DFHEIIF	Macro	EXEC interface IF macro	OS	-
DFHEILIA	Other	Used by DFHEITAL cataloged procedure	11	-
DFHEILIC	Other	Used by DFHEITCL cataloged procedure	C2	-
DFHEILID	Other	Used by DFHEITDL cataloged procedure	D2	-
DFHEILIP	Other	Used by DFHEITPL cataloged procedure	P2	-
DFHEIMDS	Macro	Master terminal return codes	OS	-
DFHEIMOP	CSECT	Translator options	OS	03
DFHEIMSG	Macro	EXEC interface message macro	11	-
DFHEIMV	Macro	EXEC interface move macro	OS	-
DFHEIN00	CSECT	Interpreter - CECI/CECS program	OS	03
DFHEIN01	CSECT	Interpreter - control module	OS	03
DFHEIN02	CSECT	Interpreter - initialization	OS	03
DFHEIN03	CSECT	CBRC/CECI/CEDA/CEMT - storage manager	OS	03
DFHEIN11	CSECT	CBRC/CECI - atomization	OS	03
DFHEIN12	CSECT	Interpreter - argument analysis	OS	03
DFHEIN13	CSECT	CECI/CEDA/CEMT - diagnosis	OS	03
DFHEIN16	CSECT	CECI/CEDA/CEMT - binary conversion	OS	03
DFHEIN19	CSECT	Interpreter - command analysis	OS	03
DFHEIN20	CSECT	Interpreter - table analysis	OS	03
DFHEIN21	CSECT	Interpreter - keyword analysis	OS	03
DFHEIN22	CSECT	Interpreter - special case code	OS	03
DFHEIN23	CSECT	Interpreter - plist generation	OS	03
DFHEIN26	CSECT	CECI/CEMT - message editor	OS	03
DFHEIN27	CSECT	Interpreter - spelling correction	OS	03
DFHEIN28	CSECT	Interpreter - basic messages	OS	03
DFHEIN50	CSECT	Interpreter - special displays	OS	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHEIN51	CSECT	Interpreter - display extraction	OS	03
DFHEIN52	CSECT	Interpreter - syntax display	OS	03
DFHEIN53	CSECT	Interpreter - utilities	OS	03
DFHEIN54	CSECT	Interpreter - further utilities	OS	03
DFHEIP	CSECT	EXEC (command-level) interface program	-	03
DFHEIPA	CSECT	EXEC interface prolog and epilog code for assembler-language programs	OS	03
DFHEIPAD	Macro	EXEC interface intermodule addressing	OS	-
DFHEIPDS	DSECT	EXEC interface control blocks	11	-
DFHEIPEL	Source	EXEC interface layer epilog code	OS	-
DFHEIPEQ	Symbolic	EXEC interface EQU statements	OS	-
DFHEIPER	Source	EXEC interface error handling data	OS	-
DFHEIPLR	Macro	EXEC interface epilog code	OS	-
DFHEIPLS	Macro	EXEC interface prolog code	OS	-
DFHEIPPL	Source	EXEC interface layer prolog code	OS	-
DFHEIPRT	CSECT (OCO)	EXEC interface for perform resettime	-	03
DFHEIPSE	CSECT (OCO)	EXEC interface for perform security	-	03
DFHEIPSH	CSECT (OCO)	EXEC interface for perform shutdown	-	03
DFHEIQAS	CSECT (OCO)	EXEC inquire association	-	03
DFHEIQBA	CSECT (OCO)	EXEC inquire reqid	-	03
DFHEIQCF	CSECT (OCO)	EXEC inquire cfdtpool	-	03
DFHEIQDH	CSECT (OCO)	EXEC inquire doctemplate	-	03
DFHEIQDN	CSECT (OCO)	EXEC inquire/set for external data sets	-	03
DFHEIQDS	CSECT (OCO)	EXEC inquire/set/discard for files	-	03
DFHEIQDU	CSECT (OCO)	EXEC inquire/set for dump data sets and dump codes	-	03
DFHEIQD2	CSECT (OCO)		-	03
DFHEIQEJ	CSECT (OCO)		-	03
DFHEIQIR	CSECT (OCO)	EXEC inquire/set for IRC	-	03
DFHEIQMS	CSECT (OCO)	EXEC inquire/set for monitor and stats	-	03
DFHEIQMT	CSECT	EXEC inquire/set for CEMT-only commands	-	03
DFHEIQOP	CSECT	EXEC inquire requestmodel	-	03
DFHEIQPF	CSECT (OCO)	EXEC inquire/discard for profiles	-	03
DFHEIQPN	CSECT (OCO)	EXEC inquire/discard for partners	-	03
DFHEIQRQ	CSECT (OCO)	EXEC inquire for queued requests (REQIDs)	-	03
DFHEIQRR	CSECT (OCO)	SPI Inquire RRMS Processor	-	03
DFHEIQSA	CSECT (OCO)	EXEC inquire/set for system attributes	-	03
DFHEIQSC	CSECT (OCO)	EXEC inquire/set for connections	-	03
DFHEIQSJ	CSECT (OCO)	EXEC inquire/set for journals or discard for journalnames	-	03
DFHEIQSK	CSECT (OCO)	EXEC inquire/set for tasks	-	03
DFHEIQSL	CSECT (OCO)	EXEC inquire/for journalmodel or streamname or discard for journalmodel	-	03
DFHEIQSM	CSECT (OCO)	EXEC inquire/set for modenames	-	03
DFHEIQSO	CSECT (OCO)	EXEC inquire tcpip	-	03
DFHEIQSP	CSECT (OCO)	EXEC inquire/set/discard for programs	-	03
DFHEIQSQ	CSECT (OCO)	EXEC inquire/set for TD queues	-	03
DFHEIQST	CSECT (OCO)	EXEC inquire/set for terminals	-	03
DFHEIQSV	CSECT (OCO)	EXEC inquire/set for volumes	-	03
DFHEIQSX	CSECT (OCO)	EXEC inquire/set/discard for transactions	-	03
DFHEIQSY	CSECT (OCO)		-	03
DFHEIQSZ	CSECT (OCO)	EXEC CICS SPI commands for FEPI	-	03
DFHEIQTM	CSECT (OCO)	EXEC inquire/discard for autinstmodel	-	03
DFHEIQTR	CSECT (OCO)	EXEC inquire/set for trace	-	03
DFHEIQTS	CSECT (OCO)	EXEC inquire for TS queues	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHEIQUE	CSECT (OCO)	EXEC inquire for exit programs	-	03
DFHEIQVT	CSECT	EXEC inquire/set for VTAM and autoinstall	-	03
DFHEIRET	Macro	EXEC interface epilog macro	11	-
DFHEIS	Macro	EXEC interface storage	11	-
DFHEISDS	DSECT	EXEC interface storage definition	11	-
DFHEISEI	DSECT	EXEC interface structure entry I/F	OS	-
DFHEISO	CSECT (OCO)	Sockets Domain API	-	03
DFHEISP	CSECT (OCO)	EXEC interface syncpoint processor	-	03
DFHEISR	CSECT (OCO)	EXEC interface service routines	-	03
DFHEISRA	DSECT	EISR parameter list	OS	-
DFHEISRM	Macro	EISR request	OS	-
DFHEISRT	CSECT (OCO)	EISR trace interpretation data	-	03
DFHEISTG	Macro	EXEC interface storage start macro	11	-
DFHEITAB	CSECT	Translator table (basic commands)	OS	03
DFHEITAL	Other	Cataloged procedure to translate, assemble, and link-edit assembler-language application programs	18	-
DFHEITBS	CSECT	Translator table (special commands)	OS	03
DFHEITCU	CSECT	RDO offline LD table	OS	03
DFHEITDL	Other	Cataloged procedure to translate, compile, and link-edit C/370 application programs	18	-
DFHEITHG	CSECT	EXEC interface hired gun lookup table	OS	03
DFHEITMT	CSECT	Command language table for CEMT	OS	03
DFHEITOT	CSECT	Command language table for CEOT	OS	03
DFHEITPL	Other	Cataloged procedure to translate, compile, and link-edit PL/I application programs	18	-
DFHEITS	CSECT	Temporary storage exec layer	-	03
DFHEITSP	CSECT	Language definition table	OS	03
DFHEITRD	DSECT	Trace point IDs for DFHETC	OS	-
DFHEITST	CSECT	CEST language definition table	OS	03
DFHEITSZ	CSECT (OCO)	EXEC CICS language definition table	-	03
DFHEITTR	CSECT	EXEC interface lookup table	OS	03
DFHEITT2	CSECT	EXEC interface level 2 lookup table	OS	03
DFHEITUT	Source	Definition of EIP trace entries	OS	-
DFHEITVL	Other	Cataloged procedure to translate, compile, and link-edit VS COBOL II application programs	18	-
DFHEIUOW	DSECT	EXEC inquire/set uow, or inquire uoqenq uowlink and uowdsnfail	-	03
DFHEIUS	DSECT	EXEC interface storage - USER part	OS	-
DFHEIVAR	DSECT	COBOL working storage	C2	-
DFHEIWB	CSECT	CWI Language Table and EXEC Layer	-	03
DFHEJBB	CSECT	EJ Bean Browse	-	03
DFHEJBBT	CSECT		-	03
DFHEJBG	CSECT	EJ Bean General	-	03
DFHEJBGT	CSECT		-	03
DFHEJC	CSECT	EXEC interface for journaling	OS	03
DFHEJCB	CSECT	EJ CorbaServer Browse	-	03
DFHEJCBT	CSECT		-	03
DFHEJCG	CSECT	EJ CorbaServer General	-	03
DFHEJCGT	CSECT		-	03
DFHEJCPT	CSECT		-	03
DFHEJDB	CSECT	EJ DJar Browse	-	03
DFHEJDBT	CSECT		-	03
DFHEJDG	CSECT	EJ DJar General	-	03
DFHEJDGT	CSECT		-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHEJDI	CSECT	DFHEJDI Design EJ Domain EJDI gate functions	-	03
DFHEJDIT	CSECT		-	03
DFHEJDM	CSECT	EJ Domain Functions	-	03
DFHEJDND	Sample	Distinguished name URM	-	19
DFHEJDNH	Sample		-	19
DFHEJDNL	Sample	Distinguished name URM	-	19
DFHEJDNO	Sample	Distinguished name URM	-	19
DFHEJDNX	Sample	Distinguished name URM	-	03
DFHEJDN1	Sample	Distinguished name URM	-	19
DFHEJDN2	Sample	CICS-supplied C-language version of DFHEJDNX	-	19
DFHEJDU	CSECT	EJ domain EJDU gate functions	-	03
DFHEJDUF	CSECT	Dump interpretation for EJ Domain	-	03
DFHEJDUT	CSECT		-	03
DFHEJECT	Macro	Page eject/space option	11	-
DFHEJGE	CSECT	EJ General Operations	-	03
DFHEJGET	CSECT		-	03
DFHEJIO	CSECT	EJ Domain Functions	-	03
DFHEJIOT	CSECT		-	03
DFHEJIT	CSECT	EJ Transaction Functions	-	03
DFHEJJO	CSECT	EJ Domain Functions	-	03
DFHEJJOT	CSECT		-	03
DFHEJMI	CSECT	EJMI CDURUN and Gate Module	-	03
DFHEJMID	CSECT	Message Numbers for the EJ Domain	11	-
DFHEJMIT	CSECT		-	03
DFHEJOB	CSECT	Object Store Browse	-	03
DFHEJOBT	CSECT		-	03
DFHEJOS	CSECT	Object Store Program	-	03
DFHEJOST	CSECT		-	03
DFHEJRDS	CSECT		11	07
DFHEJST	CSECT	EJ Domain - Statistics (STST) gate	-	03
DFHEJTBB	CSECT		-	03
DFHEJTBG	CSECT		-	03
DFHEJTB1	CSECT		-	03
DFHEJTCB	CSECT		-	03
DFHEJTCG	CSECT		-	03
DFHEJTC1	CSECT		-	03
DFHEJTDB	CSECT		-	03
DFHEJTDG	CSECT		-	03
DFHEJTDM	CSECT		-	03
DFHEJTD1	CSECT		-	03
DFHEJTGE	CSECT		-	03
DFHEJTID	Macro	Trace Points for the EJ Domain	11	-
DFHEJTIO	CSECT		-	03
DFHEJTIT	CSECT		-	03
DFHEJTJO	CSECT		-	03
DFHEJTRI	CSECT	EJ Trace Domain interpretation	-	03
DFHEJUPA	Macro	EJ XRSINDI Overlay	11	-
DFHEJXDF	CSECT	Transaction Dump - JRAS dump info	-	03
DFHEKC	CSECT	EXEC interface for task control	OS	03
DFHELII	CSECT	EXEC interface link-edit stub for C/370 application programs	OS	03
DFHEMBA	CSECT	EM Domain - EMBA gate functions	-	03
DFHEMBR	CSECT	EM Domain - EMBR gate functions	-	03
DFHEMBRT	CSECT		-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHEMDM	CSECT	EM Domain - DMDM gate functions	-	03
DFHEMDUF	CSECT	DFHEMDUF Design	-	03
DFHEMEM	CSECT	EM Domain - EMEM gate functions	-	03
DFHEMEMT	CSECT		-	03
DFHEMEX	CSECT	EXEC interface for ME domain	-	03
DFHEMPID	CSECT	Monitoring emp-ids	11	-
DFHEMS	CSECT	EXEC interface for BMS	OS	03
DFHEMT00	CSECT	Master terminal - CEMT/CEOT/CEST program	OS	03
DFHEMT01	CSECT	Master terminal - control module	OS	03
DFHEMT02	CSECT	Master terminal - initialization	OS	03
DFHEMT11	CSECT	Master terminal - atomization	OS	03
DFHEMT12	CSECT	Master terminal - argument analysis	OS	03
DFHEMT19	CSECT	Master terminal - command analysis	OS	03
DFHEMT20	CSECT	Master terminal - table analysis	OS	03
DFHEMT21	CSECT	Master terminal - keyword analysis	OS	03
DFHEMT22	CSECT	Master terminal - special case code	OS	03
DFHEMT23	CSECT	Master terminal - plist generation	OS	03
DFHEMT27	CSECT	Master terminal - spelling correction	OS	03
DFHEMT50	CSECT	Master terminal - special displays	OS	03
DFHEMT51	CSECT	Master terminal - display extraction	OS	03
DFHEMT52	CSECT	Master terminal - syntax display	OS	03
DFHEMT53	CSECT	Master terminal - utilities	OS	03
DFHEMT54	CSECT	Master terminal - further utilities	OS	03
DFHEMT55	CSECT	Master terminal - fulists	OS	03
DFHEMT56	CSECT	Master terminal - execution interface	OS	03
DFHEMTRI	CSECT	DFHEMTRI Design	-	03
DFHEND	Macro	Generate END statement	11	-
DFHENV	Macro	CICS environment service request	OS	-
DFHEOP	CSECT (OCO)	EXEC interface for write operator	-	03
DFHEPC	CSECT	EXEC interface for program control	-	03
DFHEPILO	Macro	Free automatic storage application epilog	OS	-
DFHEPMAP	CSECT	PL/I translator - advanced code generation functions	OS	03
DFHEPMEE	CSECT	PL/I translator - error editor	OS	03
DFHEPMPP	CSECT	PL/I translator - primary code generation functions	OS	03
DFHEPMSP	CSECT	PL/I translator - input scanner	OS	03
DFHEPM02	CSECT	PL/I translator - initialization	OS	03
DFHEPM07	CSECT	PL/I translator - options card	OS	03
DFHEPM08	CSECT	PL/I translator - check options	OS	03
DFHEPM10	CSECT	PL/I translator - analyze program	OS	03
DFHEPM11	CSECT	PL/I translator - atomization	OS	03
DFHEPM14	CSECT	PL/I translator - read input	OS	03
DFHEPM17	CSECT	PL/I translator - generate output	OS	03
DFHEPS	CSECT	System spooling interface stub	OS	03
DFHERDUF	CSECT (OCO)	SDUMP error message index processor	-	03
DFHERM	CSECT	Resource manager interface (RMI) module	-	03
DFHERMRS	CSECT	ERM resync processor	-	03
DFHERMSP	CSECT	ERM syncpoint processor	-	03
DFHESC	CSECT	EXEC interface for storage control	OS	03
DFHESE	CSECT (OCO)	EXEC interface for query security	-	03
DFHESN	CSECT (OCO)	EXEC interface for signon and sign-off	-	03
DFHESP00	CSECT	RDO - CEDA/CEDB/CEDC program	OS	03
DFHESP01	CSECT	RDO - CEDA control module	OS	03
DFHESP02	CSECT	RDO - CEDA initialization	OS	03
DFHESP11	CSECT	RDO - CEDA atomization	OS	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHESP12	CSECT	RDO - CEDA argument analysis	OS	03
DFHESP19	CSECT	RDO - CEDA command analysis	OS	03
DFHESP20	CSECT	RDO - CEDA table analysis	OS	03
DFHESP21	CSECT	RDO - CEDA keyword analysis	OS	03
DFHESP22	CSECT	RDO - CEDA special case code	OS	03
DFHESP23	CSECT	RDO - CEDA plist generation	OS	03
DFHESP26	CSECT	RDO - CEDA message editor	OS	03
DFHESP27	CSECT	RDO - CEDA spelling correction	OS	03
DFHESP50	CSECT	RDO - CEDA special displays	OS	03
DFHESP51	CSECT	RDO - CEDA display extraction	OS	03
DFHESP52	CSECT	RDO - CEDA syntax display	OS	03
DFHESP53	CSECT	RDO - CEDA utilities	OS	03
DFHESP54	CSECT	RDO - CEDA further utilities	OS	03
DFHESP55	CSECT	RDO - CEDA fulists	OS	03
DFHESZ	CSECT (OCO)	EXEC CICS API commands for FEPI	-	03
DFHETC	CSECT	EXEC interface for terminal control	OS	03
DFHETCB	Macro	EXEC terminal control block macro	OS	-
DFHETD	CSECT	EXEC interface for transient data	OS	03
DFHETL	CSECT	LU6.2 EXEC interface stub	OS	03
DFHETR	CSECT	EXEC interface for trace control	OS	03
DFHETRX	CSECT (OCO)	EXEC interface for enter tracenum, monitor	-	03
DFHEXAI	CSECT	Link-edit stub for assembler-language programs using CSD offline extract function	OS	03
DFHEXCI	CSECT	Link-edit stub for COBOL programs using CSD offline extract function	OS	03
DFHEXDUF	CSECT (OCO)	EXCI dump formatting routine	-	03
DFHEXI	CSECT	Terminal exceptional input program	OS	03
DFHEXLE	CSECT		OS	03
DFHEXLI	CSECT	EXCI stub	11	-
DFHEXMAB	CSECT	Translators - default argument text build	OS	03
DFHEXMAN	CSECT	Translators - statement syntax analysis	OS	03
DFHEXMG1	CSECT	Translators - EXEC DLI code generator	OS	03
DFHEXMG2	CSECT	Translators - EXEC CICS code generator	OS	03
DFHEXMG3	CSECT	Translators - EXEC CICS GDS code generator	OS	03
DFHEXMG4	CSECT	Translators - EXEC EXCI code generator	OS	03
DFHEXMG5	CSECT	Translators - CICSPlex SM EXEC CICS command code generator	-	03
DFHEXMKW	CSECT	Translators - keyword analysis	OS	03
DFHExphE	CSECT	Translators - fatal error handler	OS	03
DFHEXMS1	CSECT	Translators - DL/I WHERE operand code generator	OS	03
DFHEXMS2	CSECT	Translators - EXEC CICS special case code generator	OS	03
DFHEXMS3	CSECT	Translators - EXEC CICS GDS special case code generator	OS	03
DFHEXMS4	CSECT	Translators - EXEC EXCI special case code generator	OS	03
DFHEXMS5	CSECT	Translators - EXEC EXCI special case code generator for CICSPlex SM	-	03
DFHEXMTD	CSECT	Translators - temporaries declaration	OS	03
DFHEXMTG	CSECT	Translators - EXEC trigger detection	OS	03
DFHEXMXK	CSECT	Translators - syntax checker	OS	03
DFHEXMXM	CSECT	Translators - syntax check error messages	OS	03
DFHEXMXS	CSECT	Translators - syntax check control module	OS	03
DFHEXM00	CSECT	Translators - control module	OS	03
DFHEXM01	CSECT	Translators - control module	OS	03
DFHEXM05	CSECT	Translators - PARM analysis	OS	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHEXM06	CSECT	Translators - process single option	OS	03
DFHEXM09	CSECT	Translators - print options	OS	03
DFHEXM12	CSECT	Translators - match brackets	OS	03
DFHEXM13	CSECT	Translators - diagnosis	OS	03
DFHEXM15	CSECT	Translators - I/O module	OS	03
DFHEXM16	CSECT	Translators - conversions	OS	03
DFHEXM18	CSECT	Translators - insert in I/O buffer	OS	03
DFHEXM25	CSECT	Translators - print xref	OS	03
DFHEXM27	CSECT	Translators - spelling correction	OS	03
DFHEXPI	CSECT	Link-edit stub for PL/I programs using CSD offline extract function	OS	03
DFHEXTAL	Other	Cataloged procedure to translate, assemble, and link-edit Assembler- language application programs (EXCI)	18	-
DFHEXTDL	Other	Cataloged procedure to translate, compile, and link-edit C/370 application programs (EXCI)	18	-
DFHEXTM	Macro	Dummy macro for DOS compatibility	OS	-
DFHEXTPL	Other	Cataloged procedure to translate, compile, and link-edit PL/I application programs (EXCI)	18	-
DFHEXTRI	Macro	EXCI trace interpretation routine	-	03
DFHEXTVL	Other	Cataloged procedure to translate, compile, and link-edit VS COBOL II application programs (EXCI)	18	-
DFHFAUED	DSECT		-	11
DFHFBPDS	DSECT	File buffer pool control block	OS	-
DFHFCAT	CSECT	File control catalog manager	OS	03
DFHFCATA	DSECT	FCAT parameter list	OS	-
DFHFCATM	Macro	FCAT request	OS	-
DFHFCATT	CSECT	FCAT translate tables	OS	03
DFHFCBD	CSECT	File control BDAM request processor	OS	03
DFHFCCA	CSECT (OCO)	File control RLS control ACB manager	-	03
DFHFCCAT	CSECT (OCO)	FCCA translate tables	-	03
DFHFCCRT	CSECT		-	03
DFHFCCTT	CSECT		-	03
DFHFCCUT	CSECT		-	03
DFHFCDL	CSECT	File control CFDT Load	-	03
DFHFCDN	CSECT (OCO)	File control DSN block manager	-	03
DFHFCDNA	DSECT	FCDN parameter list	OS	-
DFHFCDNM	Macro	FCDN request	OS	-
DFHFCDNT	CSECT (OCO)	FCDN translate tables	-	03
DFHFCDO	CSECT	File control CFDT Open/Close	-	03
DFHFCDR	CSECT	FC CF data table request handler	-	03
DFHFCDST	CSECT		-	03
DFHFCDTS	CSECT (OCO)	Shared data table request program	-	03
DFHFCDTX	CSECT (OCO)	File control shared data table function ship program	-	03
DFHFCDU	CSECT	File control CFDT Recovery Control	-	03
DFHFCDUF	CSECT (OCO)	File control SDUMP formatter	-	03
DFHFCDUT	CSECT		-	03
DFHFCDW	CSECT	File control CFDT Recovery Control	-	03
DFHFCDY	CSECT	File control CFDT Recovery Resynchronization	-	03
DFHFCDYT	CSECT		-	03
DFHFCEDS	DSECT	File control EXEC argument list	11	-
DFHFCES	CSECT (OCO)	File control ENF servicer	-	03
DFHFCFL	CSECT (OCO)	File control FRAB/FLAB processor	-	03
DFHFCFLA	DSECT	FCFL parameter list	OS	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHFCFLI	Macro	File control test file user	OS	-
DFHFCFLM	Macro	FCFL request	OS	-
DFHFCFLT	CSECT	FCFL translate tables	-	03
DFHFCFR	CSECT	File control file request handler	OS	03
DFHFCFRA	DSECT	FCFR parameter list	OS	-
DFHFCFRM	Macro	FCFR request	OS	-
DFHFCFRT	CSECT	FCFR trace interpretation data	OS	03
DFHFCFS	CSECT	File control file state program	OS	03
DFHFCFSA	DSECT	FCFS parameter list	OS	-
DFHFCFSM	Macro	FCFS request	OS	-
DFHFCFST	CSECT	FCFS translate tables	OS	03
DFHFCINA	DSECT	FCIN parameter list	OS	-
DFHFCINM	Macro	FCIN request	OS	-
DFHFCINT	CSECT	FCIN translate tables	OS	03
DFHFCIN1	CSECT	File control initialization program 1	OS	03
DFHFCIN2	CSECT	File control initialization program 2	OS	03
DFHFCIR	CSECT (OCO)	File control initialize recovery module	-	03
DFHFCL	CSECT	File control VSAM LSR pool processor	OS	03
DFHFCLF	CSECT (OCO)	File control logger failures	-	03
DFHFCLGD	CSECT	File control part of log record	11	-
DFHFCLJ	CSECT (OCO)	File control logging and journaling	-	03
DFHFCLJA	DSECT	FCLJ parameter list	OS	-
DFHFCLJM	Macro	FCLJ request	OS	-
DFHFCLJT	CSECT	FCLJ translate tables	-	03
DFHFCLTD	DSECT	File control logger user token	11	-
DFHFCM	CSECT	File control VSAM KSDS base open/close	OS	03
DFHFCMT	CSECT (OCO)	File control table manager	-	03
DFHFCMTA	DSECT	FCMT parameter list	OS	-
DFHFCMTM	Macro	FCMT request	OS	-
DFHFCMTT	CSECT (OCO)	FCMT translate tables	-	03
DFHFCN	CSECT	File control open/close program	OS	03
DFHFCNC	Source	File control - close request	OS	-
DFHFCNO	Source	File control - open request	OS	-
DFHFCNQ	CSECT (OCO)	File control non-RLS lock handler	-	03
DFHFCOR	CSECT (OCO)	File control RLS offsite recovery completion	-	03
DFHFCQI	CSECT	File control - VSAM RLS quiesce initiation module	-	03
DFHFCQIT	DSECT	FCQI translate tables	-	03
DFHFCQR	CSECT (OCO)	File control - VSAM RLS quiesce receive module	-	03
DFHFCQRT	DSECT	FCQR translate tables	-	03
DFHFCQS	CSECT (OCO)	File control - VSAM RLS quiesce send module	-	03
DFHFCQST	DSECT	FCQS translate tables	-	03
DFHFCQT	CSECT (OCO)	File control - VSAM RLS quiesce - common system transaction	-	03
DFHFCQU	CSECT (OCO)	File control - VSAM RLS quiesce process module	-	03
DFHFCQUT	DSECT	FCQU translate tables	-	03
DFHFCQX	CSECT (OCO)	File control - VSAM RLS quiesce exit module	-	03
DFHFCRC	CSECT (OCO)	File control recovery control	-	03
DFHFCRD	CSECT (OCO)	File control VSAM RLS post server-failure recovery	-	03
DFHFCRF	CSECT	File control Remote Interface	-	03
DFHFCRFA	CSECT	FCRF interface parameter area	11	-
DFHFCRFM	Macro	DFHFCRF interface macro	OS	-
DFHFCRFT	CSECT		-	03
DFHFCRL	CSECT (OCO)	File control VSAM SHRCTL block manager	-	03
DFHFCRLA	DSECT	FCRL parameter list	OS	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHFCRLM	Macro	FCRL request	OS	-
DFHFCRLT	CSECT (OCO)	FCRL translate tables	-	03
DFHFCRO	CSECT (OCO)	File control VSAM RLS open/close processor	-	03
DFHFCRP	CSECT	File control restart program	OS	03
DFHFCRPA	DSECT	FCRP parameter list	OS	-
DFHFCRPM	Macro	FCRP request	OS	-
DFHFCRPT	CSECT	FCRP translate tables	OS	03
DFHFCRR	CSECT (OCO)	File control RLS restart program	-	03
DFHFCRRT	CSECT	FCRR translate tables	-	03
DFHFCRS	CSECT (OCO)	File control RLS record management program	-	03
DFHFCRV	CSECT (OCO)	File control RLS VSAM interface program	-	03
DFHFCSD	CSECT	File control shutdown program	OS	03
DFHFCSDA	DSECT	FCSD parameter list	OS	-
DFHFCSDM	Macro	FCSD request	OS	-
DFHFCSDS	DSECT	File control static storage	11	-
DFHFCSDT	CSECT	FCSD translate tables	OS	03
DFHFCST	CSECT	File control statistics program	OS	03
DFHFCSTA	DSECT	FCST parameter list	OS	-
DFHFCSTM	Macro	FCST request	OS	-
DFHFCSTT	CSECT	FCST translate tables	OS	03
DFHFCT	Macro	File control table	11	-
DFHFCTDS	DSECT	File control table entry	11	-
DFHFCTRN	Symbolic	File control trace, message, and catalog	OS	-
DFHFCTSP	Macro	FCT shared resources control block generator	11	-
DFHFCTSR	DSECT	FCT shared resources control block	11	-
DFHFCU	CSECT	File open utility program	OS	03
DFHFCVR	CSECT	File control VSAM interface program	OS	03
DFHFCVS	CSECT	File access VSAM request processor	OS	03
DFHFCWS	Macro	File control work areas	OS	-
DFHFCXDF	CSECT	DU domain - transaction dump formatter for file-related areas	OS	03
DFHFEP	CSECT	Field engineering program	OS	03
DFHFIOA	DSECT	File input/output area	OS	-
DFHFLABD	DSECT	File lasting access block	OS	-
DFHFMH	Macro	Function management header	OS	-
DFHFMHDS	DSECT	Function management header	11	-
DFHFMIDS	Symbolic	Function and module identifiers	11	-
DFHFORMS	CSECT		-	03
DFHFRABD	DSECT	File request anchor block	OS	-
DFHFRDUF	CSECT (OCO)	File control recoverable work elements SDUMP formatter	-	03
DFHFRTED	DSECT	File request thread element	OS	-
DFHFTDUF	CSECT (OCO)	Print feature 'FT' keyword processor	-	03
DFHFTTRI	CSECT (OCO)	Offline TR entries trace interpretation	OS	03
DFHGCAA	CSECT	Language Environment - get common anchor area	OS	03
DFHGDEFS	Symbolic	CICS global symbol definitions	11	-
DFHGMM	CSECT	VTAM LU startup message	OS	03
DFHHASH	Macro	Locate TCTTE entries	OS	-
DFHHLPDS	DSECT	DL/I interface block	D3	-
DFHHLPDS	Macro	CICS-IMS HLPI control blocks	OS	08
DFHHMDCD	DSECT	Handle manager table block	OS	-
DFHHPSVC	CSECT	HPO type 6 SVC	OS	03
DFHIC	Macro	Time service request	11	-
DFHICDUF	CSECT (OCO)	Interval control SDUMP formatter	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHICEDS	DSECT	Interval control element	11	-
DFHICP	CSECT	Interval control program	OS	03
DFHICRC	CSECT	Interval control recovery module	-	03
DFHICUED	CSECT	EXEC argument list for Interval Control	11	-
DFHICXM	CSECT	AP domain - bind, inquire, and release facility IC functions	OS	03
DFHICXMA	DSECT	ICXM parameter list	OS	-
DFHICXMM	Macro	ICXM request	OS	-
DFHICXMT	CSECT	ICXM translate tables	OS	03
DFHIEDM	CSECT	IE Domain Initialization/Termination	-	03
DFHIEDUF	CSECT	IE Domain System Dump Formatting	-	03
DFHIEIE	CSECT	IP ECI Listener	-	03
DFHIEIEA	CSECT	IEIE interface parameter area	OS	-
DFHIEIEM	Macro	DFHIEIE interface macro	OS	-
DFHIEIET	CSECT		-	03
DFHIEP	CSECT		-	03
DFHIETRI	CSECT	IP ECI Domain Trace Interpretation	-	03
DFHIEXM	CSECT		-	03
DFHIHFSA	CSECT		-	02
DFHIHFS0	CSECT		-	02
DFHIHFS1	CSECT		-	02
DFHIICP	CSECT	IIOP Command Processor	-	03
DFHIIDM	CSECT	II Domain Initialization/Termination	-	03
DFHIIDUF	CSECT	II Domain System Dump Formatting	-	03
DFHIILST	CSECT		-	03
DFHIIMM	CSECT	DFHIIMM Design II domain - IIMM gate functs.	-	03
DFHIIMT	CSECT		-	03
DFHIIP	CSECT	BMS non-3270 input mapping	OS	-
DFHIIPA$	CSECT	BMS non-3270 input mapping (standard)	OS	03
DFHIIP1$	CSECT	BMS non-3270 input mapping (full)	OS	03
DFHIIRDS	DSECT		11	07
DFHIIRH	DSECT	IIOP Request Handler	-	03
DFHIIRHT	DSECT		-	03
DFHIIRP	CSECT	IIOP Request Processor	-	03
DFHIIRPT	DSECT		-	03
DFHIIRQ	CSECT	DFHIIRQ Design	-	03
DFHIIRQT	CSECT		-	03
DFHIIRR	CSECT	IIOP Request Receiver	-	03
DFHIIRRS	CSECT		-	03
DFHIIRRT	CSECT		-	03
DFHIIST	CSECT	II Domain - Statistics (STST) gate	-	03
DFHIITRI	CSECT	IIOP Domain Trace Interpretation	-	03
DFHIIURH	CSECT		-	08
DFHIIXM	CSECT	IIOP Attach Client	-	03
DFHIJVME	Other	Customize a member of the SDFHENV library	02	-
DFHIJVMJ	Other		02	-
DFHILG1	Other	Define logstream CF structures to MVS logger	02	-
DFHILG2	Other	Define logstream models for system log streams	02	-
DFHILG3	Other	Define logstream models for individual CICS region	02	-
DFHILG4	Other	Define specific logstream for log of logs	02	-
DFHILG5	Other		02	-
DFHILG6	Other		02	-
DFHILG7	Other		02	-
DFHIMSDS	DSECT	ISC message inserts	11	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHINDAP	CSECT	Indoubt tool	-	03
DFHINDSP	CSECT	Indoubt tool syncpoint processor	-	03
DFHINDT	CSECT	Indoubt tool	-	03
DFHINST	Other	TSO CLIST to generate installation jobs	02	-
DFHINSTA	Other	JCL to create an additional target zone, CSI, and set of target libraries	02	-
DFHINSTJ	Other	JCL to RECEIVE, APPLY, and ACCEPT the Japanese language feature	02	-
DFHINST1	Other	JCL to allocate and catalog CICS target and distribution libraries	02	-
DFHINST2	Other	JCL to allocate and catalog CICS RELFILE data sets	02	-
DFHINST3	Other	JCL to allocate and catalog CICS SMP/E data sets	02	-
DFHINST4	Other	JCL to initialize CICS SMP/E data sets	02	-
DFHINST5	Other	JCL to RECEIVE the CICS base-level function SYSMOD	02	-
DFHINST6	Other	JCL to APPLY and ACCEPT the CICS base- level function SYSMOD	02	-
DFHINTRU	CSECT	Indoubt tool task related user exit	-	03
DFHIONCD	Other	Replace DDDEFS for Language Environment or TCP/IP libraries in SMP/E target zone	02	-
DFHIONCL	Other	Relink-edit DFHRPRP load module outside SMP/E	02	-
DFHIPCSP	Other	IPCS parmlib imbed member for DFHPDxxxx	-	15
DFHIPDUF	CSECT (OCO)	SDUMP formatter for kernel stack internal procedures	-	03
DFHIPUBS	Other		02	-
DFHIR	Macro	Interregion request	-	11
DFHIRP	CSECT	Interregion communication program	OS	03
DFHIRPAD	Source	IRC dynamic add of connections routines	OS	-
DFHIRPC	Source	IRC connect and disconnect routines	OS	-
DFHIRPCL	Source	IRC clear and logoff routines	OS	-
DFHIRPD	Macro	IRC program internal control blocks	11	-
DFHIRPL	Source	IRC logon routines	OS	-
DFHIRPM	Source	IRC subroutines	OS	-
DFHIRPQ	Source	IRC in-service and quiesce routines	OS	-
DFHIRPR	Source	IRC recovery routines	OS	-
DFHIRPS	Source	IRC subroutines	OS	-
DFHIRPSP	Source	IRC SRB processor	OS	-
DFHIRPSW	Source	IRC switch and pull routines	OS	-
DFHIRRDS	Macro	Interregion session recovery data stream	11	-
DFHIRRXD	Sample	IRC XCF retry DIE subroutine	OS	-
DFHIRRXP	Sample	IRC XCF termination subroutine	OS	-
DFHIRRXS	Sample	IRC XCF SRB processor	OS	-
DFHIRSDS	DSECT	Interregion subsystem control blocks	11	-
DFHIRW10	CSECT	IRC work delivery exit program	OS	03
DFHIS	Macro	ISC request	OS	-
DFHISCRQ	Macro	ISC request parameter list	11	-
DFHISMKD	Other		02	-
DFHISP	CSECT	Intersystem communication program	OS	03
DFHISTAR	Other	JCL to invoke DFHINST	02	-
DFHIVPBT	Other	IVP (batch) to verify CICS startup	02	-
DFHIVPDB	Other	IVP to verify CICS running with DBCTL	02	-
DFHIVPOL	Other	IVP (online) to verify CICS, without DL/I	02	-
DFHJC	Macro	Journal service request	OS	-
DFHJCA	Macro	Journal control area definition	11	-
DFHJCADS	DSECT	Journal control area	11	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHJCDLG	CSECT	Autocall SCEEOBJ	-	03
DFHJCDLL	CSECT	Autocall SCEEOBJ	-	03
DFHJCIMP	CSECT		-	20
DFHJCJCA	DSECT	JCJC parameter list	OS	-
DFHJCJCM	Macro	JCJC request	OS	-
DFHJCJCT	CSECT	JCJC trace interpretation data	OS	03
DFHJCJCX	Macro	JCJC request (XPI)	11	-
DFHJCJCY	DSECT	JCJC parameter list (XPI)	11	-
DFHJCP	CSECT	Journal control program	-	03
DFHJCR	Macro	Journal control record	11	-
DFHJCSTC	CSECT		-	03
DFHJHPA@	CSECT		-	03
DFHJHPAT	Sample	Java Hotpooling Pre-Call URM	-	19
DFHJUP	CSECT	Journal control print utility	OS	03
DFHJVCV@	CSECT		-	03
DFHJVMA@	CSECT	Autocall SCEEOBJ	-	03
DFHJVMAT	Sample	CICS JVM Interface user replaceable module	-	19
DFHJVMPR	Other		-	09
DFHJVMPS	Other		-	09
DFHJVTRI	CSECT		-	03
DFHKC	Macro	Task service request	11	-
DFHKCQ	CSECT	Transaction manager - secondary requests	OS	03
DFHKCRP	CSECT	Task control restart program	OS	03
DFHKCSC	CSECT	DFHKCQ chain scanning for discard	OS	03
DFHKCSCA	DSECT	KCSC parameter list	OS	-
DFHKCSCM	Macro	KCSC request	OS	-
DFHKCSCT	CSECT	KCSC trace interpretation data	OS	03
DFHKCSP	CSECT	Task SRB control program	OS	03
DFHKEALI	Macro	KE domain - label alignment	OS	-
DFHKEAR	CSECT (OCO)	KE domain - MVS ARM support services	-	03
DFHKEARA	DSECT	KEAR parameter list	OS	-
DFHKEARM	Macro	KEAR request	OS	-
DFHKEART	CSECT (OCO)	KEAR trace interpretation data	-	03
DFHKEDCL	CSECT (OCO)	KE domain - domain call request handler	-	03
DFHKEDD	CSECT (OCO)	KE domain - domain definition services	-	03
DFHKEDDA	DSECT	KEDD parameter list	OS	-
DFHKEDDM	Macro	KEDD request	OS	-
DFHKEDDT	CSECT (OCO)	KEDD trace interpretation data	-	03
DFHKEDRT	CSECT (OCO)	KE domain - domain return request handler	-	03
DFHKEDS	CSECT (OCO)	KE domain - dispatcher interfaces	-	03
DFHKEDSA	DSECT	KEDS parameter list	OS	-
DFHKEDSI	Macro	KE domain - optimize kernel path lengths	OS	-
DFHKEDSM	Macro	KEDS request	OS	-
DFHKEDST	CSECT (OCO)	KEDS trace interpretation data	-	03
DFHKEDSX	Macro	KEDS request	11	-
DFHKEDSY	CSECT	KEDS parameter list	11	-
DFHKEDUF	CSECT (OCO)	SDUMP formatter for KE domain	-	03
DFHKEEDA	CSECT (OCO)	KE domain - execute deferred abend	-	03
DFHKEENV	Macro	KE domain - declare/switch environment	11	-
DFHKEGD	CSECT (OCO)	KE domain - global data services	-	03
DFHKEGDA	DSECT	KEGD parameter list	OS	-
DFHKEGDM	Macro	KEGD request	OS	-
DFHKEGDT	CSECT (OCO)	KEGD trace interpretation data	-	03
DFHKEIN	CSECT (OCO)	KE domain - initialization	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHKEINA	DSECT	KEIN parameter list	OS	-
DFHKEINM	Macro	KEIN request	OS	-
DFHKEINT	CSECT (OCO)	KEIN trace interpretation data	-	03
DFHKELCL	CSECT (OCO)	KE domain - LIFO push simulation	-	03
DFHKELOC	CSECT (OCO)	SDUMP routine for locating domain anchors	-	03
DFHKELRT	CSECT (OCO)	KE domain - LIFO return/pop simulation	-	03
DFHKEMD	Macro	KE domain - domain/subroutine prolog code	OS	-
DFHKEPUB	DSECT	KE domain - some control blocks	OS	-
DFHKERCD	CSECT (OCO)	KE domain - kernel error data construction	-	03
DFHKERER	CSECT (OCO)	KE domain - record error routine	-	03
DFHKERET	CSECT (OCO)	KE domain - reset address service	-	03
DFHKERKE	CSECT (OCO)	KE domain - KERNERROR response handler	-	03
DFHKERN	Macro	KE domain - generate call to kernel	11	-
DFHKERPC	CSECT (OCO)	KE domain - recovery percolation	-	03
DFHKERRI	CSECT (OCO)	KE domain - recovery invocation	-	03
DFHKERRQ	CSECT (OCO)	KE domain - recovery request service	-	03
DFHKERRU	CSECT (OCO)	KE domain - runaway task error handler	-	03
DFHKERRX	CSECT (OCO)	KE domain - recovery exit service	-	03
DFHKESCL	CSECT (OCO)	KE domain - subroutine call handler	-	03
DFHKESFM	CSECT (OCO)	KE domain - disposable segments freemain	-	03
DFHKESGM	CSECT (OCO)	KE domain - new stack segments getmain	-	03
DFHKESIP	CSECT (OCO)	KE domain - system initialization program	-	03
DFHKESRT	CSECT (OCO)	KE domain - subroutine return handler	-	03
DFHKESTP	DSECT	KE domain - kernel stack structure	OS	-
DFHKESTX	CSECT (OCO)	KE domain - kernel ESTAE exit	-	03
DFHKESVC	CSECT (OCO)	KE domain - authorized service routine	-	03
DFHKETA	CSECT (OCO)	KE domain - task reply services	-	03
DFHKETAB	CSECT (OCO)	KE domain - list of domains requiring preinitialization on CICS run	-	03
DFHKETB2	CSECT (OCO)	KE domain - list of domains requiring preinitialization on DFHSTUP run	-	03
DFHKETCB	CSECT (OCO)	KE domain - kernel TCB startup routine	-	03
DFHKETI	CSECT (OCO)	KE domain - timer services	-	03
DFHKETIA	DSECT	KETI parameter list	OS	-
DFHKETIM	Macro	KETI request	OS	-
DFHKETIT	CSECT (OCO)	KETI trace interpretation data	-	03
DFHKETIX	CSECT (OCO)	KE domain - STIMER exit	-	03
DFHKETXR	CSECT	KE ETXR	-	03
DFHKEXM	CSECT (OCO)	KE domain - XM domain services	-	03
DFHKEXMA	DSECT	KEXM parameter list	OS	-
DFHKEXMM	Macro	KEXM request	OS	-
DFHKEXMT	CSECT (OCO)	KEXM trace interpretation data	OS	03
DFHKETRI	CSECT (OCO)	Trace interpreter for KE domain	-	03
DFHLANG	Other	List of National Languages for CICS - alias for MEULANG	10	-
DFHLDDM	CSECT (OCO)	LD domain - initialization/termination	-	03
DFHLDDMI	CSECT (OCO)	LD domain - secondary initialization	-	03
DFHLDDUF	CSECT (OCO)	SDUMP formatter for LD domain	-	03
DFHLDGDS	DSECT	LD domain - global statistics	11	-
DFHLDGDS	DSECT	LD domain - global statistics	C2	07
DFHLDGDS	DSECT	LD domain - global statistics	P2	-
DFHLDLDA	DSECT	LDLD parameter list	OS	-
DFHLDLDM	Macro	LDLD request	OS	-
DFHLDLDT	CSECT (OCO)	LDLD trace interpretation data	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHLDLDX	Macro	LDLD request (XPI)	11	-
DFHLDLDY	DSECT	LDLD parameter list (XPI)	11	-
DFHLDLD1	CSECT (OCO)	LD domain - acquire/release/refresh	-	03
DFHLDLD2	CSECT (OCO)	LD domain - define/delete	-	03
DFHLDLD3	CSECT (OCO)	LD domain - general functions	-	03
DFHLDNT	CSECT (OCO)	LD domain - storage notify handler	-	03
DFHLDRDS	DSECT	LD domain - program statistics	11	-
DFHLDRDS	DSECT	LD domain - program statistics	C2	07
DFHLDST	CSECT (OCO)	LD domain - statistics collection	-	03
DFHLDSUA	DSECT	LDSU parameter list	OS	-
DFHLDSUM	Macro	LDSU request	OS	-
DFHLDSUT	CSECT (OCO)	LDSU trace interpretation data	-	03
DFHLDSVC	CSECT (OCO)	LD domain - authorized service routine	-	03
DFHLDTRI	CSECT (OCO)	Trace interpreter for LD domain	-	03
DFHLEAS	CSECT	ADD SUBPOOL service	-	03
DFHLEDS	CSECT	DELETE SUBPOOL service	-	03
DFHLEDT	CSECT	Transaction Dump service	-	03
DFHLEFM	CSECT	GETMAIN service	-	03
DFHLEFQ	CSECT	Quickcell freemain service	-	03
DFHLEGM	CSECT	GETMAIN service	-	03
DFHLEGQ	CSECT	Quickcell getmain service	-	03
DFHLERO	CSECT	Runtime options service	-	03
DFHLESRV	Macro	CICS Service routine vector	11	-
DFHLETR	CSECT	Trace servicve routine	-	03
DFHLETRM	Macro	LE Trace Service invocation macro	11	-
DFHLFM	Macro	LIFO macro	11	-
DFHLFT	Macro	LIFO trace macro	11	-
DFHLFX	Macro	LIFO stack entry	11	-
DFHLGBAA	DSECT	LGBA parameter list	11	-
DFHLGBAM	Macro	LGBA request	OS	-
DFHLGBAT	DSECT (OCO)	LGBA translate tables	-	03
DFHLGCBT	DSECT	LGCB translate tables	-	03
DFHLGCCA	CSECT (OCO)	LGCC parameter list	OS	-
DFHLGCCM	Macro	LGCC request	OS	-
DFHLGCCT	DSECT (OCO)	LGCC translate tables	-	03
DFHLGDM	CSECT (OCO)	Logger domain - domain initialization	-	03
DFHLGDUF	CSECT (OCO)	Log Manager domain dump formatting	-	03
DFHLGFLD	DSECT	Log Manager log of log format	11	-
DFHLGGFD	DSECT	Log Manager general log format	11	-
DFHLGGL	CSECT (OCO)	Log Manager general log gate module	-	03
DFHLGGLA	CSECT (OCO)	LGGL parameter list	OS	-
DFHLGGLI	CSECT (OCO)	Journal number to name conversion	OS	-
DFHLGGLM	Macro	LGGL request	OS	-
DFHLGGLT	DSECT (OCO)	LGGL translate tables	-	03
DFHLGICV	CSECT (OCO)	LG SSI log record conversion to old format	-	03
DFHLGIGT	DSECT	LG LOGR SSI dataset GET exit	-	03
DFHLGILA	CSECT (OCO)	LG Subsystem exit - lexical analyzer	-	03
DFHLGIMS	CSECT (OCO)	LG Subsystem exit - syntax message composer	-	03
DFHLGIPA	CSECT (OCO)	LG Subsystem exit - parser	-	03
DFHLGIPI	CSECT (OCO)	LG Subsystem exit - parse interface routine	-	03
DFHLGISM	CSECT (OCO)	LG Subsystem exit - parse message exits	-	03
DFHLGJN	CSECT (OCO)	Log Manager journal inventory gate module	-	03
DFHLGJNT	DSECT (OCO)	LGJN translate tables	-	03
DFHLGLBA	CSECT (OCO)	LGLB parameter list	OS	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHLGLBM	Macro	LGLB request	OS	-
DFHLGLBT	DSECT (OCO)	LGLB translate tables	-	03
DFHLGLD	CSECT (OCO)	Log Manager JournalModel gate	-	03
DFHLGLDT	DSECT (OCO)	LGLD translate tables	-	03
DFHLGMSD	CSECT (OCO)	Log Manager MVS SMF log format	11	-
DFHLGMVA	CSECT (OCO)	LGMV parameter list	OS	-
DFHLGMVM	Macro	LGMV request	OS	-
DFHLGMVT	DSECT	LGMV translate tables	-	03
DFHLGPA	CSECT (OCO)	Logger Domain - inquire/set parameters	-	03
DFHLGPAA	CSECT (OCO)	LGPA parameter list	OS	-
DFHLGPAM	Macro	LGPA request	OS	-
DFHLGPAT	DSECT (OCO)	LGPA translate tables	-	03
DFHLGPAX	Macro	Log Manager parameter manager PLIST	11	-
DFHLGPAY	DSECT	Log Manager parameter manager PLIST	11	-
DFHLGQC	CSECT (OCO)	Log Manager RLS cleanup	-	03
DFHLGRDS	CSECT (OCO)	Log Manager journal statistics	11	-
DFHLGRDS	CSECT (OCO)	Log Manager journal statistics	C2	07
DFHLGSC	CSECT (OCO)	Log Manager statistics collection	-	03
DFHLGSDS	CSECT (OCO)	Log Manager logstream statistics	11	-
DFHLGSDS	CSECT (OCO)	Log Manager logstream statistics	C2	07
DFHLGSRA	CSECT (OCO)	LGSR parameter list	OS	-
DFHLGSRT	DSECT (OCO)	LGSR translate tables	OS	03
DFHLGSSI	CSECT (OCO)	Log Manager LOGR SSI dataset exit	-	03
DFHLGST	CSECT (OCO)	Log Manager stream connection gate	-	03
DFHLGSTT	DSECT (OCO)	LGST translate tables	-	03
DFHLGTRI	CSECT (OCO)	Logger - trace interpretation	-	03
DFHLGWFT	DSECT	LGWF translate tables	-	03
DFHLIFO	DSECT	KE domain - LIFO control blocks	OS	-
DFHLILBD	Source	Language interface program language block	OS	-
DFHLILIA	Source	Language interface parameter list	OS	-
DFHLILII	Source	AP domain - Perform goto call to language interface	OS	-
DFHLILIM	Source	Language interface services	OS	-
DFHLILIT	CSECT (OCO)	Language interface trace interpretation data	-	03
DFHLIRET	CSECT (OCO)	Language interface return program	-	03
DFHLITRI	CSECT (OCO)	Language interface trace interpreter	-	03
DFHLIWAD	Source	Language interface work area	OS	-
DFHLI000	Macro		11	-
DFHLLDC	DSECT	Local logical device code table	11	-
DFHLLDLI	DSECT	DLI call level api macro (alias of CALLDLI)	11	-
DFHLMDM	CSECT (OCO)	LM domain - initialization/termination	-	03
DFHLMDS	CSECT (OCO)	LM domain - dispatcher notify handler	-	03
DFHLMDUF	CSECT (OCO)	SDUMP formatter for LM domain	-	03
DFHLMIQ	CSECT (OCO)	LM domain - browse and inquiry	-	03
DFHLMIQA	DSECT	LMIQ parameter list	OS	-
DFHLMIQM	Macro	LMIQ request	OS	-
DFHLMIQT	CSECT (OCO)	LMIQ trace interpretation data	-	03
DFHLMLM	CSECT (OCO)	LM domain - services	-	03
DFHLMLMA	DSECT	LMLM parameter list	OS	-
DFHLMLMI	CSECT		OS	-
DFHLMLMM	Macro	LMLM request	OS	-
DFHLMLMT	CSECT (OCO)	LMLM trace interpretation data	-	03
DFHLMTRI	CSECT (OCO)	Trace interpreter for LM domain	-	03
DFHLNKVS	Other	Cataloged procedure to link-edit CICS programs and application programs	18	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHLOCK	Macro	KE domain - lock/unlock TCB entry	OS	-
DFHLONGN	Other	LD dllload long name conversion	-	03
DFHLPUMD	Other	JCL to RECEIVE and APPLY the DFH$UMOD SMP/E USERMOD	02	-
DFHLSTNT	CSECT		-	03
DFHLTRC	CSECT	Local terminal recovery module	-	03
DFHLUC	Macro	LU6.2 service request	OS	-
DFHLUCM	Macro	LU6.2 migration request	OS	-
DFHLUS	Macro	LU6.2 services manager driver macro	OS	-
DFHL2BA	CSECT (OCO)	Log Manager LGBA gate	-	03
DFHL2BL1	CSECT (OCO)	Logger block initialize class procedure	-	03
DFHL2BL2	CSECT (OCO)	Logger block restore current position	-	03
DFHL2BS1	CSECT (OCO)	Obtain and initialize BrowseableStream class data	-	03
DFHL2BS2	CSECT (OCO)	Construct a BrowseableStream object and return to caller	-	03
DFHL2BS3	CSECT (OCO)	Destroy a BrowseableStream object	-	03
DFHL2BS4	CSECT (OCO)	Terminate all browseable stream instances known to BrowseableStream class	-	03
DFHL2CB	CSECT (OCO)	Log Manager LGCB gate	-	03
DFHL2CC	CSECT (OCO)	Log Manager LGCC gate	-	03
DFHL2CHA	CSECT (OCO)	Logger chain start browse all procedure	-	03
DFHL2CHE	CSECT (OCO)	Logger chain delete history procedure	-	03
DFHL2CHG	CSECT (OCO)	Logger chain get next chain procedure	-	03
DFHL2CHH	CSECT (OCO)	Logger chain start browse chains procedure	-	03
DFHL2CHI	CSECT (OCO)	Logger chain end browse chains procedure	-	03
DFHL2CHL	CSECT (OCO)	Logger chain end browse all procedure	-	03
DFHL2CHM	CSECT (OCO)	Logger chain move procedure	-	03
DFHL2CHN	CSECT (OCO)	Logger chain browse all get next procedure	-	03
DFHL2CHO	CSECT (OCO)		-	03
DFHL2CHP	CSECT (OCO)		-	03
DFHL2CHR	CSECT (OCO)	Logger chain restore procedure	-	03
DFHL2CHS	CSECT (OCO)	Logger chain set history procedure	-	03
DFHL2CH1	CSECT (OCO)	Logger chain initialize class procedure	-	03
DFHL2CH2	CSECT (OCO)	Logger chain create fresh procedure	-	03
DFHL2CH3	CSECT (OCO)	Logger chain start chain browse procedure	-	03
DFHL2CH4	CSECT (OCO)	Logger chain browse get next procedure	-	03
DFHL2CH5	CSECT (OCO)	Logger chain end chain browse procedure	-	03
DFHL2DM	CSECT (OCO)	Log Manager L2 domain management	-	03
DFHL2DU0	CSECT (OCO)	Log Manager L2_Dump_Formatting_Module	-	03
DFHL2HB	CSECT (OCO)		-	03
DFHL2HSF	CSECT (OCO)	Logger HardStream write MVS retry intro.	-	03
DFHL2HSG	CSECT (OCO)	Logger HardStream read browse cursor	-	03
DFHL2HSJ	CSECT (OCO)	Logger HardStream end browse cursor	-	03
DFHL2HS2	CSECT (OCO)	Logger HardStream connect procedure	-	03
DFHL2HS3	CSECT (OCO)	Logger HardStream disconnect procedure	-	03
DFHL2HS4	CSECT (OCO)	Logger HardStream delete all procedure	-	03
DFHL2HS5	CSECT (OCO)	Logger HardStream delete history procedure	-	03
DFHL2HS6	CSECT (OCO)	Logger HardStream start browse cursor	-	03
DFHL2HS7	CSECT (OCO)	Logger HardStream start read procedure	-	03
DFHL2HS8	CSECT (OCO)	Logger HardStream read block procedure	-	03
DFHL2HS9	CSECT (OCO)	Logger HardStream end read procedure	-	03
DFHL2LB	CSECT (OCO)	Log Manager LGLB gate	-	03
DFHL2MV	CSECT (OCO)	Log Manager LGMV gate	-	03
DFHL2OFI	CSECT (OCO)	Logger object factory initialize procedure	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHL2SLE	CSECT (OCO)	Logger system log notify failure method	-	03
DFHL2SLN	CSECT (OCO)	Logger system log open stream method	-	03
DFHL2SL1	CSECT (OCO)	Logger system log initialize class procedure	-	03
DFHL2SR	CSECT (OCO)	Log Manager stream class class declaration	-	03
DFHL2SR1	CSECT (OCO)	Logger stream class initialize class	-	03
DFHL2SR2	CSECT (OCO)	Logger stream class construct procedure	-	03
DFHL2SR3	CSECT (OCO)	Logger stream class destruct procedure	-	03
DFHL2SR4	CSECT (OCO)	Logstream statistics module	-	03
DFHL2SR5	CSECT (OCO)	Logger stream class terminate all procedure	-	03
DFHL2TI2	CSECT (OCO)		-	03
DFHL2TRI	CSECT (OCO)	Log Manager trace interpretation	-	03
DFHL2VP1	CSECT (OCO)	Logger storage manager initialize class	-	03
DFHL2WF	CSECT (OCO)	Log Manager LGWF gate	-	03
DFHMAPDS	DSECT	BMS map description	OS	-
DFHMAPS	Other	Cataloged procedure to prepare physical and symbolic maps	18	-
DFHMAPT	Other		18	-
DFHMBCDS	DSECT	Transient data buffer control	OS	-
DFHMBMBA	DSECT	File control DFHMBMBI parameter list	OS	-
DFHMBMBI	Macro	File control buffer management inline	OS	-
DFHMCAD	Macro	Map control area	11	-
DFHMCBDS	DSECT	BMS message control block	11	-
DFHMCP	CSECT	BMS mapping control program	OS	-
DFHMCPA$	CSECT	BMS mapping control program (standard)	OS	03
DFHMCPE	CSECT	BMS minimum function mapping control	OS	-
DFHMCPE$	CSECT	BMS mapping control program (minimum)	OS	03
DFHMCPIN	CSECT	BMS input mapping request handler	OS	-
DFHMCPLK	Macro	Linkage to BMS modules	OS	-
DFHMCP1$	CSECT	BMS mapping control program (full)	OS	03
DFHMCRDS	DSECT	BMS message control record	11	-
DFHMCT	Macro	Monitoring control table	11	-
DFHMCTA$	Sample	Monitoring control table for an AOR	19	-
DFHMCTDR	Macro	Monitoring dictionary definition	11	-
DFHMCTDS	Macro	MCT root section definition	11	-
DFHMCTDT	Macro	Transaction monitoring field and dictionary entry definition	11	-
DFHMCTD$	Sample	Monitoring control table for an AOR with DBCTL	19	-
DFHMCTEN	Macro	MCT option macro	11	-
DFHMCTF$	Sample	Monitoring control table for an FOR	19	-
DFHMCTMP	Macro	MCT class macro	11	-
DFHMCTNM	Macro	Monitoring numeric string check	11	-
DFHMCTSE	Macro	MCT option entry generator	11	-
DFHMCTT$	Sample	Monitoring control table for a TOR	19	-
DFHMCT2$	Sample	Monitoring control table	19	03
DFHMCX	CSECT	BMS fast path module	OS	03
DFHMCY	CSECT	Process MAPPINGDEV Requests	OS	03
DFHMDC	Macro	Build C language symbolic description map	11	-
DFHMDCL	Macro	Convert C field names to lowercase	11	-
DFHMDF	Macro	Generate BMS field definition	11	-
DFHMDI	Macro	Generate BMS map definition	11	-
DFHMDX	Macro		11	-
DFHMEACC	CSECT	ME domain - DFHACxxxx message set simplified Chinese version	14	03
DFHMEACE	CSECT	ME domain - DFHACxxxx message set	14	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHMEACK	CSECT (OCO)	ME domain - DFHACxxxx message set	14	03
DFHMEADC	CSECT	ME domain - DFHADxxxx message set simplified Chinese version	14	03
DFHMEADE	CSECT	ME domain - DFHADxxxx message set	14	03
DFHMEADK	CSECT	ME domain - DFHADxxxx message set	14	03
DFHMEAIC	CSECT	ME domain - DFHAIxxxx message set simplified Chinese version	14	03
DFHMEAIE	CSECT	ME domain - DFHAIxxxx message set	14	03
DFHMEAIK	CSECT (OCO)	ME domain - DFHAIxxxx message set	14	03
DFHMEAMC	CSECT	ME domain - DFHAMxxxx message set simplified Chinese version	14	03
DFHMEAME	CSECT	ME domain - DFHAMxxxx message set	14	03
DFHMEAMK	CSECT (OCO)	ME domain - DFHAMxxxx message set	14	03
DFHMEAPC	CSECT	ME domain - DFHAPxxxx message set simplified Chinese version	14	03
DFHMEAPE	CSECT	ME domain - DFHAPxxxx message set	14	03
DFHMEAPK	CSECT (OCO)	ME domain - DFHAPxxxx message set	14	03
DFHMEAUE	CSECT	ME domain - DFHAUxxxx message set	14	-
DFHMEBAC	CSECT	ME domain - DFHBAxxxx message set simplified Chinese version	14	03
DFHMEBAE	CSECT	ME domain - DFHBAxxxx message set	14	03
DFHMEBAK	CSECT (OCO)	ME domain - DFHBAxxxx message set	14	03
DFHMEBM	CSECT (OCO)	ME domain - batch message program	-	03
DFHMEBMA	DSECT	MEBM parameter list	OS	-
DFHMEBMM	Macro	MEBM request	OS	-
DFHMEBMT	CSECT (OCO)	MEBM trace interpretation data	-	03
DFHMEBRC	CSECT (OCO)	ME domain	14	03
DFHMEBRE	CSECT (OCO)	ME domain	14	03
DFHMEBRK	CSECT (OCO)	ME domain	14	03
DFHMEBU	CSECT (OCO)	ME domain - build message	-	03
DFHMEBUA	DSECT	MEBU parameter list	OS	-
DFHMEBUM	Macro	MEBU request	OS	-
DFHMEBUT	CSECT (OCO)	MEBU trace interpretation data	-	03
DFHMECAC	CSECT	ME domain - message set for GC/LC domains simplified Chinese version	14	03
DFHMECAE	CSECT	ME domain - DFHCAxxxx message set	14	03
DFHMECAK	CSECT	ME domain - DFHCAxxxx message set Japanese (Kanji) version	14	03
DFHMECCC	CSECT	ME domain - DFHCCxxxx message set simplified Chinese version	14	03
DFHMECCE	CSECT	ME domain - message set for GC/LC domains	14	03
DFHMECCK	CSECT (OCO)	ME domain - message set for GC/LC domains	14	03
DFHMECEC	CSECT	ME domain - DFHCExxxx message set simplified Chinese version	14	03
DFHMECEE	CSECT	ME domain - DFHCExxxx message set	14	03
DFHMECEK	CSECT (OCO)	ME domain - DFHCExxxx message set	14	03
DFHMECFE	CSECT	ME domain - DFHCFxxxx message set	14	-
DFHMECPC	CSECT	ME domain - DFHCPxxxx message set simplified Chinese version	14	03
DFHMECPE	CSECT	ME domain - DFHCPxxxx message set	14	03
DFHMECPK	CSECT (OCO)	ME domain - DFHCPxxxx message set	14	03
DFHMECRC	CSECT	ME domain - DFHCRxxxx message set simplified Chinese version	14	03
DFHMECRE	CSECT	ME domain - DFHCRxxxx message set	14	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library
DFHMECRK	CSECT (OCO)	ME domain - DFHCRxxxx message set	14 03
DFHMECZC	CSECT	ME domain - DFHCZxxxx message set simplified Chinese version	14 03
DFHMECZE	CSECT	ME domain - DFHCZxxxx message set	14 03
DFHMECZK	CSECT (OCO)	ME domain - DFHCZxxxx message set	14 03
DFHMEDBC	CSECT	ME domain - DFHDBxxxx message set simplified Chinese version	14 03
DFHMEDBE	CSECT	ME domain - DFHDBxxxx message set	14 03
DFHMEDBK	CSECT (OCO)	ME domain - DFHDBxxxx message set	14 03
DFHMEDDC	CSECT	ME domain - message set for DD domain simplified Chinese version	14 03
DFHMEDDE	CSECT	ME domain - message set for DD domain	14 03
DFHMEDDK	CSECT	ME domain - message set for DD domain	14 03
DFHMEDHC	CSECT	ME domain - message set for DH domain simplified Chinese version	14 03
DFHMEDHE	CSECT	ME domain - message set for DH domain	14 03
DFHMEDHK	CSECT	ME domain - message set for DH domain	14 03
DFHMEDM	CSECT (OCO)	ME domain - initialization/termination	- 03
DFHMEDMC	CSECT	ME domain - message set for DM domain simplified Chinese version	14 03
DFHMEDME	CSECT	ME domain - message set for DM domain	14 03
DFHMEDMK	CSECT	ME domain - message set for DM domain	14 03
DFHMEDSC	CSECT	ME domain - message set for DS domain simplified Chinese version	14 03
DFHMEDSE	CSECT	ME domain - message set for DS domain	14 03
DFHMEDSK	CSECT	ME domain - message set for DS domain	14 03
DFHMEDUC	CSECT	ME domain - message set for DU domain simplified Chinese version	14 03
DFHMEDUE	CSECT	ME domain - message set for DU domain	14 03
DFHMEDUF	CSECT (OCO)	SDUMP formatter for ME domain	- 03
DFHMEDUK	CSECT (OCO)	ME domain - message set for DU domain	14 03
DFHMEDXC	CSECT	ME domain - DFHDXxxxx message set simplified Chinese version	14 03
DFHMEDXE	CSECT	ME domain - DFHDXxxxx message set	14 03
DFHMEDXK	CSECT (OCO)	ME domain - DFHDXxxxx message set	14 03
DFHMEEJC	CSECT	ME domain - DFHEJxxxx message set simplified Chinese version	14 03
DFHMEEJE	CSECT	ME domain - DFHEJxxxx message set	14 03
DFHMEEJK	CSECT	ME domain - DFHEJxxxx message set	14 03
DFHMEEMC	CSECT	ME domain - DFHEMxxxx message set simplified Chinese version	14 03
DFHMEEME	CSECT	ME domain - DFHEMxxxx message set	14 03
DFHMEEMK	CSECT	ME domain - DFHEMxxxx message set	14 03
DFHMEERC	CSECT	ME domain - DFHERxxxx message set simplified Chinese version	14 03
DFHMEERE	CSECT	ME domain - DFHERxxxx message set	14 03
DFHMEERK	CSECT	ME domain - DFHERxxxx message set	14 03
DFHMEEXE	CSECT	ME domain - DFHEXxxxx message set	14 03
DFHMEFAC	CSECT	ME domain - DFHFAxxxx message set simplified Chinese version	14 03
DFHMEFAE	CSECT	ME domain - DFHFAxxxx message set	14 03
DFHMEFAK	CSECT (OCO)	ME domain - DFHFAxxxx message set	14 03
DFHMEFBC	CSECT	ME domain - DFHFBxxxx message set simplified Chinese version	14 03
DFHMEFBE	CSECT	ME domain - DFHFBxxxx message set	14 03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHMEFBK	CSECT (OCO)	ME domain - DFHFBxxxx message set	14	03
DFHMEFCC	CSECT	ME domain - DFHFCxxxx message set simplified Chinese version	14	03
DFHMEFCE	CSECT	ME domain - DFHFCxxxx message set	14	03
DFHMEFCK	CSECT (OCO)	ME domain - DFHFCxxxx message set	14	03
DFHMEFDC	CSECT	ME domain - DFHFDxxxx message set simplified Chinese version	14	03
DFHMEFDE	CSECT	ME domain - DFHFDxxxx message set	14	03
DFHMEFDK	CSECT (OCO)	ME domain - DFHFDxxxx message set	14	03
DFHMEFEC	CSECT	ME domain - DFHFExxxx message set simplified Chinese version	14	03
DFHMEFEE	CSECT	ME domain - DFHFExxxx message set	14	03
DFHMEFEK	CSECT (OCO)	ME domain - DFHFExxxx message set	14	03
DFHMEFO	CSECT (OCO)	ME domain - format message subroutine	-	03
DFHMEFOA	DSECT	MEFO parameter list	OS	-
DFHMEFOM	Macro	MEFO request	OS	-
DFHMEFOT	CSECT (OCO)	MEFO trace interpretation data	-	03
DFHMEICC	CSECT	ME domain - DFHICxxxx message set simplified Chinese version	14	03
DFHMEICE	CSECT	ME domain - DFHICxxxx message set	14	03
DFHMEICK	CSECT (OCO)	ME domain - DFHICxxxx message set	14	03
DFHMEIEC	CSECT	ME domain - DFHIExxxx message set simplified Chinese version	14	-
DFHMEIEE	CSECT	ME domain - DFHIExxxx message set	14	-
DFHMEIEK	CSECT (OCO)	ME domain - DFHIExxxx message set	14	-
DFHMEIIC	CSECT	ME domain - DFHIIxxxx message set simplified Chinese version	14	03
DFHMEIIE	CSECT	ME domain - DFHIIxxxx message set	14	03
DFHMEIIK	CSECT (OCO)	ME domain - DFHIIxxxx message set	14	03
DFHMEIN	CSECT (OCO)	ME domain - inquire message data	-	03
DFHMEINA	DSECT	MEIN parameter list	OS	-
DFHMEINC	DSECT	ME domain - DFHINxxxx message set simplified Chinese version	14	03
DFHMEINE	DSECT	ME domain - DFHINxxxx message set	14	03
DFHMEINK	DSECT	ME domain - DFHINxxxx message set Japanese (Kanji) version	14	03
DFHMEINM	Macro	MEIN request	OS	-
DFHMEINT	CSECT (OCO)	MEIN trace interpretation data	-	03
DFHMEIRC	CSECT	ME domain - DFHIRxxxx message set simplified Chinese version	14	03
DFHMEIRE	CSECT	ME domain - DFHIRxxxx message set	14	03
DFHMEIRK	CSECT (OCO)	ME domain - DFHIRxxxx message set Japanese (Kanji) version	14	03
DFHMEJCC	CSECT	ME domain - DFHJCxxxx message set simplified Chinese version	14	03
DFHMEJCE	CSECT	ME domain - DFHJCxxxx message set	14	03
DFHMEJCK	CSECT (OCO)	ME domain - DFHJCxxxx message set	14	03
DFHMEKCC	CSECT	ME domain - DFHKCxxxx message set simplified chinese version	14	03
DFHMEKCE	CSECT	ME domain - DFHKCxxxx message set	14	03
DFHMEKCK	CSECT (OCO)	ME domain - DFHKCxxxx message set Japanese (Kanji) version	14	03
DFHMEKEC	CSECT	ME domain - DFHKExxxx message set simplified chinese version	14	03
DFHMEKEE	CSECT	ME domain - message set for KE domain	14	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHMEKEK	CSECT	ME domain - message set for KE domain	14	03
DFHMELDC	CSECT	ME domain - DFHLDxxxx message set simplified chinese version	14	03
DFHMELDE	CSECT	ME domain - message set for LD domain	14	03
DFHMELDK	CSECT	ME domain - message set for LD domain	14	03
DFHMELGC	CSECT	ME domain - DFHLGxxxx message set simplified Chinese version	14	03
DFHMELGE	CSECT	ME domain - DFHLGxxxx message set	14	03
DFHMELGK	CSECT	ME domain - DFHLGxxxx message set Japanese (Kanji) version	14	03
DFHMELMC	CSECT	ME domain - DFHLMxxxx message set simplified Chinese version	14	03
DFHMELME	CSECT	ME domain - message set for LM domain	14	03
DFHMELMK	CSECT	ME domain - DFHLMxxxx message set Japanese (Kanji) version	14	03
DFHMEMCC	CSECT	ME domain - DFHMCxxxx message set simplified Chinese version	14	03
DFHMEMCE	CSECT	ME domain - DFHMCxxxx message set	14	03
DFHMEMCK	CSECT (OCO)	ME domain - DFHMCxxxx message set Japanese (Kanji) version	14	03
DFHMEME	CSECT (OCO)	ME domain - main functions	-	03
DFHMEMEC	CSECT	ME domain - DFHMExxxx message set simplified Chinese version	14	03
DFHMEMEA	DSECT	MEME parameter list	OS	-
DFHMEMEE	CSECT	ME domain - DFHMExxxx message set	14	03
DFHMEMEK	CSECT (OCO)	ME domain - main functions	14	03
DFHMEMEM	Macro	MEME request	OS	-
DFHMEMET	CSECT (OCO)	MEME trace interpretation data	-	03
DFHMEMNC	CSECT	ME domain - DFHMNxxxx message set simplified Chinese version	14	03
DFHMEMNE	CSECT	ME domain - message set for MN domain	14	03
DFHMEMNK	CSECT	ME domain - message set for MN domain	14	03
DFHMEMUC	CSECT	ME domain - DFHMUxxxx message set simplified Chinese version	14	03
DFHMEMUE	CSECT	ME domain - DFHMUxxxx message set	14	03
DFHMEMUK	CSECT	ME domain - DFHMUxxxx message set	14	03
DFHMENCE	CSECT	ME domain - DFHNCxxxx message set	14	-
DFHMENQC	CSECT	ME domain - DFHMQxxxx message set simplified Chinese version	14	03
DFHMENQE	CSECT	ME domain - DFHNQxxxx message set	14	03
DFHMENQK	CSECT	ME domain - DFHNQxxxx message set	14	03
DFHMEOTC	CSECT	ME domain - DFHOTxxxx message set simplified Chinese version	14	03
DFHMEOTE	CSECT	ME domain - DFHOTxxxx message set	14	03
DFHMEOTK	CSECT	ME domain - DFHOTxxxx message set	14	03
DFHMEPAC	CSECT	ME domain - DFHPAxxxx message set simplified Chinese version	14	03
DFHMEPAE	CSECT	ME domain - message set for PA domain	14	03
DFHMEPAK	CSECT	ME domain - message set for PA domain	14	03
DFHMEPCC	CSECT	ME domain - DFHPCxxxx message set simplified Chinese version	14	03
DFHMEPCE	CSECT	ME domain - DFHPCxxxx message set	14	03
DFHMEPCK	CSECT (OCO)	ME domain - DFHPCxxxx message set Japanese (Kanji) version	14	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library
DFHMEPGC	CSECT	ME domain - DFHPGxxxx message set simplified Chinese version	14 03
DFHMEPGE	CSECT	ME domain - DFHPGxxxx message set	14 03
DFHMEPGK	CSECT (OCO)	ME domain - DFHPGxxxx message set Japanese (Kanji) version	14 03
DFHMEPRC	CSECT	ME domain - DFHPRxxxx message set simplified Chinese version	14 03
DFHMEPRE	CSECT	ME domain - DFHPRxxxx message set	14 03
DFHMEPRK	CSECT (OCO)	ME domain - DFHPRxxxx message set Japanese (Kanji) version	14 03
DFHMEPSC	CSECT	ME domain - DFHPSxxxx message set simplified Chinese version	14 03
DFHMEPSE	CSECT	ME domain - DFHPSxxxx message set	14 03
DFHMEPSK	CSECT (OCO)	ME domain - DFHPSxxxx message set	14 03
DFHMERDC	CSECT	ME domain - DFHRDxxxx message set simplified Chinese version	14 03
DFHMERDE	CSECT	ME domain - DFHRDxxxx message set	14 03
DFHMERDK	CSECT (OCO)	ME domain - DFHRDxxxx message set Japanese (Kanji) version	14 03
DFHMERMC	CSECT	ME domain - DFHRMxxxx message set simplified Chinese version	14 03
DFHMERME	CSECT	ME domain - DFHRMxxxx message set	14 03
DFHMERMK	CSECT (OCO)	ME domain - DFHRMxxxx message set Japanese (Kanji) version	14 03
DFHMEROC	CSECT	ME domain - DFHRPxxxx message set simplified Chinese version	14 03
DFHMEROE	CSECT	ME domain - DFHRPxxxx message set	14 03
DFHMEROK	CSECT (OCO)	ME domain - DFHRPxxxx message set Japanese (Kanji) version	14 03
DFHMERPC	CSECT	ME domain - DFHRPxxxx message set simplified Chinese version	14 03
DFHMERPE	CSECT	ME domain - DFHRPxxxx message set	14 03
DFHMERPK	CSECT (OCO)	ME domain - DFHRPxxxx message set Japanese (Kanji) version	14 03
DFHMERQC	CSECT	ME domain - DFHRPxxxx message set simplified Chinese version	14 03
DFHMERQE	CSECT	ME domain - DFHRPxxxx message set	14 03
DFHMERQK	CSECT (OCO)	ME domain - DFHRPxxxx message set Japanese (Kanji) version	14 03
DFHMERRC	CSECT	ME domain - DFHRPxxxx message set simplified Chinese version	14 03
DFHMERRE	CSECT	ME domain - DFHRPxxxx message set	14 03
DFHMERRK	CSECT (OCO)	ME domain - DFHRPxxxx message set Japanese (Kanji) version	14 03
DFHMERSC	CSECT	ME domain - DFHRSxxxx message set simplified Chinese version	14 03
DFHMERSE	CSECT	ME domain - DFHRSxxxx message set	14 03
DFHMERSK	CSECT (OCO)	ME domain - DFHRSxxxx message set Japanese (Kanji) version	14 03
DFHMERTC	CSECT	ME domain - DFHRTxxxx message set simplified Chinese version	14 03
DFHMERTE	CSECT	ME domain - DFHRTxxxx message set	14 03
DFHMERTK	CSECT (OCO)	ME domain - DFHRTxxxx message set Japanese (Kanji) version	14 03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHMERUC	CSECT	ME domain - DFHRUxxxx message set simplified Chinese version	14	03
DFHMERUE	CSECT	ME domain - DFHRUxxxx message set	14	03
DFHMERUK	CSECT	ME domain - DFHRUxxxx message set	14	03
DFHMERXC	CSECT	ME domain - DFHRXxxxx message set simplified Chinese version	14	03
DFHMERXE	CSECT	ME domain - DFHRXxxxx message set	14	03
DFHMERXK	CSECT	ME domain - DFHRXxxxx message set	14	03
DFHMERZC	CSECT	ME domain - DFHRZxxxx message set simplified Chinese version	14	03
DFHMERZE	CSECT	ME domain - DFHRZxxxx message set	14	03
DFHMERZK	CSECT	ME domain - DFHRZxxxx message set	14	03
DFHMESHC	CSECT	ME domain - DFHSHxxxx message set simplified Chinese version	14	03
DFHMESHE	CSECT	ME domain - DFHSHxxxx message set	14	03
DFHMESHK	CSECT	ME domain - DFHSHxxxx message set	14	03
DFHMESIC	CSECT	ME domain - DFHSIxxxx message set simplified Chinese version	14	03
DFHMESIE	CSECT	ME domain - DFHSIxxxx message set	14	03
DFHMESIK	CSECT (OCO)	ME domain - DFHSIxxxx message set Japanese (Kanji) version	14	03
DFHMESJC	CSECT	ME domain - DFHSJxxxx message set simplified Chinese version	14	03
DFHMESJE	CSECT	ME domain - DFHSJxxxx message set	14	03
DFHMESJK	CSECT (OCO)	ME domain - DFHSJxxxx message set Japanese (Kanji) version	14	03
DFHMESKC	CSECT	ME domain - DFHSKxxxx message set simplified Chinese version	14	03
DFHMESKE	CSECT	ME domain - DFHSKxxxx message set	14	03
DFHMESKK	CSECT	ME domain - DFHSKxxxx message set	14	03
DFHMESMC	CSECT	ME domain - DFHSMxxxx message set simplified Chinese version	14	03
DFHMESME	CSECT	ME domain - message set for SM domain	14	03
DFHMESMK	CSECT	ME domain - message set for SM domain	14	03
DFHMESNC	CSECT	ME domain - DFHSNxxxx message set simplified Chinese version	14	03
DFHMESNE	CSECT	ME domain - DFHSNxxxx message set	14	03
DFHMESNK	CSECT (OCO)	ME domain - DFHSNxxxx message set Japanese (Kanji) version	14	03
DFHMESOC	CSECT	ME domain - DFHSOxxxx message set simplified Chinese version	14	03
DFHMESOE	CSECT	ME domain - DFHSOxxxx message set	14	03
DFHMESOK	CSECT (OCO)	ME domain - DFHSOxxxx message set Japanese (Kanji) version	14	03
DFHMESR	CSECT (OCO)	ME domain - SIT overrides collection	-	03
DFHMESRA	DSECT	MESR parameter list	OS	-
DFHMESRC	CSECT	ME domain - DFHSRxxxx message set simplified Chinese version	14	03
DFHMESRE	CSECT	ME domain - DFHSRxxxx message set	14	03
DFHMESRK	CSECT	ME domain - DFHSRxxxx message set	14	03
DFHMESRM	Macro	MESR request	OS	-
DFHMESRT	CSECT (OCO)	MESR trace interpretation data	-	03
DFHMESTC	CSECT	ME domain - message set for ST domain simplified Chinese version	14	03
DFHMESTE	CSECT	ME domain - message set for ST domain	14	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHMESTK	CSECT (OCO)	ME domain - message set for ST domain Japanese (Kanji) version	14	03
DFHMESZC	CSECT (OCO)	ME domain - DFHSZxxxx message set (FEPI) simplified Chinese version	14	03
DFHMESZE	CSECT (OCO)	ME domain - DFHSZxxxx message set (FEPI)	14	03
DFHMESZK	CSECT (OCO)	ME domain - DFHSZxxxx message set (FEPI) Japanese (Kanji) version	14	03
DFHMETCC	CSECT	ME domain - DFHTCxxxx message set simplified Chinese version	14	03
DFHMETCE	CSECT	ME domain - DFHTCxxxx message set	14	03
DFHMETCK	CSECT (OCO)	ME domain - DFHTCxxxx message set Japanese (Kanji) version	14	03
DFHMETDC	CSECT	ME domain - DFHTDxxxx message set simplified Chinese version	14	03
DFHMETDE	CSECT	ME domain - DFHTDxxxx message set	14	03
DFHMETDK	CSECT	ME domain - DFHTDxxxx message set Japanese (Kanji) version	14	03
DFHMETFC	CSECT	ME domain - DFHTFxxxx message set simplified Chinese version	14	03
DFHMETFE	CSECT	ME domain - DFHTFxxxx message set	14	03
DFHMETFK	CSECT (OCO)	ME domain - DFHTFxxxx message set Japanese (Kanji) version	14	03
DFHMETIC	CSECT	ME domain - DFHTIxxxx message set simplified Chinese version	14	03
DFHMETIE	CSECT	ME domain - message set for TI domain	14	03
DFHMETIK	CSECT	ME domain - message set for TI domain	14	03
DFHMETMC	CSECT	ME domain - DFHTMxxxx message set simplified Chinese version	14	03
DFHMETME	CSECT	ME domain - DFHTMxxxx message set	14	03
DFHMETMK	CSECT	ME domain - DFHTMxxxx message set Japanese (Kanji) version	14	03
DFHMETOC	CSECT	ME domain - DFHTOxxxx message set simplified Chinese version	14	03
DFHMETOE	CSECT	ME domain - DFHTOxxxx message set	14	03
DFHMETOK	CSECT (OCO)	ME domain - DFHTOxxxx message set Japanese (Kanji) version	14	03
DFHMETPC	CSECT	ME domain - DFHTPxxxx message set simplified Chinese version	14	03
DFHMETPE	CSECT	ME domain - DFHTPxxxx message set	14	03
DFHMETPK	CSECT (OCO)	ME domain - DFHTPxxxx message set Japanese (Kanji) version	14	03
DFHMETRC	CSECT	ME domain - message set for TR domain simplified Chinese version	14	03
DFHMETRE	CSECT	ME domain - message set for TR domain	14	03
DFHMETRI	CSECT (OCO)	Trace interpreter for ME domain	-	03
DFHMETRK	CSECT (OCO)	ME domain - message set for TR domain Japanese (Kanji) version	14	03
DFHMETSC	CSECT	ME domain - DFHTSxxxx message set simplified Chinese version	14	03
DFHMETSE	CSECT	ME domain - DFHTSxxxx message set	14	03
DFHMETSK	CSECT (OCO)	ME domain - DFHTSxxxx message set Japanese (Kanji) version	14	03
DFHMET1	CSECT	ME domain - DFHMET1x online message table	14	03
DFHMET1E	CSECT	DFHMEU base messages link-edit module	14	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHMET2	CSECT (OCO)	ME domain - DFHMET2x offline translator message table	-	03
DFHMET3	CSECT (OCO)	ME domain - DFHMET3x offline message table for DFHSTUP	-	03
DFHMET4	CSECT (OCO)	Offline message table for EXCI	-	03
DFHMET5	CSECT	ME domain - DFHMET5x online message table	OS	03
DFHMET6	CSECT	ME domain - DFHMET6x online message table	-	03
DFHMET5E	CSECT	DFHMEU ONC RPS messages link-edit module	14	-
DFHMET9	CSECT	ME domain - DFHMET9x online message table	OS	03
DFHMEU	CSECT	Message translation utility program	-	03
DFHMEUA	DSECT (OCO)	Message editing utility parameter list	-	03
DFHMEUC	CSECT (OCO)	Message editing utility copy message dataset	-	03
DFHMEUCL	CSECT (OCO)	Message editing utility copy message dataset	06	-
DFHMEUD	CSECT (OCO)	Message editing utility set/validate system defaults	-	03
DFHMEUE	CSECT (OCO)	Message editing utility edit message	-	03
DFHMEUL	CSECT (OCO)	Message editing utility compile, assemble and link-edit message data sets	-	03
DFHMEULT	CSECT (OCO)	Message editing utility CLIST to create language codes table	06	-
DFHMEUM	Macro (OCO)	Message editing utility ISPF editor profile	-	03
DFHMEUP	CSECT (OCO)	Message editing utility display PTF panel and submit PTF job	-	03
DFHMEUPC	CSECT	ME domain - message set for UP domain simplified Chinese version	14	03
DFHMEUPE	CSECT (OCO)	ME domain - DFHUPxxxx message set	14	03
DFHMEUPK	CSECT (OCO)	ME domain - DFHUPxxxx message set	14	03
DFHMEUSC	CSECT (OCO)	Message editing utility check state of message data set simplified Chinese version	14	03
DFHMEUSE	CSECT (OCO)	Message editing utility check state of message data set	14	03
DFHMEUSK	CSECT (OCO)	Message editing utility check state of message data set Japanese (Kanji) version	14	03
DFHMEUU	CSECT (OCO)	Message editing utility compare PTF and English message data sets	-	03
DFHMEU00	CSECT	Message editing utility help index panel	16	-
DFHMEU01	CSECT	Message editing utility main help panel 1	16	-
DFHMEU10	CSECT	Message editing utility main panel	16	-
DFHMEU11	CSECT	Message editing utility main help panel 2	16	-
DFHMEU12	CSECT	Message editing utility main help panel 3	16	-
DFHMEU20	CSECT	Message editing utility set defaults panel (part 1 of 2)	16	-
DFHMEU21	CSECT	Message editing utility set defaults (part 1) help panel 1	16	-
DFHMEU22	CSECT	Message editing utility set defaults (part 1) help panel 2	16	-
DFHMEU30	CSECT	Message editing utility set defaults panel (part 2 of 2)	16	-
DFHMEU31	CSECT	Message editing utility set defaults (part 2) help panel	16	-
DFHMEU40	CSECT	Message editing utility language selection panel	16	-
DFHMEU41	CSECT	Message editing utility language selection help panel	16	-
DFHMEU50	CSECT	Message editing utility message selection panel	16	-
DFHMEU51	CSECT	Message editing utility message selection help panel	16	-
DFHMEU60	CSECT	Message editing utility message edit panel	16	-
DFHMEU61	CSECT	Message editing utility message edit help panel	16	-
DFHMEU70	CSECT	Message editing utility apply PTF updates panel	16	-
DFHMEU71	CSECT	Message editing utility apply PTF updates help panel	16	-
DFHMEWBC	CSECT (OCO)	ME domain	14	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHMEWBE	CSECT (OCO)	ME domain	14	03
DFHMEWBK	CSECT (OCO)	ME domain	14	03
DFHMEWS	CSECT (OCO)	ME domain - write symptom string to SYS1.LOGREC	-	03
DFHMEWSA	DSECT	MEWS parameter list	OS	-
DFHMEWSM	Macro	MEWS request	OS	-
DFHMEWST	CSECT (OCO)	MEWS trace interpretation data	-	03
DFHMEWT	CSECT (OCO)	ME domain - WTOR service routine	-	03
DFHMEWTA	DSECT	MEWT parameter list	OS	-
DFHMEWTM	Macro	MEWT request	OS	-
DFHMEWTT	CSECT (OCO)	MEWT trace interpretation data	-	03
DFHMEXAC	CSECT	ME domain - message set for XA domain simplified Chinese version	14	03
DFHMEXAE	CSECT	ME domain - DFHXAxxxx message set	14	03
DFHMEXAK	CSECT	ME domain - DFHXAxxxx message set	14	03
DFHMEXCC	CSECT	ME domain - message set for XC domain simplified Chinese version	14	03
DFHMEXCE	CSECT	ME domain - DFHXCxxxx message set	14	03
DFHMEXCK	CSECT	ME domain - DFHXCxxxx message set	14	03
DFHMEXGC	CSECT	ME domain - DFHXGxxxx message set simplified Chinese version	14	03
DFHMEXGE	CSECT	ME domain - DFHXGxxxx message set	14	03
DFHMEXGK	CSECT (OCO)	ME domain - DFHXGxxxx message set Japanese (Kanji) version	14	03
DFHMEXMC	CSECT	ME domain - DFHXMxxxx message set simplified Chinese version	14	03
DFHMEXME	CSECT	ME domain - DFHXMxxxx message set	14	03
DFHMEXMK	CSECT (OCO)	ME domain - DFHXMxxxx message set Japanese (Kanji) version	14	03
DFHMEXOC	CSECT	ME domain - DFHXOxxxx message set simplified Chinese version	14	03
DFHMEXOE	CSECT	ME domain - DFHXOxxxx message set	14	03
DFHMEXOK	CSECT	ME domain - DFHXOxxxx message set	14	03
DFHMEXQE	CSECT	ME domain - DFHXQxxxx message set	14	-
DFHMEXSC	CSECT	ME domain - DFHXSxxxx message set simplified Chinese version	14	03
DFHMEXSE	CSECT	ME domain - DFHXSxxxx message set	14	03
DFHMEXSK	CSECT (OCO)	ME domain - DFHXSxxxx message set Japanese (Kanji) version	14	03
DFHMEZAC	CSECT	ME domain - DFHZAxxxx message set simplified Chinese version	14	03
DFHMEZAE	CSECT	ME domain - DFHZAxxxx message set	14	03
DFHMEZAK	CSECT (OCO)	ME domain - DFHZAxxxx message set Japanese (Kanji) version	14	03
DFHMEZBC	CSECT	ME domain - DFHZBxxxx message set simplified Chinese version	14	03
DFHMEZBE	CSECT	ME domain - DFHZBxxxx message set	14	03
DFHMEZBK	CSECT (OCO)	ME domain - DFHZBxxxx message set Japanese (Kanji) version	14	03
DFHMEZCC	CSECT	ME domain - DFHZCxxxx message set simplified Chinese version	14	03
DFHMEZCE	CSECT	ME domain - DFHZCxxxx message set	14	03
DFHMEZCK	CSECT (OCO)	ME domain - DFHZCxxxx message set Japanese (Kanji) version	14	03
DFHMEZDC	CSECT	ME domain - DFHZDxxxx message set simplified Chinese version	14	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHMEZDE	CSECT	ME domain - DFHZDxxxx message set	14	03
DFHMEZDK	CSECT (OCO)	ME domain - DFHZDxxxx message set Japanese (Kanji) version	14	03
DFHMEZEC	CSECT	ME domain - DFHZExxxx message set simplified Chinese version	14	03
DFHMEZEE	CSECT	ME domain - DFHZExxxx message set	14	03
DFHMEZEK	CSECT (OCO)	ME domain - DFHZExxxx message set Japanese (Kanji) version	14	03
DFHMEZNC	CSECT	ME domain - DFHZNxxxx message set simplified Chinese version	14	03
DFHMEZNE	CSECT	ME domain - DFHZNxxxx message set	14	03
DFHMEZNK	CSECT (OCO)	ME domain - DFHZNxxxx message set Japanese (Kanji) version	14	03
DFHME00C	CSECT	ME domain - NLS message language globals simplified Chinese version	14	03
DFHME00E	CSECT	ME domain - NLS message language globals	14	03
DFHME00K	CSECT (OCO)	ME domain - NLS message language globals Japanese (Kanji) version	14	03
DFHME01E	CSECT	ME domain - NLS message language globals	14	-
DFHME1UC	CSECT	ME domain	14	03
DFHME1UE	CSECT	ME domain - DFH1Uxx message set	14	03
DFHME1UK	CSECT (OCO)	ME domain - DFH1Uxx message set	14	03
DFHME42E	CSECT	ME domain - DFH42xx message set	14	-
DFHME70C	CSECT	ME domain - DFH70xx message set simplified Chinese version	14	03
DFHME70E	CSECT	ME domain - DFH70xx message set	14	03
DFHME70K	CSECT (OCO)	ME domain - DFH70xx message set	14	03
DFHME71C	CSECT	ME domain - DFH71xx message set simplified Chinese version	14	03
DFHME71E	CSECT	ME domain - DFH71xx message set	14	03
DFHME71K	CSECT (OCO)	ME domain - DFH71xx message set	14	03
DFHME72C	CSECT	ME domain - DFH72xx message set simplified Chinese version	14	03
DFHME72E	CSECT	ME domain - DFH72xx message set	14	03
DFHME72K	CSECT (OCO)	ME domain - DFH72xx message set	14	03
DFHMGM	Macro	Message prototype macro	11	-
DFHMGMI0	Macro	Message prototype literal macro-1	11	-
DFHMGMI1	Macro	Message prototype literal macro-2	11	-
DFHMGPME	CSECT	DFHMGP NLS message support	OS	03
DFHMGP00	CSECT	DFHMGP error message find	OS	03
DFHMGT	CSECT	Message generation table	11	03
DFHMGT01	CSECT	Subsystem interface message table segment	11	-
DFHMGT20	CSECT	Message generation table segment	11	-
DFHMGT21	CSECT	Message generation table segment	11	-
DFHMGT22	CSECT	Message generation table segment	11	-
DFHMGT24	CSECT	Message generation table segment	11	-
DFHMGT26	CSECT	Message generation table segment	11	-
DFHMGT33	CSECT	Message generation table segment	11	-
DFHMGT34	CSECT	Message generation table segment	11	-
DFHMGT35	CSECT	Message generation table segment	11	-
DFHMGT37	CSECT	Message generation table segment	11	-
DFHMGT44	CSECT	Message generation table segment	11	-
DFHMGT49	CSECT	Message generation table segment	11	-
DFHMGT50	CSECT	Message generation table segment	11	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHMGT85	CSECT	Message generation table segment	11	-
DFHMGT90	CSECT	Message generation table segment	11	-
DFHMIN	Source	BMS 3270 input mapping	OS	-
DFHMIRS	CSECT	ISC request shipping - mirror program	OS	03
DFHMKDIR	Other		-	02
DFHMKEYS	CSECT	Alias for MEUKEYS	16	-
DFHML1	CSECT	BMS LU1 printer mapping program	OS	03
DFHMN	Macro	MN domain - inline request	OS	-
DFHMNDEF	Macro	MN domain - some control blocks	OS	-
DFHMNDM	CSECT (OCO)	MN domain - initialization/termination	-	03
DFHMNDUF	CSECT (OCO)	SDUMP formatter for MN domain	-	03
DFHMNDUP	CSECT (OCO)	Monitoring dictionary utility	-	03
DFHMNEXC	Macro	MN domain - monitoring exception record	11	-
DFHMNGDS	DSECT	MN domain - global statistics	11	-
DFHMNGDS	DSECT	MN domain - global statistics	C2	07
DFHMNMN	CSECT (OCO)	MN domain - functions	-	03
DFHMNMNA	DSECT	MNMN parameter list	OS	-
DFHMNMNM	Macro	MNMN request	OS	-
DFHMNMNT	CSECT	MNMN trace interpretation data	OS	03
DFHMNMNX	Macro	MNMN request (XPI)	11	-
DFHMNMNY	DSECT	MNMN parameter list (XPI)	11	-
DFHMNNT	CSECT (OCO)	MN domain - XM notify gate	-	03
DFHMNPBI	Macro	MN domain - access to MVS WLM performance block token	OS	-
DFHMNPDA	CSECT	Monitoring facility performance class record	19	-
DFHMNSMF	Macro	MN domain - monitoring SMF header and SMF product section	11	-
DFHMNSR	CSECT (OCO)	MN domain - services	-	03
DFHMNSRA	DSECT	MNSR parameter list	OS	-
DFHMNSRM	Macro	MNSR request	OS	-
DFHMNSRT	CSECT	MNSR trace interpretation data	OS	03
DFHMNST	CSECT (OCO)	MN domain - statistics services	-	03
DFHMNSU	CSECT (OCO)	MN domain - subroutines	-	03
DFHMNSUA	DSECT	MNSU parameter list	OS	-
DFHMNSUM	Macro	MNSU request	OS	-
DFHMNSUT	CSECT	MNSU trace interpretation data	OS	03
DFHMNSVC	CSECT (OCO)	MN domain - authorized service routine	-	03
DFHMNTDS	DSECT	MN domain - transaction monitoring data	11	-
DFHMNTDS	DSECT	MN domain - transaction monitoring data	C2	07
DFHMNTI	CSECT (OCO)	MN domain - timer gate	-	03
DFHMNTRI	CSECT (OCO)	Trace interpreter for MN domain	-	03
DFHMNUE	CSECT (OCO)	MN domain - user exit service	-	03
DFHMNXM	CSECT (OCO)	MN domain functional gate	-	03
DFHMNXMT	DSECT	MNXM translate tables	-	03
DFHMOVE	Macro	Domain call argument MOVE macro	OS	-
DFHMPARS	CSECT	Parameter syntax checking	OS	-
DFHSIPLT	CSECT	System initialization - PLT processor	OS	03
DFHMRCDS	DSECT	Transient data VSAM control	OS	-
DFHMRDUF	CSECT (OCO)	MRO SDUMP formatter	-	03
DFHMROQM	Macro	MRO work queue manager interface	OS	-
DFHMROQP	CSECT	MRO work queue manager - enable/disable	OS	03
DFHMROSM	Macro	MRO work queue manager quickcell interface	OS	-
DFHMRQDS	DSECT	MRO work queue manager control blocks	OS	-
DFHMRXM	CSECT	TF XM transaction attach	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHMSCAN	CSECT	Macro scan utility	OS	03
DFHMSD	Macro	Generate BMS map set definition	11	-
DFHMSET	CSECT	Parameter syntax checking record	OS	-
DFHMSG	Macro	Generate a message	11	-
DFHMSGIF	CSECT	CZ Direct_to_CICS	-	03
DFHMSG00	CSECT	MEU MEU00x message set (alias MEU00)	12	-
DFHMSG01	CSECT	MEU MEU01x message set (alias MEU01)	12	-
DFHMSG02	CSECT	MEU MEU02x message set (alias MEU02)	12	-
DFHMSG03	CSECT	MEU MEU03x message set (alias MEU03)	12	-
DFHMSG04	CSECT	MEU MEU04x message set (alias MEU04)	12	-
DFHMSG05	CSECT	MEU MEU05x message set (alias MEU05)	12	-
DFHMSGEN	Macro	Generate messages in BMS modules	OS	-
DFHMSP	CSECT	Message switching program	OS	03
DFHMSPUT	Macro	Put messages to terminals in BMS	OS	-
DFHMSRCA	Symbolic	Magnetic slot reader control values	11	-
DFHMSRCA	Symbolic	Magnetic slot reader control values	C2	07
DFHMSRCA	Symbolic	Magnetic slot reader control values	D3	08
DFHMSX	Symbolic		11	-
DFHMVRMS	CSECT (OCO)	MVS recovery/termination manager RESMGR exit stub	-	03
DFHMWCDS	DSECT	Transient data wait control	OS	-
DFHMXP	CSECT	Local queuing shipper	OS	03
DFHM32	CSECT	BMS 3270 mapping	OS	-
DFHM32A$	CSECT	BMS 3270 mapping (standard)	OS	03
DFHM321$	CSECT	BMS 3270 mapping (full)	OS	03
DFHNCASM	Macro	Named counter service interface	11	-
DFHNCC	DSECT	Named counter service interface	-	08
DFHNCCF	DSECT	Named counter service interface	-	03
DFHNCCN	DSECT	Named counter service interface	-	03
DFHNCOB	DSECT	Named counter service interface	-	07
DFHNCDF	DSECT	Named counter server AXM definitions	-	03
DFHNCEN	DSECT	NC ENF event interface	-	03
DFHNCEQU	Macro	Named counter server interface	11	-
DFHNCIF	CSECT	Named counter server interface	-	03
DFHNCMN	CSECT	Named counter server main program	-	03
DFHNCMS	CSECT	Named counter server messages	-	03
DFHNCO	Macro	Named counter option table definition	11	-
DFHNCOP	CSECT	Named counter server operator commands	-	03
DFHNCOPT	CSECT	Named counter server sample option table	19	03
DFHNCPLI	CSECT	Named counter service interface	17	-
DFHNCPR	CSECT	Named counter server parameter routine	-	03
DFHNCPS	CSECT	Named counter server pool selection	-	03
DFHNCRL	CSECT	Named counter server pool reload	-	03
DFHNCRQ	CSECT	Named counter server request routine	-	03
DFHNCRS	CSECT	NC ARM Restart Support	-	03
DFHNCST	CSECT	Named counter server statistics support	-	03
DFHNCS4D	Macro	Named counter server list str stats	11	-
DFHNCS5D	Macro	Named counter server storage statistics	11	-
DFHNCTR	CSECT	Named counter server interface stub	-	03
DFHNCUL	CSECT	Named counter server pool unload	-	03
DFHNEPCA	DSECT	NEP communication area	D2	-
DFHNEPCA	Macro	NEP communication area	11	-
DFHNOTIT	CSECT		-	03
DFHNQDM	CSECT	NQ domain management	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHNQDUF	CSECT	NQ offline dump formatting	-	03
DFHNQED	CSECT	NQED format enqueue/dequeue	-	03
DFHNQEDA	CSECT	NQED parameter list	OS	-
DFHNQEDM	Macro	NQED request	OS	-
DFHNQEDT	DSECT	NQED translate tables	-	03
DFHNQEDX	Macro		11	-
DFHNQEDY	Macro		11	-
DFHNQGDS	CSECT	NQ enqueue manager statistics	11	-
DFHNQGDS	CSECT	NQ enqueue manager statistics	C2	07
DFHNQIB	CSECT	NQ inquire/browse module	-	03
DFHNQIBA	CSECT	NQIB parameter list	OS	-
DFHNQIBM	Macro	NQIB request	OS	-
DFHNQIBT	DSECT	NQIB translate tables	-	03
DFHNQIE	CSECT	NQ default enqueue interpreter	-	03
DFHNQNQ	CSECT	NQ main functions	-	03
DFHNQNQA	CSECT	NQNQ parameter list	OS	-
DFHNQNQM	Macro	NQNQ request	OS	-
DFHNQNQT	DSECT	NQNQ translate tables	-	03
DFHNQRN	CSECT	Sysplex resource names services	-	03
DFHNQRNA	Other	NQRN interface parameter area	OS	-
DFHNQRNM	Macro	DFHNQRN interface macro	OS	-
DFHNQRNT	CSECT		-	03
DFHNQST	CSECT (OCO)	NQ statistics	-	03
DFHNQTRI	CSECT (OCO)	NQ offline trace interpretation	-	03
DFHNQUED	Macro	EXEC arguement list for ENQ/DEQ user exits	11	-
DFHNXDUF	CSECT (OCO)	SDUMP control block index processor	-	03
DFHOPSRC	Other	JCL to install optional source tapes	02	-
DFHOSPWA	DSECT	BMS common control area	11	-
DFHOTCO	CSECT	OTCO CDURUN and Gate Module	-	03
DFHOTCOT	CSECT		-	03
DFHOTCPT	CSECT		-	03
DFHOTDM	CSECT	OT Domain Management	-	03
DFHOTDUF	CSECT	OT Domain Dump Formatting	-	03
DFHOTIS1	CSECT		-	03
DFHOTIS2	CSECT		-	03
DFHOTR	CSECT	OTS Resync Transaction	-	03
DFHOTRM	CSECT	Run Transaction Syncpoint Processor	-	03
DFHOTRP1	CSECT		-	03
DFHOTRS	CSECT	OTRS CDURUN and Gate Module	-	03
DFHOTRST	CSECT		-	03
DFHOTSU	CSECT	OTSU CDURUN and Gate Module	-	03
DFHOTSUT	CSECT		-	03
DFHOTTR	CSECT	OTTR CDURUN and Gate Module	-	03
DFHOTTRI	CSECT	OT Domain Trace Interpretation	-	03
DFHOTTRT	CSECT		-	03
DFHOTVP1	CSECT		-	03
DFHPADM	CSECT (OCO)	PA domain - initialization/termination	-	03
DFHPADUF	CSECT (OCO)	SDUMP formatter for PA domain	-	03
DFHPAGP	CSECT (OCO)	PA domain - get parameters service	-	03
DFHPAGPA	DSECT	PAGP parameter list	OS	-
DFHPAGPM	Macro	PAGP request	OS	-
DFHPAGPT	CSECT (OCO)	PAGP trace interpretation data	-	03
DFHPAIO	CSECT (OCO)	PA domain - communication with SYSIN data set and operator console	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHPAIOA	DSECT	PAIO parameter list	OS	-
DFHPAIOM	Macro	PAIO request	OS	-
DFHPAIOT	CSECT (OCO)	PAIO trace interpretation data	-	03
DFHPAPL	Macro	DBCTL architected parameter list	OS	-
DFHPASY	CSECT (OCO)	PA domain - system initialization parameter checker and syntax analyzer	-	03
DFHPASYA	DSECT	PASY parameter list	OS	-
DFHPASYM	Macro	PASY request	OS	-
DFHPASYT	CSECT (OCO)	PASY trace interpretation data	-	03
DFHPATCH	Macro	Generate patch area	11	-
DFHPATRI	CSECT (OCO)	Trace interpreter for PA domain	-	03
DFHPBP	CSECT	BMS page and text build	OS	-
DFHPBPA$	CSECT	BMS page and text build (standard)	OS	03
DFHPBP1$	CSECT	BMS page and text build (full)	OS	03
DFHPC	Macro	Program service request	11	-
DFHPCEDS	DSECT	EXEC argument list for Program Control	-	11
DFHPCEXT	CSECT	AP recovery point when called from kernel	OS	-
DFHPCOM	Macro	PEP communication area	11	-
DFHPCOMD	DSECT	PEP communication area	-	08
DFHPCPG	CSECT	PM domain - interface program	-	03
DFHPCTPF	Macro	Generate a profile entry	11	-
DFHPCUE	DSECT	Program control data block for user exits	11	-
DFHPCXDF	CSECT	DU domain - transaction dump formatter for program related areas	OS	03
DFHPDI	Macro	Generate BMS partition definition	11	-
DFHPDKW	CSECT (OCO)	SDUMP formatting - CICSDATA operand string validation	-	03
DFHPDX1	CSECT (OCO)	SDUMP formatting - control program	-	03
DFHPEP	CSECT	User-replaceable program error program	19	03
DFHPEPD	Sample	Program error program - C/370	-	19
DFHPESAD	Source	Program environment save area (PESA)	OS	-
DFHPGACD	Macro	PG domain - autoinstall exit program parameter list - Assembler	11	-
DFHPGACH	CSECT	PG domain - autoinstall exit program parameter list - C/370	-	08
DFHPGACL	CSECT	PG domain - autoinstall exit program parameter list - PL/I	P2	-
DFHPGACO	CSECT	PG domain - autoinstall exit program parameter list - COBOL	C2	-
DFHPGADS	DSECT	BMS page control area	OS	-
DFHPGADX	CSECT	Program autoinstall exit - Assembler	19	03
DFHPGAHX	Sample	Program autoinstall exit - C/370	-	19
DFHPGAI	CSECT	Program autoinstall function	-	03
DFHPGAIT	CSECT	PGAI trace interpretation data	-	03
DFHPGALX	Sample	Program autoinstall exit - PL/I	-	19
DFHPGAOX	Sample	Program autoinstall exit - COBOL	-	19
DFHPGAQ	CSECT	PG domain - inquire/set autoinstall	-	03
DFHPGAQA	DSECT	PGAQ parameter list	OS	-
DFHPGAQM	Macro	PGAQ request	OS	-
DFHPGAQT	CSECT	PGAQ trace interpretation data	-	03
DFHPGAQX	Macro	PGAQ request	11	-
DFHPGAQY	DSECT	PGAQ parameter list	11	-
DFHPGDCD	Source	PG domain anchor block	OS	-
DFHPGDD	CSECT (OCO)	PG domain - define/delete program	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHPGDDA	DSECT	PGDD parameter list	OS	-
DFHPGDDM	Macro	PGDD request	OS	-
DFHPGDDT	CSECT (OCO)	PGDD trace interpretation data	-	03
DFHPGDM	CSECT	PG domain - initialize, quiesce, and terminate domain functions	-	03
DFHPGDUF	CSECT (OCO)	PG domain - SDUMP formatter	-	03
DFHPGEX	CSECT (OCO)	PG domain - initialize and terminate exits functions	-	03
DFHPGEXA	DSECT	PGEX parameter list	OS	-
DFHPGEXI	Macro	PGEX inline version of DFHPGEXM	OS	-
DFHPGEXM	Macro	PGEX request	OS	-
DFHPGEXT	Macro (OCO)	PGEX trace interpretation data	-	03
DFHPGGDS	Macro	PG domain - statistics	11	-
DFHPGGDS	Macro	PG domain - statistics	C2	07
DFHPGHM	CSECT (OCO)	PG domain - handle manager services	-	03
DFHPGHMA	DSECT	PGHM parameter list	OS	-
DFHPGHMI	Macro	PGHM inline version of DFHPGHMM	OS	-
DFHPGHMM	Macro	PGHM request	OS	-
DFHPGHMT	CSECT (OCO)	PGHM trace interpretation data	-	03
DFHPGIS	CSECT (OCO)	PG domain - PGIS functions	-	03
DFHPGISA	DSECT	PGIS parameter list	-	11
DFHPGISI	Macro	PGIS inline version of DFHPGHMM	OS	-
DFHPGISM	Macro	PGIS request	-	11
DFHPGIST	CSECT (OCO)	PGIS trace interpretation data	-	03
DFHPGISX	Macro	PGIS request	11	-
DFHPGISY	CSECT	PGIS parameter list	11	-
DFHPGLD	CSECT (OCO)	PG domain - load and release functions	-	03
DFHPGLDA	DSECT	PGLD parameter list	OS	-
DFHPGLDM	Macro	PGLD request	OS	-
DFHPGLDT	CSECT (OCO)	PGLD trace interpretation data	-	03
DFHPGLE	CSECT (OCO)	PG domain - link exec function	-	03
DFHPGLEA	DSECT	PGLE parameter list	OS	-
DFHPGLEM	Macro	PGLE request	OS	-
DFHPGLET	CSECT (OCO)	PGLE trace interpretation data	-	03
DFHPGLK	CSECT (OCO)	PG domain - link and link PLT functions	-	03
DFHPGLKA	DSECT	PGLK parameter list	OS	-
DFHPGLKM	Macro	PGLK request	OS	-
DFHPGLKT	CSECT (OCO)	PGLK trace interpretation data	-	03
DFHPGLU	CSECT (OCO)	PG domain - link URM function	-	03
DFHPGLUA	DSECT	PGLU parameter list	OS	-
DFHPGLUM	Macro	PGLU request	OS	-
DFHPGLUT	CSECT (OCO)	PGLU trace interpretation data	-	03
DFHPGP	Macro	Validate group name for PCT/PPT migrate	11	-
DFHPGPG	CSECT (OCO)	PG domain - initial link function	-	03
DFHPGPGA	DSECT	PGPG parameter list	OS	-
DFHPGPGM	Macro	PGPG request	OS	-
DFHPGPGT	CSECT (OCO)	PGPG trace interpretation data	-	03
DFHPGRE	CSECT (OCO)	PG domain - prepare return function	-	03
DFHPGREA	DSECT	PGRE parameter list	OS	-
DFHPGREM	Macro	PGRE request	OS	-
DFHPGRET	CSECT (OCO)	PGRE trace interpretation data	-	03
DFHPGRP	CSECT (OCO)	PG domain - recovery program	-	03
DFHPGRPT	CSECT (OCO)	PGRP trace interpretation data	-	03
DFHPGST	CSECT (OCO)	PG domain - statistics	-	03
DFHPGTRI	CSECT (OCO)	PG domain - trace interpreter	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHPGUE	CSECT (OCO)	PG domain - service requests user exit	-	03
DFHPGXE	CSECT (OCO)	PG domain - prepare XCTL function	-	03
DFHPGXEA	DSECT	PGXE parameter list	OS	-
DFHPGXEM	Macro	PGXE request	OS	-
DFHPGXET	CSECT (OCO)	PGXE trace interpretation data	-	03
DFHPGXM	CSECT (OCO)	PG domain - initialize and terminate transactions functions	-	03
DFHPGXMT	CSECT (OCO)	PGXM trace interpretation data	-	03
DFHPH	Macro	Partition handling macro	11	-
DFHPHN	CSECT	Phonetic code conversion	OS	03
DFHPHP	CSECT	Partition handling program	OS	03
DFHPLARG	DSECT	Generalized domain call parameter list (header, standard fields, responses)	OS	-
DFHPLT	Macro	Program list table	11	-
DFHPLTDS	DSECT	Program list table definition	OS	-
DFHPPFDS	DSECT	KC domain - profile data	OS	-
DFHPRCM	CSECT (OCO)	Partner resource manager command interface	-	03
DFHPRCMA	DSECT	PRCM parameter list	OS	-
DFHPRCMM	Macro	PRCM request	OS	-
DFHPRCMT	CSECT (OCO)	PRCM trace interpretation data	-	03
DFHPRDUF	CSECT (OCO)	Partner resource manager SDUMP formatter SAA communications interface	-	03
DFHPRFS	CSECT (OCO)	Partner resource manager interface to	-	03
DFHPRFSA	DSECT	PRFS parameter list	OS	-
DFHPRFSM	Macro	PRFS request	OS	-
DFHPRFST	CSECT (OCO)	PRFS trace interpretation data	-	03
DFHPRINA	DSECT	PRIN parameter list	OS	-
DFHPRINM	Macro	PRIN request	OS	-
DFHPRINT	Macro	DSECT print control	11	-
DFHPRINU	CSECT (OCO)	PRIN trace interpretation data	-	03
DFHPRIN1	CSECT (OCO)	Partner resource manager initialization management program	-	03
DFHPRIN2	CSECT (OCO)	Partner resource manager initialization subtask program	-	03
DFHPRK	CSECT	3270 print key program	OS	03
DFHPRMCK	Macro	Parameter checking macro	11	-
DFHPROLG	Source	Prologue to DFHENTER	OS	-
DFHPROLM	Source	Acquire LIFO storage application prolog	OS	-
DFHPROLO	Macro	Acquire automatic storage appl prolog	OS	-
DFHPRPT	CSECT (OCO)	Partner resource table (PRT) manager	-	03
DFHPRPTA	DSECT	PRPT parameter list	OS	-
DFHPRPTM	Macro	PRPT request	OS	-
DFHPRPTT	CSECT (OCO)	PRPT trace interpretation data	-	03
DFHPRRP	CSECT (OCO)	Partner resource manager recovery program	-	03
DFHPRRPA	DSECT	PRRP parameter list	OS	-
DFHPRRPM	Macro	PRRP request	OS	-
DFHPRRPT	CSECT (OCO)	PRRP trace interpretation data	-	03
DFHPRSDS	DSECT	Partner static storage area	OS	-
DFHPS	Macro	System spooling interface	OS	-
DFHPSD	Macro	Generate BMS partition set definition	11	-
DFHPSDDS	DSECT	Partition set control block	OS	-
DFHPSGDS	DSECT	Spooler global control block	11	-
DFHPSIP	CSECT	Spooler initialization program	OS	03
DFHPSP	CSECT	System spooling interface program	OS	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHPSPCK	CSECT	System spooling subsystem activator	OS	03
DFHPSPDW	CSECT	System spooling interface, DWE processor	OS	03
DFHPSPSS	CSECT	System spooling JES interface subtask	OS	03
DFHPSPST	CSECT	System spooling JES interface control	OS	03
DFHPSSVC	CSECT	System spooling interface, retrieve a data set name	OS	03
DFHPTDUF	CSECT (OCO)	Program control table SDUMP formatter	-	03
DFHPUPAB	CSECT	CSDUP - initialize RDO parameter fields and address list (DFHPUPA)	OS	03
DFHPUPAC	CSECT	CSDUP - initialize RDO parameter fields and address list (DFHPUPA)	OS	03
DFHPUPB	CSECT	CSDUP - RDO parameter utility program, batch environment (DFHPUP batch)	-	03
DFHPUPC	CSECT	RDO parameter utility program, CICS environment (DFHPUP CICS)	-	03
DFHPUPDB	CSECT	CSDUP - default parameter values lookup (DFHPUPD batch)	OS	03
DFHPUPDC	CSECT	RDO parameter utility - default parameter values lookup (DFHPUPD CICS)	OS	03
DFHPUPXB	CSECT	CSDUP - language table referencing functions (DFHPUPX batch)	OS	03
DFHPUPXC	CSECT	RDO parameter utility - language table referencing functions (DFHPUPX CICS)	OS	03
DFHP3270	CSECT	3270 print function support	OS	03
DFHQRY	CSECT	Query transaction	OS	03
DFHQSSS	CSECT (OCO)	Qualified subsystem services	-	03
DFHRCEX	CSECT	Recovery control enable exit	OS	03
DFHRCNO	Other	Used by DFHSTART cataloged procedure	19	-
DFHRCSDS	DSECT	Recovery control static storage	OS	-
DFHRCYES	Other	Used by DFHSTART cataloged procedure	19	-
DFHRDDUF	CSECT	Resource definition recovery offline dump exit	-	03
DFHRDJPN	CSECT (OCO)	CSD utilities - RDL for Japanese language feature upgrade	-	03
DFHREGS	Macro	Standard register name definition	11	-
DFHREQ	Macro	Attention ID coding macro	11	-
DFHREST	CSECT	User-replaceable restart program	19	03
DFHRITRI	CSECT	RMI trace interpretation routine	-	03
DFHRKB	CSECT	3270 release keyboard program	OS	03
DFHRLR	CSECT	BMS route list resolution	OS	-
DFHRLRA$	CSECT	BMS route list resolution (standard)	OS	03
DFHRLR1$	CSECT	BMS route list resolution (full)	OS	03
DFHRMCAL	Macro	Resource manager call	11	-
DFHRMCD	CSECT	Recovery manager client directory	-	03
DFHRMCDA	CSECT	RMCD parameter list	OS	-
DFHRMCDM	Macro	RMCD request	OS	-
DFHRMCDT	DSECT	RMCD translate tables	-	03
DFHRMCD1	CSECT	RM client directory class initialization	-	03
DFHRMCD2	CSECT	RM client directory class quiesce proc	-	03
DFHRMCI2	CSECT	RM client directory set gate procedure	-	03
DFHRMCI3	CSECT	RM client directory wait for client proc	-	03
DFHRMCI4	CSECT	RM client directory send procedure	-	03
DFHRMDEA	CSECT	RMDE parameter list	OS	-
DFHRMDEM	Macro	RMDE request	OS	-
DFHRMDET	DSECT	RMDE translate tables	-	03
DFHRMDM	CSECT	Recovery manager domain management	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHRMDMA	CSECT	RMDM parameter list	OS	-
DFHRMDMM	Macro	RMDM request	OS	-
DFHRMDMT	DSECT	RMDM translate tables	-	03
DFHRMDU0	CSECT	RMCI dump formatting	-	03
DFHRMDU2	CSECT	RMDU start work token browse procedure	-	03
DFHRMDU3	CSECT	RMDU get next work token procedure	-	03
DFHRMDU4	CSECT	RMDU end work token browse procedure	-	03
DFHRMDU5	CSECT		-	03
DFHRMGDS	CSECT	Recovery manager global statistics	11	-
DFHRMGDS	CSECT	Recovery manager global statistics	C2	07
DFHRMKDA	CSECT	RMKD parameter list	OS	-
DFHRMKDM	Macro	RMKD request	OS	-
DFHRMKDT	DSECT	RMKD translate tables	-	03
DFHRMKPA	CSECT	RMKP parameter list	OS	-
DFHRMKPM	Macro	RMKP request	OS	-
DFHRMKPT	DSECT	RMKP translate tables	-	03
DFHRMLKQ	CSECT	RMLK quiesce procedure	-	03
DFHRMLKT	DSECT	RMLK translate tables	-	03
DFHRMLK1	CSECT	RMLK initialize class procedure	-	03
DFHRMLK2	CSECT	RMLK initiate recovery2 procedure	-	03
DFHRMLK3	CSECT	RMLK inquire logname procedure	-	03
DFHRMLK4	CSECT	RMLK clear pending2 procedure	-	03
DFHRMLK5	CSECT	RMLK collect statistics procedure	-	03
DFHRMLN	CSECT	RMLN gate handler module	-	03
DFHRMLNA	CSECT	RMLN parameter list	OS	-
DFHRMLNM	Macro	RMLN request	OS	-
DFHRMLNT	DSECT	RMLN translate table	-	03
DFHRMLSD	CSECT	Recovery Manager LinkSet class declaration	-	03
DFHRMLSF	CSECT	RMLS inquire awaiting forget procedure	-	03
DFHRMLSO	CSECT	RMLS commit procedure	-	03
DFHRMLSP	CSECT	RMLS prepare procedure	-	03
DFHRMLSS	CSECT	RMLS shunt procedure	-	03
DFHRMLSU	CSECT	RMLS unshunt procedure	-	03
DFHRML1D	CSECT	RMLK deliver data procedure	-	03
DFHRMNM	CSECT	Recovery Manager Lognames class	-	03
DFHRMNMA	CSECT	RMNM parameter list	OS	-
DFHRMNMM	Macro	RMNM request	OS	-
DFHRMNMT	DSECT	RMNM translate tables	-	03
DFHRMNM1	CSECT	RMNM initialize class procedure	-	03
DFHRMNS1	CSECT	RMNS initialize class procedure	-	03
DFHRMNS2	CSECT	RMNS quiesce procedure	-	03
DFHRMOFI	CSECT	RMOF initialize procedure	-	03
DFHRMOT	CSECT	RMOT CDURUN and Gate Module	-	03
DFHRMOTT	CSECT		-	03
DFHRMREA	CSECT	RMRE parameter list	OS	-
DFHRMREM	Macro	RMRE request	OS	-
DFHRMRET	DSECT	RMRE translate tables	-	03
DFHRMRO	CSECT	RM resource owner class	-	03
DFHRMROA	CSECT	RMRO parameter list	OS	-
DFHRMROM	Macro	RMRO request	OS	-
DFHRMROO	CSECT	RMRO forgotten procedure	-	03
DFHRMROS	CSECT	RMRO shunt procedure	-	03
DFHRMROT	CSECT	RMRO translate tables	-	03
DFHRMROU	CSECT	RMRO unshunt procedure	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library
DFHRMROV	CSECT	RMRO avail procedure	- 03
DFHRMRO1	CSECT	RMRO initialize class procedure	- 03
DFHRMRO2	CSECT	RMRO start back out procedure	- 03
DFHRMRO3	CSECT	RMRO deliver back out data procedure	- 03
DFHRMRO4	CSECT	RMRO end back out procedure	- 03
DFHRMRS	CSECT	RM RMC CDURUN and Gate Module	- 03
DFHRMR1D	CSECT	RMRO deliver data procedure	- 03
DFHRMR1E	CSECT	RMRO end delivery procedure	- 03
DFHRMR1K	CSECT	RMRO take keypoint procedure	- 03
DFHRMR1S	CSECT	RMRO start delivery procedure	- 03
DFHRMSL	CSECT	RM system log class	- 03
DFHRMSLA	CSECT	RMSL parameter list	OS -
DFHRMSLF	CSECT	RMSL force procedure	- 03
DFHRMSLJ	CSECT	RMSL notify disjoint chains procedure	- 03
DFHRMSLL	CSECT	RMSL close chain procedure	- 03
DFHRMSLM	Macro	RMSL request	OS -
DFHRMSLO	CSECT	RMSL open chain procedure	- 03
DFHRMSLT	CSECT	RMSL translate tables	- 03
DFHRMSLV	CSECT	RMSL move chain procedure	- 03
DFHRMSLW	CSECT	RMSL write procedure	- 03
DFHRMSL1	CSECT	RMSL initialize class procedure	- 03
DFHRMSL2	CSECT	RMSL start chain browse procedure	- 03
DFHRMSL3	CSECT	RMSL chain browse read procedure	- 03
DFHRMSL4	CSECT	RMSL end chain browse procedure	- 03
DFHRMSL5	CSECT	RMSL restart procedure	- 03
DFHRMSL6	CSECT	RMSL schedule keypoint procedure	- 03
DFHRMSL7	CSECT	RMSL take keypoint procedure	- 03
DFHRMST	CSECT	RM statistics class	- 03
DFHRMST1	CSECT	RMST initialize class procedure	- 03
DFHRMSY	CSECT	Resource Manager resynchronization program	- 03
DFHRMTRI	CSECT	Offline trace formatting interpretation routine parameter list	- 03
DFHRMUC	CSECT	Resource Manager create UOW	- 03
DFHRMUO	CSECT	Resource Manager commit UOW	- 03
DFHRMUW	CSECT	Resource Manager unit of work class	- 03
DFHRMUTL	CSECT	Resource Manager batch utility program	- 03
DFHRMUWA	CSECT	RMUW parameter list	OS -
DFHRMUWB	CSECT	RMUW deliver backout procedure	- 03
DFHRMUWE	CSECT	RMUW unshunt reply procedure	- 03
DFHRMUWF	CSECT	RMUW force procedure	- 03
DFHRMUWH	CSECT	RMUW hold procedure	- 03
DFHRMUWI	Macro	RMUWI inquire UOQ ID	OS -
DFHRMUWJ	CSECT	RMUW force heurism procedure	- 03
DFHRMUWL	CSECT	RMUW forget links procedure	- 03
DFHRMUWM	Macro	RMUW request	OS -
DFHRMUWN	CSECT	RMUW unshunt procedure	- 03
DFHRMUWP	CSECT	RMUW process avail procedure	- 03
DFHRMUWQ	CSECT	RMUW process indoubt resolution procedure	- 03
DFHRMUWS	CSECT	RMUW record decision procedure	- 03
DFHRMUWT	DSECT	RM unit of work class (timeout)	- 03
DFHRMUWU	CSECT	RMUW set local lu name procedure	- 03
DFHRMUWV	CSECT	RMUW avail procedure	- 03
DFHRMUWW	CSECT	RMUW write procedure	- 03
DFHRMUW0	CSECT	RMUW release procedure	- 03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHRMUW1	CSECT	RMUW initialize class procedure	-	03
DFHRMUW2	CSECT	RMUW collect statistics procedure	-	03
DFHRMUW3	CSECT	RMUW inquire work token procedure	-	03
DFHRMUXD	DSECT	Define parts of UOW objects accessible by inline macros	OS	-
DFHRMU1C	CSECT	RMUW set chain token procedure	-	03
DFHRMU1D	CSECT	RMUW deliver data procedure	-	03
DFHRMU1E	CSECT	RMUW end delivery procedure	-	03
DFHRMU1F	CSECT	RMUW wait timeout notify procedure	-	03
DFHRMU1G	CSECT	RMUW	-	03
DFHRMU1J	CSECT	RMUW inquire disjoint chains procedure	-	03
DFHRMU1K	CSECT	RMUW take keypoint procedure	-	03
DFHRMU1L	CSECT	xphP force purge inhibit query gate	-	03
DFHRMU1N	CSECT	RMU1 force purge query procedure	-	03
DFHRMU1Q	CSECT	TISR notify gate	-	03
DFHRMU1R	CSECT	RMUW restart procedure	-	03
DFHRMU1S	CSECT	RMUW start delivery procedure	-	03
DFHRMU1U	CSECT	RMUW process restart procedure	-	03
DFHRMU1V	CSECT	RMUW request wait timeout procedure	-	03
DFHRMU1W	CSECT	RMUW cancel wait timeout procedure	-	03
DFHRMVP1	CSECT	RMVP initialize class procedure	-	03
DFHRMWTA	CSECT	RMWT parameter list	OS	-
DFHRMWTI	Macro	Supports the Inquire_work_token and Set_work_token of RMWT CDURUN interface	OS	-
DFHRMWTM	Macro	RMWT request	OS	-
DFHRMWTT	DSECT	RMWT translate tables	-	03
DFHRMXNE	CSECT	RMXN reattach procedure	-	03
DFHRMXN2	CSECT	RMXN schedule keypoint procedure	-	03
DFHRMXN3	CSECT	RMXN keypoint transaction	-	03
DFHRMXN4	CSECT	RMXN restart procedure	-	03
DFHRMXN5	CSECT	RMXN inc trandef statistic procedure	-	03
DFHROINA	CSECT	ROIN parameter list	OS	-
DFHROINM	Macro	ROIN request	OS	-
DFHROINT	DSECT	ROIN translate tables	OS	03
DFHRPAL	CSECT (OCO)	ONC RPC Feature alias list	-	03
DFHRPALT	DSECT	RPAL translate tables	-	03
DFHRPAS	CSECT (OCO)	ONC RPC alias main program	-	03
DFHRPCC	CSECT (OCO)	RPCC parameter list	-	03
DFHRPCB	Macro	Extension to DL/I PCB control block - contains ISC information about PCB	OS	-
DFHRPCDH	CSECT	RPPC caller DFHRPCC parameter list	-	08
DFHRPCDO	CSECT	RPPC caller DFHRPCC parameter list	-	07
DFHRPC0A	CSECT (OCO)	CRPC dataset list processing	-	03
DFHRPC0B	CSECT (OCO)	CRPC common subroutines	-	03
DFHRPC0D	CSECT (OCO)	CRPC register remote procedures	-	03
DFHRPC0E	CSECT (OCO)	CRPC register remote procedures	-	03
DFHRPC01	CSECT (OCO)	CRPC initial processing	-	03
DFHRPC03	CSECT (OCO)	CRPC manage feature dataset	-	03
DFHRPC04	CSECT (OCO)	CRPC disable processing	-	03
DFHRPC05	CSECT (OCO)	CRPC manage feature dataset	-	03
DFHRPC06	CSECT (OCO)	CRPC update feature	-	03
DFHRPC08	CSECT (OCO)	CRPC ONC RPC feature	-	03
DFHRPC09	CSECT (OCO)	ONC RPC registration table management	-	03
DFHRPC10	CSECT (OCO)	CRPC alias list processing	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHRPC4C	CSECT (OCO)	ONC RPC initialization	-	03
DFHRPC42	CSECT (OCO)	CRPC enable request processing	-	03
DFHRPDUF	CSECT (OCO)	System dump formatting routine for ONC/RPC	OS	03
DFHRPMS	CSECT (OCO)	ONC RPC feature server controller	-	03
DFHRPRDH	CSECT	RPRSC parameter list	-	08
DFHRPRDO	CSECT	RPRSC parameter list	-	07
DFHRPRP	CSECT (OCO)	ONC RPC feature RPC caller	-	03
DFHRPRPT	CSECT (OCO)	RPRP call structured parameter list	-	03
DFHRPTRI	CSECT (OCO)	ONC RPC feature trace interpretation	-	03
DFHRPTRU	CSECT (OCO)	ONC RPC task-related user exit	-	03
DFHRPUCH	CSECT	Constants used by user replaceable programs	-	08
DFHRPUCO	CSECT	Constants used by user replaceable programs	-	07
DFHRP0	CSECT (OCO)	BMS mapset for CRPC main panels	-	03
DFHRP0H	CSECT (OCO)	CRPC DFHRP0 help panels	-	03
DFHRST	Macro	DBCTL XRF recoverable service table	11	-
DFHRTC	CSECT	CRTE cancel command processor	OS	03
DFHRTE	CSECT	Transaction routing program	OS	03
DFHRTSU	CSECT	Surrogate terminal interface program	-	03
DFHRTSUA	CSECT	RTSU parameter list	OS	-
DFHRTSUI	CSECT	Provide Assign/Relay relay link functions of DFHRTSU	OS	-
DFHRTSUM	Macro	RTSU request	OS	-
DFHRTSUT	DSECT	RTSU translate tables	-	03
DFHRTTRI	CSECT	ISC transaction routing (APRT) trace interpreter	OS	03
DFHRTTR1	CSECT	RTSU trace interpretation	-	03
DFHRXAST	CSECT		-	03
DFHRXDM	CSECT	RX Domain Management	-	03
DFHRXDMA	CSECT	RXDM interface parameter area	OS	-
DFHRXDMM	Macro	DFHRXDM interface macro	OS	-
DFHRXDMT	CSECT		-	03
DFHRXDUF	CSECT	RX Domain Dump Formatting	-	03
DFHRXSVC	CSECT	RX Domain Management	-	03
DFHRXTRI	CSECT	DFHRXTRI Design	-	03
DFHRXUW	CSECT	RX Domain UOW Manager	-	03
DFHRXUWA	Other	RXUW interface parameter area	OS	-
DFHRXUWM	Macro	RXUW interface macro	OS	-
DFHRXUWT	CSECT		-	03
DFHRXXMA	Other	RXXM interface parameter area	OS	-
DFHRXXMM	Macro	DFHRXXM interface macro	OS	-
DFHRXXMT	CSECT		-	03
DFHRXXRG	CSECT		-	03
DFHRXXRM	CSECT		-	03
DFHRZDM	CSECT		-	03
DFHRZDUF	CSECT	RequestStreams remote join interface	-	03
DFHRZIX	CSECT		-	03
DFHRZJN	CSECT		-	03
DFHRZLN	CSECT		-	03
DFHRZNR2	CSECT		-	03
DFHRZOFI	CSECT		-	03
DFHRZRG2	CSECT		-	03
DFHRZRJ	CSECT	RequestStreams remote join interface	-	03
DFHRZRJT	CSECT		-	03
DFHRZRM	CSECT	RZRM Gate Module for RM RO callback	-	03
DFHRZRS1	CSECT		-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHRZRT	CSECT	RZRT CDURUN and Gate Module	-	03
DFHRZRT1	CSECT		-	03
DFHRZRT2	CSECT		-	03
DFHRZSO	CSECT		-	03
DFHRZSOT	CSECT		-	03
DFHRZSO1	CSECT		-	03
DFHRZTA	CSECT		-	03
DFHRZTAT	CSECT		-	03
DFHRZTCX	CSECT		-	03
DFHRZTRI	CSECT	RequestStreams Trace interpretation	-	03
DFHRZTR1	CSECT		-	03
DFHRZVP1	CSECT		-	03
DFHRZXM	CSECT	RequestStreams XM Attach Client	-	03
DFHR2TRI	CSECT		-	03
DFHSAADS	DSECT	Storage accounting area	11	-
DFHSABDS	DSECT	Subsystem anchor block	OS	-
DFHSAIQ	CSECT (OCO)	AP domain - system data inquire and set	-	03
DFHSAIQT	CSECT (OCO)	SAIQ trace interpretation data	-	03
DFHSAIQX	Macro	SAIQ request	11	-
DFHSAIQY	DSECT	SAIQ parameter list	11	-
DFHSAXDF	CSECT	DU domain - transaction dump formatter for system areas (CSA, TCA, and so on)	OS	03
DFHSC	Macro	Storage service request	11	-
DFHSCAA	CSECT	Language Environment - set common anchor area	OS	03
DFHSCALL	Macro	EXEC interface call macro for CICSPlex SM commands in assembler-language pgms	11	-
DFHSCCOS	Symbolic	Storage control class of storage	OS	-
DFHSDGDS	DSECT	System dump global statistics	11	-
DFHSDGDS	DSECT	System dump global statistics	C2	07
DFHSDMP	Macro	SDUMP parameter area and MD=L expansion	OS	-
DFHSDRDS	DSECT	System dump statistics by dump code	11	-
DFHSDRDS	DSECT	System dump statistics by dump code	C2	07
DFHSFP	CSECT	Sign-off program	OS	03
DFHSFTC	CSECT		OS	-
DFHSGTIM	CSECT		OS	-
DFHSHDM	CSECT	SH Domain Management	-	03
DFHSHDUF	CSECT	SH Domain Dump Formatting	-	03
DFHSHOFI	CSECT		-	03
DFHSHPR	CSECT	SHPR CDURUN and Gate Module	-	03
DFHSHPRT	CSECT		-	03
DFHSHRE1	CSECT		-	03
DFHSHRM	CSECT	SHRM CDURUN and Gate Module	-	03
DFHSHRQ	CSECT	Scheduler Services - Request Queue	-	03
DFHSHRQA	Other	SHRQ interface parameter area	OS	-
DFHSHRQM	Macro	DFHSHRQ interface macro	OS	-
DFHSHRQT	CSECT		-	03
DFHSHRQ1	CSECT		-	03
DFHSHRR	CSECT	SHRR CDURUN and Gate Module	-	03
DFHSHRRP	CSECT		-	03
DFHSHRRT	CSECT		-	03
DFHSHRSP	CSECT		-	03
DFHSHRT	CSECT	SHRT CDURUN and Gate Module	-	03
DFHSHRTT	CSECT		-	03
DFHSHRT1	CSECT		-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHSHRT2	CSECT		-	03
DFHSHSY	CSECT	Component modules	-	03
DFHSHTC	CSECT		OS	-
DFHSHTI	CSECT		-	03
DFHSHTRI	CSECT	SH Domain Trace Interpretation	-	03
DFHSHVP1	CSECT		-	03
DFHSHWPL	DSECT	File control SHOWCAT parameter list	OS	-
DFHSHXM	CSECT	Scheduler Services XM Attach Client	-	03
DFHSIA1	CSECT	System initialization - module A1	OS	03
DFHSIB1	CSECT	System initialization - module B1	OS	03
DFHSIB1A	Source	DFHSIB1 pre-nucleus load routines	OS	-
DFHSIB1B	Source	DFHSIB1 nucleus load routine	OS	-
DFHSIB1C	Source	DFHSIB1 post-nucleus load routine	OS	-
DFHSIB1D	Source	DFHSIB1 subroutines	OS	-
DFHSICOM	Macro	System initialization definitions	OS	-
DFHSIC1	CSECT	System initialization - module C1	OS	03
DFHSID1	CSECT	System initialization - module D1	OS	03
DFHSIF1	CSECT	System initialization - module F1	OS	03
DFHSIG1	CSECT	System initialization - module G1	OS	03
DFHSIH1	CSECT	System initialization - module H1	OS	03
DFHSII1	CSECT	System initialization - module I1	OS	03
DFHSIJ1	CSECT	System initialization - module J1	OS	03
DFHSIPD	Macro	Generate system initialization communication area	OS	-
DFHSIPDS	DSECT	SIP communication area	OS	-
DFHSIT	Macro	System initialization table	11	-
DFHSIT$$	Sample	Default system initialization table	19	03
DFHSIT6$	Sample	System initialization table	19	03
DFHSJAS	CSECT	SJ Assembler routines for DFHSJCS	-	03
DFHSJCS@	CSECT	Autocall SCEEOBJ	-	03
DFHSJDM	CSECT	SJ SJVM Domain	-	03
DFHSJDUF	CSECT	SJ SJVM Domain	-	03
DFHSJGDS	DSECT	Jvmpool Global Statistics	11	07
DFHSJIIN	CSECT	SJ JVM Domain	-	03
DFHSJINT	CSECT		-	03
DFHSJIS	CSECT	SJ JVM Domain	-	03
DFHSJIST	CSECT		-	03
DFHSJJ8H	CSECT		-	08
DFHSJJ8O	CSECT	SJ JVM Domain	OS	03
DFHSJST	CSECT	(SOCKETS) Statistics functions	-	03
DFHSJTRI	CSECT	SJ SJVM Domain	-	03
DFHSK	Macro	Subtasking interface	OS	-
DFHSKC	CSECT	Subtask control program	OS	03
DFHSKE	CSECT	Subtask execution program	OS	03
DFHSKM	CSECT	Subtask manager	OS	03
DFHSKR	Macro	Generate SKR table entries in SIT	11	-
DFHSKTSK	CSECT	General purpose subtask entry point	OS	03
DFHSLDC	DSECT	System logical device code table	11	-
DFHSMAD	CSECT (OCO)	SM domain - add/delete subpool	-	03
DFHSMADA	DSECT	SMAD parameter list	OS	-
DFHSMADM	Macro	SMAD request	OS	-
DFHSMADT	CSECT (OCO)	SMAD trace interpretation data	-	03
DFHSMAFA	DSECT	SMAF parameter list	OS	-
DFHSMAFT	CSECT (OCO)	SMAF trace interpretation data	-	03
DFHSMAR	CSECT (OCO)	SM domain - handle functions	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHSMART	CSECT (OCO)	SMAR trace interpretation data	-	03
DFHSMCK	CSECT (OCO)	SM domain - storage checking/recovery	-	03
DFHSMCKA	DSECT	SMCK parameter list	OS	-
DFHSMCKM	Macro	SMCK request	OS	-
DFHSMCKT	CSECT (OCO)	SMCK trace interpretation data	-	03
DFHSMDDS	DSECT	SM domain - storage statistics for domain subpools	11	-
DFHSMDDS	DSECT	SM domain - storage statistics for domain subpools	C2	07
DFHSMDM	CSECT (OCO)	SM domain - initialization/termination	-	03
DFHSMDUF	CSECT (OCO)	SDUMP formatter for SM domain	-	03
DFHSMFDS	DSECT	SMF header and product section (JC/MN/ST)	11	07
DFHSMGF	CSECT (OCO)	SM domain - getmain/freemain	-	03
DFHSMGFA	DSECT	SMGF parameter list	OS	-
DFHSMGFI	Macro	SM domain - inline getmain/freemain	OS	-
DFHSMGFM	Macro	SMGF request	OS	-
DFHSMGFT	CSECT (OCO)	SMGF trace interpretation data	-	03
DFHSMMCA	DSECT	SMMC parameter list	OS	-
DFHSMMCI	CSECT (OCO)	SM domain - macro-compatibility initialize	-	03
DFHSMMCM	Macro	SMMC request	OS	-
DFHSMMCT	CSECT (OCO)	SMMC trace interpretation data	-	03
DFHSMMCX	Macro	SMMC request (XPI)	11	-
DFHSMMCY	DSECT	SMMC parameter list (XPI)	11	-
DFHSMMC2	CSECT (OCO)	SM domain - macro-compatibility system freemain functions	-	03
DFHSMMF	CSECT (OCO)	SM domain - macro-compatibility freemain interface	-	03
DFHSMMG	CSECT (OCO)	SM domain - macro-compatibility getmain interface	-	03
DFHSMNTA	DSECT	SMNT parameter list	OS	-
DFHSMNTM	Macro	SMNT request	OS	-
DFHSMNTT	CSECT (OCO)	SMNT trace interpretation data	-	03
DFHSMPE	Other	Cataloged procedure to execute SMP/E	02	-
DFHSMPP	CSECT (OCO)	SM domain - pagepool manager functions 1	-	03
DFHSMPPT	CSECT (OCO)	SMPP trace interpretation data	-	03
DFHSMPQ	CSECT (OCO)	SM domain - pagepool manager functions 2	-	03
DFHSMPQT	CSECT (OCO)	SMPQ trace interpretation data	-	03
DFHSMPT	Macro	SMP/E control card generator	11	-
DFHSMSCP	CSECT (OCO)	Storage control program	-	03
DFHSMSDS	DSECT	SM domain - storage statistics for DSAs	11	-
DFHSMSDS	DSECT	SM domain - storage statistics for DSAs	C2	07
DFHSMSQ	CSECT (OCO)	SM domain - suspend queue manager function	-	03
DFHSMSQT	CSECT (OCO)	SMSQ trace interpretation data	-	03
DFHSMSR	CSECT (OCO)	SM domain - services	-	03
DFHSMSRA	DSECT	SMSR parameter list	OS	-
DFHSMSRI	CSECT	SM domain - in-line INQUIRE_ACCESS	OS	-
DFHSMSRM	Macro	SMSR request	OS	-
DFHSMSRT	CSECT (OCO)	SMSR trace interpretation data	-	03
DFHSMSRX	Macro (OCO)	SMSR request (XPI)	11	-
DFHSMSRY	DSECT (OCO)	SMSR parameter list	11	-
DFHSMST	CSECT (OCO)	SM domain - statistics collection	-	03
DFHSMSU	CSECT (OCO)	Subspace manager	-	03
DFHSMSUT	CSECT (OCO)	Subspace manager trace interpretation data	-	03
DFHSMSVC	CSECT (OCO)	SM domain - authorized service routine	-	03
DFHSMSY	CSECT (OCO)	SM domain - system task	-	03
DFHSMTAB	CSECT	CICSPLex SM commands language table	-	03
DFHSMTDS	DSECT	SM domain - storage statistics for task subpools	11	-
DFHSMTDS	DSECT	SM domain - storage statistics for task subpools	C2	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHSMTDS	DSECT	SM domain - storage statistics for task subpools	P2	-
DFHSMTRI	CSECT (OCO)	Trace interpreter for SM domain	-	03
DFHSMUTL	CSECT	SM Catalog Update Program	OS	03
DFHSMXDF	CSECT (OCO)	Transaction dump - task subpools	-	03
DFHSNAS	CSECT	create signon/sign-off ATI sessions	-	03
DFHSNEP	Macro	Node error program generator	11	-
DFHSNEPH	Macro	NEP inner macro	11	-
DFHSNET	Macro	Node error table generator	11	-
DFHSNEX	Macro	Signon extension block generator	11	-
DFHSNEXD	DSECT	Signon extension to TCTTE	OS	-
DFHSNGND	DSECT	CEGN parameter list	OS	-
DFHSNGSD	DSECT	GNTRAN parameter list	11	-
DFHSNGSH	DSECT	GNTRAN parameter list (C/370)	-	08
DFHSNGSL	DSECT	GNTRAN parameter list (PL/I)	-	17
DFHSNGSO	DSECT	GNTRAN parameter list (COBOL)	C2	-
DFHSNLE	CSECT	Signon large screens map set	OS	03
DFHSNLK	CSECT (OCO)	Signon large screens map set	-	03
DFHSNMIG	CSECT	Signon table migration utility	OS	03
DFHSNNFY	CSECT	RACF CICS segment notify exit	OS	03
DFHSNP	CSECT	Signon program	OS	03
DFHSNPTO	CSECT	CICS segment (RACF) TIMEOUT keyword print exit routine	-	03
DFHSNPU	CSECT	Preset userid signon/sign-off	-	03
DFHSNSC	CSECT	Timeout transaction (CESC) scheduler	-	03
DFHSNSCA	CSECT	SNSC parameter list	OS	-
DFHSNSCM	Macro	SNSC requests	OS	-
DFHSNSE	CSECT	Signon small screens map set	OS	03
DFHSNSG	CSECT	Surrogate terminal signon/off	-	03
DFHSNSGI	Macro	Surrogate terminals sign-on and signoff requests	OS	-
DFHSNSK	CSECT (OCO)	Signon small screens map set	-	03
DFHSNSTA	DSECT	ISC/IRC attach-time statistics area	OS	-
DFHSNSU	CSECT	Session userid signon/sign-off	-	03
DFHSNTRI	CSECT	SN trace interpreter	-	03
DFHSNTU	CSECT	Terminal userid signon/sign-off	-	03
DFHSNUS	CSECT (OCO)	US domain - local and remote signon	-	03
DFHSNUSA	DSECT	SNUS parameter list	OS	-
DFHSNUSM	Macro	SNUS macro	OS	-
DFHSNUST	CSECT (OCO)	SNUS trace interpretation data	-	03
DFHSNVCL	CSECT	RACF CICS segment OPCLASS validation exit	OS	03
DFHSNVID	CSECT	RACF CICS segment OPIDENT validation exit	OS	03
DFHSNVPR	CSECT	RACF CICS segment OPPRTY validation exit	OS	03
DFHSNVTO	CSECT	RACF CICS segment TIMEOUT validation exit	OS	03
DFHSNXR	CSECT (OCO)	XRF reflecting signon state	-	03
DFHSNXRA	DSECT	SNXR parameter list	OS	-
DFHSNXRM	Macro	SNXR requests	OS	-
DFHSNXRT	CSECT (OCO)	SNXR trace interpretation data	-	03
DFHSOAD	CSECT	SO Domain - SOAD gate functions	-	03
DFHSOADT	CSECT		-	03
DFHSOCBT	CSECT		-	03
DFHSOCK	CSECT	Sockets send/receive/close	-	03
DFHSOCKT	CSECT		-	03
DFHSODM	CSECT	Sockets Domain Initialization	-	03
DFHSODUF	CSECT	Sockets Domain Dump Formatting	-	03
DFHSOGDS	DSECT	Sockets Global Statistics	11	07

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHSOGH@	DSECT		-	03
DFHSOIS	CSECT	Sockets Domain Inquire/Set	-	03
DFHSOIST	CSECT		-	03
DFHSOL	CSECT	Sockets Domain Listener Task	-	03
DFHSOLS	CSECT	Sockets Listener	-	03
DFHSOLST	CSECT		-	03
DFHSOLX	CSECT	Sockets Domain Asynchronous exit routine	-	03
DFHSOPI	CSECT	SO Domain CEEPIPI service routines	-	03
DFHSORD	CSECT	SO Domain Sockets Register/Deregister	-	03
DFHSORDS	Other	SO Domain TCPIP Service Statistics	11	07
DFHSORDT	CSECT		-	03
DFHSORT	Macro	Auxiliary sort	11	-
DFHSOSE	CSECT	Sockets Domain Secure Sockets Layer	-	03
DFHSOSET	CSECT		-	03
DFHSOSK@	CSECT		-	03
DFHSOSKO	CSECT		-	03
DFHSOST	CSECT	Sockets Statistics Functions	-	03
DFHSOS00	CSECT		-	03
DFHSOS01	CSECT		-	03
DFHSOS02	CSECT		-	03
DFHSOS03	CSECT		-	03
DFHSOS04	CSECT		-	03
DFHSOS05	CSECT		-	03
DFHSOS06	CSECT		-	03
DFHSOS07	CSECT		-	03
DFHSOS08	CSECT		-	03
DFHSOS09	CSECT		-	03
DFHSOS10	CSECT		-	03
DFHSOS11	CSECT		-	03
DFHSOS12	CSECT		-	03
DFHSOS13	CSECT		-	03
DFHSOS14	CSECT		-	03
DFHSOS15	CSECT		-	03
DFHSOS16	CSECT		-	03
DFHSOS17	CSECT		-	03
DFHSOS18	CSECT		-	03
DFHSOS19	CSECT		-	03
DFHSOS20	CSECT		-	03
DFHSOS21	CSECT		-	03
DFHSOS22	CSECT		-	03
DFHSOS23	CSECT		-	03
DFHSOTB	CSECT	SO Domain SOTB Gate Functions	-	03
DFHSOTBT	CSECT		-	03
DFHSOTI	CSECT	Sockets Timer	-	03
DFHSOTRI	CSECT	Sockets Domain Trace Interpretation	-	03
DFHSOUE	CSECT	Sockets Domain User Exit Services	-	03
DFHSOXM	CSECT	Sockets Attach Client	-	03
DFHSP	Macro	Syncpoint service request	11	-
DFHSPBAB	CSECT		-	03
DFHSPBAC	CSECT		-	03
DFHSPBAE	CSECT		-	03
DFHSPDBB	CSECT		OS	03
DFHSPDBC	CSECT		OS	03
DFHSPDBE	CSECT		OS	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHSPDHB	CSECT		-	03
DFHSPDHC	CSECT		-	03
DFHSPDHE	CSECT		-	03
DFHSPEJB	CSECT		-	03
DFHSPEJC	CSECT		-	03
DFHSPEJE	CSECT		-	03
DFHSPFIB	CSECT	CSDUP - cross-keyword validation for files	OS	03
DFHSPFIC	CSECT	RDO - cross-keyword validation for files	OS	03
DFHSPFIE	CSECT	RDO file definition validation	OS	03
DFHSPKCB	CSECT	CSDUP - cross-keyword validation for transactions and profiles	OS	03
DFHSPKCC	CSECT	RDO - cross-keyword validation for transactions and profiles	OS	03
DFHSPKCE	CSECT	RDO txn control definition validation	OS	03
DFHSPLMB	CSECT	RDO JournalModel definition validation	-	03
DFHSPLMC	CSECT	RDO JournalModel definition validation	-	03
DFHSPLME	CSECT	RDO JournalModel definition validation	-	03
DFHSPLSB	CSECT	CSDUP - cross-keyword validation for LSR pools	OS	03
DFHSPLSC	CSECT	RDO - cross-keyword validation for LSR pools	OS	03
DFHSPLSE	CSECT	RDO - Lsrpool definition validation	OS	03
DFHSPNQB	CSECT		OS	03
DFHSPNQC	CSECT		OS	03
DFHSPNQE	CSECT		OS	03
DFHSPOPB	CSECT		-	03
DFHSPOPC	CSECT		-	03
DFHSPOPE	CSECT		-	03
DFHSPPCB	CSECT	CSDUP - cross-keyword validation for programs, map sets, and partition sets	OS	03
DFHSPPCC	CSECT	RDO - cross-keyword validation for programs, map sets, and partition sets	OS	03
DFHSPPCE	CSECT	RDO - program definition validation	OS	03
DFHSPPNB	CSECT	CSDUP - cross-keyword validation for partners	OS	03
DFHSPPNC	CSECT	RDO - cross-keyword validation for partners	OS	03
DFHSPPNE	CSECT	RDO - partner definition validation	OS	03
DFHSPSOB	CSECT		-	03
DFHSPSOC	CSECT		-	03
DFHSPSOE	CSECT		-	03
DFHSPTCB	CSECT	CSDUP - cross-keyword validation for terminals	OS	03
DFHSPTCC	CSECT	RDO - cross-keyword validation for terminals	OS	03
DFHSPTCE	CSECT	RDO - terminal definition validation	OS	03
DFHSPTDB	CSECT	RDO - TDQueue definition validation	-	03
DFHSPTDC	CSECT	RDO - TDQueue definition validation	-	03
DFHSPTDE	CSECT	RDO - TDQueue definition validation	-	03
DFHSPTIB	CSECT	CSDUP - cross-keyword validation for sessions	OS	03
DFHSPTIC	CSECT	RDO - cross-keyword validation for sessions	OS	03
DFHSPTIE	CSECT	RDO - sessions definition validation	OS	03
DFHSPTNB	CSECT	CSDUP - cross-keyword validation for connections	OS	03
DFHSPTNE	CSECT	RDO - connection definition validation	OS	03
DFHSPTNC	CSECT	RDO - cross-keyword validation for connections	OS	03
DFHSPTRI	CSECT	SPI trace interpreter	OS	03
DFHSPTSB	CSECT		OS	03
DFHSPTSC	CSECT		OS	03
DFHSPTSE	CSECT		OS	03
DFHSPTYB	CSECT	CSDUP - cross-keyword validation for typeterms	OS	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHSPTYC	CSECT	RDO - cross-keyword validation for typeterms	OS	03
DFHSPTYE	CSECT	RDO - Typeterms definition validation	OS	03
DFHSPP	CSECT	Syncpoint program	-	03
DFHSPXMB	CSECT	CSDUP - cross-keyword validation for transactions	-	03
DFHSPXMC	CSECT	RDO - cross-keyword validation for transactions	-	03
DFHSPXME	CSECT	RDO - TranClass definition validation	-	03
DFHSRADS	DSECT	SRB interface control area	OS	-
DFHSRASM	CSECT	Alias for SRRHASM	11	-
DFHSRCOB	CSECT	Alias for SRRCOBOL	C2	-
DFHSRED	DSECT	System recovery error data for XSRAB exit	11	-
DFHSRLI	CSECT	SRP LIFO storage subroutine	OS	03
DFHSRLIA	DSECT	SRLI parameter list	OS	-
DFHSRLIM	Macro	SRLI request	OS	-
DFHSRLIT	CSECT	SRLI trace interpretation data	OS	03
DFHSRP	CSECT	System recovery program	OS	03
DFHSRPLI	CSECT	Alias for SRRPLI	P2	-
DFHSRRC	CSECT	Alias for SRRC	-	08
DFHSRSRA	Source	SRSR parameter list	OS	-
DFHSRSRM	Source	SRSR request	OS	-
DFHSRT	Macro	System recovery table	11	-
DFHSRTDS	DSECT	System recovery table	OS	-
DFHSRT1$	Sample	System recovery table	19	03
DFHSRXDS	DSECT	SRB and extensions in SQA	OS	-
DFHSR1	CSECT	System recovery program	-	03
DFHSSAD	Macro	Static storage area address list	11	-
DFHSSDUF	CSECT (OCO)	SDUMP formatter for static storage areas	-	03
DFHSSEN	CSECT	Subsystem interface EOT and EOM routine	OS	03
DFHSSGC	CSECT	Subsystem interface generic connect	OS	03
DFHSSIN	CSECT	CICS subsystem initialization	OS	03
DFHSSMGP	CSECT	Subsystem interface message program	OS	03
DFHSSMGT	CSECT	Subsystem interface message table	OS	03
DFHSSREQ	Macro	Subsystem interface (SSI) request	OS	-
DFHSSWT	CSECT	Subsystem interface WTO router	OS	03
DFHSSWTF	CSECT	SSI MODIFY command password suppression	OS	03
DFHSSWTO	CSECT	SSI CICS console message reformatting	OS	03
DFHSTAB	Macro	Table scan macro	11	-
DFHSTACK	Macro	Save/restore registers on subroutine calls	OS	-
DFHSTART	Other	CICS startup cataloged procedure	02	-
DFHSTDBX	CSECT (OCO)	STUP - DBCTL statistics summary formatter	-	03
DFHSTDM	CSECT (OCO)	ST domain - initialization/termination	-	03
DFHSTDSX	CSECT (OCO)	STUP - DS domain stats summary formatter	-	03
DFHSTDUF	CSECT (OCO)	SDUMP formatter for ST domain	-	03
DFHSTDUX	CSECT (OCO)	STUP - DU domain stats summary formatter	-	03
DFHSTD2	Macro	Standard names of domains, gates, formats	11	-
DFHSTD2X	CSECT		-	03
DFHSTEJX	CSECT	Stats.Util.EJ Domain Extended formatting	-	03
DFHSTE15	CSECT (OCO)	STUP - DFSORT interface to E15 user exit	-	03
DFHSTE35	CSECT (OCO)	STUP - DFSORT interface to E35 user exit	-	03
DFHSTFC	CSECT	AP domain - file control statistics	-	03
DFHSTGDS	DSECT	ST domain - global statistics	11	-
DFHSTGDS	DSECT	ST domain - global statistics	C2	07
DFHSTIDS	DSECT	Statistics common record header and record identifiers	11	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHSTIDS	DSECT	Statistics common record header and record identifiers	C2	07
DFHSTIIX	CSECT	Stats.Util.II Domain Extended formatting	-	03
DFHSTIN	CSECT (OCO)	STUP - DFSORT E15 user exit input routine	-	03
DFHSTISX	CSECT (OCO)	STUP - IPCONN statistics summary formatter	-	03
DFHSTLDX	CSECT (OCO)	STUP - LD domain stats summary formatter	-	03
DFHSTLGX	CSECT (OCO)	Logger Domain statistics extended	-	03
DFHSTLK	CSECT	AP domain - ISC/IRC statistics	-	03
DFHSTLS	CSECT	AP domain - LSR pool statistics	-	03
DFHSTMNX	CSECT (OCO)	STUP - MN domain stats summary formatter	-	03
DFHSTMQX	CSECT	CICS-MQ statistics summary formatter	-	03
DFHSTNDD	Macro		11	-
DFHSTNQX	CSECT (OCO)	Enqueue Manager domain statistics	-	03
DFHSTOT	CSECT (OCO)	STUP - DFSORT E35 user exit output routine	-	03
DFHSTP	CSECT	System termination program	OS	03
DFHSTPGX	CSECT	STUP - PG domain autoinstall statistics	-	03
DFHSTRD	CSECT (OCO)	STUP - read interface	-	03
DFHSTRDA	DSECT	STRD parameter list	OS	-
DFHSTRDM	Macro	STRD request	OS	-
DFHSTRMX	CSECT (OCO)	Recovery Manager domain statistics	-	03
DFHSTSJX	CSECT	Stats.Util.JVM Domain Extended formatting	-	03
DFHSTSMF	Macro	ST domain - statistics SMF header and SMF product section	11	-
DFHSTSMX	CSECT (OCO)	STUP - SM domain stats summary formatter	-	03
DFHSTSOX	CSECT	Stats.Util.SO Domain Extended formatting	-	03
DFHSTST	CSECT (OCO)	ST domain - services	-	03
DFHSTSTA	DSECT	STST parameter list	OS	-
DFHSTSTM	Macro	STST request	OS	-
DFHSTSTT	CSECT	STST trace interpretation data	OS	03
DFHSTSTX	CSECT (OCO)	STUP - ST domain stats summary formatter	-	03
DFHSTSZ	CSECT	AP domain - FEPI statistics	-	03
DFHSTTD	CSECT	AP domain - transient data statistics	-	03
DFHSTTI	CSECT (OCO)	ST domain - timer notify handler	-	03
DFHSTTM	CSECT	AP domain - table manager statistics	-	03
DFHSTTQX	CSECT	STUP - TDQueue id extended formatting	-	03
DFHSTTR	CSECT	AP domain - terminal statistics	-	03
DFHSTTRI	CSECT (OCO)	Trace interpreter for ST domain	-	03
DFHSTTSX	CSECT (OCO)	Shared TS statistics	-	03
DFHSTUDB	CSECT (OCO)	STUP - DBCTL statistics formatter	-	03
DFHSTUDE	CSECT (OCO)	STUP - DE domain statistics formatter	-	03
DFHSTUDS	CSECT (OCO)	STUP - DS domain statistics formatter	-	03
DFHSTUDU	CSECT (OCO)	STUP - DU domain statistics formatter	-	03
DFHSTUD2	CSECT (OCO)	STUP - DU domain statistics formatter	-	03
DFHSTUE	CSECT (OCO)	ST domain - user exit service	-	03
DFHSTUEJ	CSECT	STUP - EJ Domain formatting routine	-	03
DFHSTUII	CSECT	STUP - II Domain formatting routine	-	03
DFHSTUIS	CSECT (OCO)	STUP - IPCONN statistics formatter	-	03
DFHSTULD	CSECT (OCO)	STUP - LD domain statistics formatter	-	03
DFHSTULG	CSECT (OCO)	STUP - Logger domain formatting routine	-	03
DFHSTUMN	CSECT (OCO)	STUP - MN domain statistics formatter	-	03
DFHSTUMQ	CSECT	CICS-MQ statistics formatter	-	03
DFHSTUNQ	CSECT (OCO)	STUP - Enqueue manager domain statistics	-	03
DFHSTUPG	CSECT (OCO)	STUP - PG domain autoinstall statistics formatter	-	03
DFHSTUP1	CSECT (OCO)	STUP - preinitialize	-	03
DFHSTURM	CSECT (OCO)	STUP - Recovery manager domain statistics	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHSTURS	CSECT (OCO)	STUP - US domain statistics formatter	-	03
DFHSTURX	CSECT (OCO)	STUP - US domain statistics summary formatter	-	03
DFHSTUSJ	CSECT	STUP - Scaleable JVM Domain formatting	-	03
DFHSTUSM	CSECT (OCO)	STUP - SM domain statistics formatter	-	03
DFHSTUSO	CSECT	STUP - Sockets Domain formatting routine	-	03
DFHSTUST	CSECT (OCO)	STUP - ST domain statistics formatter	-	03
DFHSTUTQ	CSECT (OCO)	STUP - Transient data statistics	-	03
DFHSTUTS	CSECT (OCO)	Shared TS statistics	-	03
DFHSTUXC	CSECT (OCO)	STUP - Transaction manager domain statistics	-	03
DFHSTUXM	CSECT (OCO)	STUP - XM domain statistics formatter	-	03
DFHSTU03	CSECT (OCO)	STUP - VTAM statistics formatter	-	03
DFHSTU04	CSECT (OCO)	STUP - autoinstall terminals statistics formatter	-	03
DFHSTU06	CSECT (OCO)	STUP - terminal statistics formatter	-	03
DFHSTU08	CSECT (OCO)	STUP - LSRPOOL resource statistics formatter	-	03
DFHSTU09	CSECT (OCO)	STUP - LSRPOOL file statistics formatter	-	03
DFHSTU14	CSECT (OCO)	STUP - ISC/IRC statistics formatter	-	03
DFHSTU16	CSECT (OCO)	STUP - table manager statistics formatter	-	03
DFHSTU17	CSECT (OCO)	STUP - file control statistics formatter	-	03
DFHSTU21	CSECT (OCO)	STUP - ISC/IRC attach-time statistics formatter	-	03
DFHSTU22	CSECT (OCO)	STUP - FEPI statistics formatter	-	03
DFHSTWR	CSECT (OCO)	STUP - write interface	-	03
DFHSTWRA	DSECT	STWR parameter list	OS	-
DFHSTWRM	Macro	STWR request	OS	-
DFHSTXCX	CSECT (OCO)	STUP - Transaction manager domain extended formatting routine for TranClass Stats	-	03
DFHSTXLE	CSECT	Off-line Statistics Utility Program	-	03
DFHSTXMX	CSECT (OCO)	STUP - XM statistics extended formatter	-	03
DFHST03X	CSECT (OCO)	STUP - VTAM statistics summary formatter	-	03
DFHST04X	CSECT (OCO)	STUP - autoinstall terminals statistics summary formatter	-	03
DFHST06X	CSECT (OCO)	STUP - terminal stats summary formatter	-	03
DFHST08X	CSECT (OCO)	STUP - LSRPOOL resource statistics summary formatter	-	03
DFHST09X	CSECT (OCO)	STUP - LSRPOOL file statistics summary formatter	-	03
DFHST14X	CSECT (OCO)	STUP - ISC/IRC stats summary formatter	-	03
DFHST16X	CSECT (OCO)	STUP - table manager statistics summary formatter	-	03
DFHST17X	CSECT (OCO)	STUP - file control statistics summary formatter	-	03
DFHST21X	CSECT (OCO)	STUP - ISC/IRC attach-time statistics summary formatter	-	03
DFHST22X	CSECT (OCO)	STUP - FEPI statistics summary formatter	-	03
DFHSUDUF	CSECT (OCO)	SDUMP formatter for DU domain summary	-	03
DFHSUEX	CSECT	User exit handler subroutine	-	03
DFHSUEXA	DSECT	SUEX parameter list	OS	-
DFHSUEXM	Macro	SUEX request	OS	-
DFHSUEXT	CSECT	SUEX trace interpretation data	OS	03
DFHSUME	CSECT (OCO)	ME domain - produce and issue messages subroutine (used by ME and LM domains)	-	03
DFHSUMEA	DSECT	SUME parameter list	OS	-
DFHSUMEM	Macro	SUME request	OS	-
DFHSUMET	CSECT	SUME trace interpretation data	-	03
DFHSUNP	Other		OS	-
DFHSUSX	CSECT	XRF signon	OS	03
DFHSUSXA	DSECT	SUSX parameter list	OS	-
DFHSUSXM	Macro	SUSX request	OS	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHSUSXT	DSECT	SUSX translate tables	OS	03
DFHSUTRI	CSECT	WTO/WTOR subroutine trace interpreter	OS	03
DFHSUWT	CSECT	WTO/WTOR interface subroutine	OS	03
DFHSUWTA	DSECT	SUWT parameter list	OS	-
DFHSUWTM	Macro	SUWT request	OS	-
DFHSUWTT	CSECT	SUWT trace interpretation data	OS	03
DFHSUZX	CSECT	ZC trace controller	OS	03
DFHSUZXA	DSECT	SUZX parameter list	OS	-
DFHSUZXM	Macro	SUZX request	OS	-
DFHSUZXT	CSECT	SUZX trace interpretation data	OS	03
DFHSVCHK	Macro	SVC level check	11	-
DFHSWXK	Macro	Switch execution key routine	OS	-
DFHSYS	Macro	System definition macro	11	-
DFHSZAPA	DSECT	FEPI programming copybook - assembler	11	-
DFHSZAPC	DSECT	FEPI programming copybook - C/370	-	08
DFHSZAPO	DSECT	FEPI programming copybook - COBOL	C2	-
DFHSZAPP	DSECT	FEPI programming copybook - PL/I	P2	17
DFHSZATC	CSECT (OCO)	FEPI adaptor command tables	-	03
DFHSZATR	CSECT (OCO)	FEPI adaptor program	-	03
DFHSZBCL	CSECT (OCO)	FEPI cleanup API requests at error routine	-	03
DFHSZBCS	CSECT (OCO)	FEPI RM collect statistics	-	03
DFHSZBFT	CSECT (OCO)	FEPI FREE transaction requests scheduler	-	03
DFHSZBLO	CSECT (OCO)	FEPI lost session reporter	-	03
DFHSZBRS	CSECT (OCO)	FEPI RM collect resource ID statistics	-	03
DFHSZBSI	CSECT (OCO)	FEPI signon exit scheduler	-	03
DFHSZBST	CSECT (OCO)	FEPI STSN transaction scheduler	-	03
DFHSZBUN	CSECT (OCO)	FEPI unsolicited data transaction scheduler	-	03
DFHSZBUS	CSECT (OCO)	FEPI RM unsolicited statistics recording	-	03
DFHSZDUF	CSECT (OCO)	FEPI dump formatting routine	-	03
DFHSZFRD	CSECT (OCO)	FEPI formatted 3270 RECEIVE support	-	03
DFHSZFSD	CSECT (OCO)	FEPI formatted 3270 SEND support	-	03
DFHSZIDX	CSECT (OCO)	FEPI SLU P queue install/discard exit	-	03
DFHSZPCP	CSECT (OCO)	FEPI SLU P flow controller	-	03
DFHSZPDX	CSECT (OCO)	FEPI SLU P drain completion exit	-	03
DFHSZPID	CSECT (OCO)	FEPI SLU P send data processor	-	03
DFHSZPIX	CSECT (OCO)	FEPI SLU P send completion exit	-	03
DFHSZPOA	CSECT (OCO)	FEPI SLU P send response processor	-	03
DFHSZPOD	CSECT (OCO)	FEPI SLU P receive data processor	-	03
DFHSZPOR	CSECT (OCO)	FEPI SLU P response processor	-	03
DFHSZPOX	CSECT (OCO)	FEPI SLU P receive specific response exit	-	03
DFHSZPOY	CSECT (OCO)	FEPI SLU P receive specific response processor	-	03
DFHSZPQS	CSECT (OCO)	FEPI SLU P REQSESS (request session) issuer	-	03
DFHSZPQX	CSECT (OCO)	FEPI SLU P REQSESS exit	-	03
DFHSZPSB	CSECT (OCO)	FEPI SLU P bind processor	-	03
DFHSZPSC	CSECT (OCO)	FEPI SLU P session controller	-	03
DFHSZPSD	CSECT (OCO)	FEPI SLU P SDT processor	-	03
DFHSZPSH	CSECT (OCO)	FEPI SLU P SHUTC processor	-	03
DFHSZPSQ	CSECT (OCO)	FEPI SLU P quiesce complete (QC) processor	-	03
DFHSZPSR	CSECT (OCO)	FEPI RESETSR processor CSECT	-	03
DFHSZPSS	CSECT (OCO)	FEPI SLU P STSN processor	-	03
DFHSZPSX	CSECT (OCO)	FEPI SLU P OPNSEC completion exit	-	03
DFHSZPTE	CSECT (OCO)	FEPI SLU P TERMSESS processor	-	03
DFHSZRCA	CSECT (OCO)	FEPI node control processor	-	03
DFHSZRCT	CSECT (OCO)	FEPI issue processor	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHSZRDC	CSECT (OCO)	FEPI delete connection processor	-	03
DFHSZRDG	CSECT (OCO)	FEPI discard node processor	-	03
DFHSZRDN	CSECT (OCO)	FEPI delete node processor	-	03
DFHSZRDP	CSECT (OCO)	FEPI dispatcher	-	03
DFHSZRDS	CSECT (OCO)	FEPI discard property set processor	-	03
DFHSZRDT	CSECT (OCO)	FEPI discard target processor	-	03
DFHSZREQ	CSECT (OCO)	FEPI request processor	-	03
DFHSZRFC	CSECT (OCO)	FEPI FREE completion processor	-	03
DFHSZRGR	CSECT (OCO)	FEPI Dispatcher work queue processor	-	03
DFHSZRIA	CSECT (OCO)	FEPI allocate processor	-	03
DFHSZRIC	CSECT (OCO)	FEPI define connection processor	-	03
DFHSZRID	CSECT (OCO)	FEPI discard processor	-	03
DFHSZRIF	CSECT (OCO)	FEPI install free processor	-	03
DFHSZRII	CSECT (OCO)	FEPI install processor	-	03
DFHSZRIN	CSECT (OCO)	FEPI install node processor	-	03
DFHSZRIO	CSECT (OCO)	FEPI ACB open processor	-	03
DFHSZRIP	CSECT (OCO)	FEPI install pool processor	-	03
DFHSZRIQ	CSECT (OCO)	FEPI inquire processor	-	03
DFHSZRIS	CSECT (OCO)	FEPI install processor	-	03
DFHSZRIT	CSECT (OCO)	FEPI install target processor	-	03
DFHSZRIW	CSECT (OCO)	FEPI SET processor	-	03
DFHSZRNC	CSECT (OCO)	FEPI NODE processor	-	03
DFHSZRNO	CSECT (OCO)	FEPI NOOP processor	-	03
DFHSZRPM	CSECT (OCO)	FEPI timer services	-	03
DFHSZRPW	CSECT (OCO)	FEPI request preparation	-	03
DFHSZRQR	CSECT (OCO)	FEPI queue for REQSESS processing	-	03
DFHSZRQW	CSECT (OCO)	FEPI request queue processor	-	03
DFHSZRRD	CSECT (OCO)	FEPI RECEIVE request processor	-	03
DFHSZRRT	CSECT (OCO)	FEPI request release processor	-	03
DFHSZRSC	CSECT (OCO)	FEPI connection processor	-	03
DFHSZRSE	CSECT (OCO)	FEPI SEND request processor	-	03
DFHSZRST	CSECT (OCO)	FEPI START request processor	-	03
DFHSZRTM	CSECT (OCO)	FEPI recovery services	-	03
DFHSZRXD	CSECT (OCO)	FEPI EXTRACT processor	-	03
DFHSZRZZ	CSECT (OCO)	FEPI TERMINATE processor	-	03
DFHSZSDS	DSECT	FEPI storage control block	11	-
DFHSZSIP	CSECT (OCO)	FEPI initialization processor	-	03
DFHSZVBN	CSECT (OCO)	FEPI copy NIB mask to real NIB	-	03
DFHSZVGF	CSECT (OCO)	FEPI get queue element FIFO	-	03
DFHSZVQS	CSECT (OCO)	FEPI REQSESS dispatcher	-	03
DFHSZVRA	CSECT (OCO)	FEPI VTAM receive_any processor	-	03
DFHSZVRI	CSECT (OCO)	FEPI VTAM receive_any issuer	-	03
DFHSZVSC	CSECT (OCO)	FEPI delayed bind processor	-	03
DFHSZVSL	CSECT (OCO)	FEPI SETLOGON request issuer	-	03
DFHSZVSQ	CSECT (OCO)	FEPI VTAM feedback interpreter	-	03
DFHSZVSR	CSECT (OCO)	FEPI VTAM feedback interpreter	-	03
DFHSZVSY	CSECT (OCO)	FEPI VTAM feedback interpreter	-	03
DFHSZWSL	CSECT (OCO)	FEPI RPL exit after SETLOGON	-	03
DFHSZXDA	CSECT (OCO)	FEPI VTAM DFASY exit	-	03
DFHSZXFR	CSECT (OCO)	FEPI RPL exit to free request block	-	03
DFHSZXLG	CSECT (OCO)	FEPI VTAM logon exit	-	03
DFHSZXLT	CSECT (OCO)	FEPI VTAM LOSTERM (lost terminal) exit	-	03
DFHSZXNS	CSECT (OCO)	FEPI VTAM NSEXIT (network services) exit	-	03
DFHSZXPM	CSECT (OCO)	FEPI STIMER IRB exit routine	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHSZXRA	CSECT (OCO)	FEPI VTAM RECEIVE_ANY exit	-	03
DFHSZXSC	CSECT (OCO)	FEPI VTAM SCIP (session control) exit	-	03
DFHSZXTP	CSECT (OCO)	FEPI VTAM TPEND exit	-	03
DFHSZYLG	CSECT (OCO)	FEPI RPL exit following logon reject	-	03
DFHSZYQR	CSECT (OCO)	FEPI post for REQSESS processing	-	03
DFHSZYRI	CSECT (OCO)	FEPI VTAM RECEIVE_ANY issuer	-	03
DFHSZYSC	CSECT (OCO)	FEPI VTAM SCIP exit extension	-	03
DFHSZYSR	CSECT (OCO)	FEPI VTAM feedback interpreter	-	03
DFHSZYSY	CSECT (OCO)	FEPI VTAM feedback interpreter	-	03
DFHSZZAG	CSECT (OCO)	FEPI get RECEIVE_ANY request block	-	03
DFHSZZFR	CSECT (OCO)	FEPI free RECEIVE_ANY request block	-	03
DFHSZZNG	CSECT (OCO)	FEPI get session control request block	-	03
DFHSZZRG	CSECT (OCO)	FEPI get RPL request block	-	03
DFHSZ2CP	CSECT (OCO)	FEPI SLU2 flow controller	-	03
DFHSZ2DX	CSECT (OCO)	FEPI SLU2 drain completion exit	-	03
DFHSZ2ID	CSECT (OCO)	FEPI SLU2 send data processor	-	03
DFHSZ2IX	CSECT (OCO)	FEPI SLU2 send completion exit	-	03
DFHSZ2OA	CSECT (OCO)	FEPI SLU2 send response processor	-	03
DFHSZ2OD	CSECT (OCO)	FEPI SLU2 receive data processor	-	03
DFHSZ2OR	CSECT (OCO)	FEPI SLU2 response processor	-	03
DFHSZ2OX	CSECT (OCO)	FEPI SLU2 receive specific completion exit	-	03
DFHSZ2OY	CSECT (OCO)	FEPI SLU2 receive specific action module	-	03
DFHSZ2PX	CSECT (OCO)	FEPI SLU2 positive response drain exit	-	03
DFHSZ2QS	CSECT (OCO)	FEPI SLU2 REQSESS issuer	-	03
DFHSZ2QX	CSECT (OCO)	FEPI SLU2 REQSESS exit	-	03
DFHSZ2SB	CSECT (OCO)	FEPI SLU2 bind processor	-	03
DFHSZ2SC	CSECT (OCO)	FEPI SLU2 session controller	-	03
DFHSZ2SD	CSECT (OCO)	FEPI SLU2 SDT processor	-	03
DFHSZ2SH	CSECT (OCO)	FEPI SLU2 SHUTC processor	-	03
DFHSZ2SQ	CSECT (OCO)	FEPI SLU2 QC processor	-	03
DFHSZ2SR	CSECT (OCO)	FEPI SLU2 RESETSR processor	-	03
DFHSZ2SX	CSECT (OCO)	FEPI SLU2 OPNSEC processor	-	03
DFHSZ2TE	CSECT (OCO)	FEPI SLU2 TERMSESS processor	-	03
DFHTACB	Macro	Task abend control block	11	-
DFHTACLE	DSECT	TCT line entry prefix	11	-
DFHTACP	CSECT	Terminal abnormal condition program	OS	03
DFHTAJP	CSECT	Time adjustment program	OS	03
DFHTBS	Macro	Builder interface	OS	-
DFHTBSB	CSECT	Add a node	OS	03
DFHTBSBP	CSECT	Recursive part of DFHTBSB	OS	03
DFHTBSD	CSECT	Delete node program	OS	03
DFHTBSDP	CSECT	Recursive part of DFHTBSD	OS	03
DFHTBSL	CSECT	Create recovery record for node	OS	03
DFHTBSLP	CSECT	Recursive part of DFHTBSL	OS	03
DFHTBSQ	CSECT	Builder inquire process	OS	03
DFHTBSQP	CSECT	Recursive part of DFHTBSQ	OS	03
DFHTBSR	CSECT	Builder restore process	OS	03
DFHTBSRP	CSECT	Recursive part of DFHTBSR	OS	03
DFHTBSS	CSECT	TBS syncpoint processor	-	03
DFHTBSST	DSECT	TBSS translate tables	-	03
DFHTBS00	CSECT	Table builder services program	OS	03
DFHTC	Macro	Terminal service request	11	-
DFHTCA	Macro	Task control area	11	-
DFHTCADS	DSECT	Task control area	11	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHTCAM	Source	CICS-TCAM interface logic	OS	-
DFHTCCLC	Source	Common line control logic	OS	-
DFHTCCOM	Source	Input data length computation	OS	-
DFHTCCSS	Source	Start-stop event analysis	OS	-
DFHTCDEF	Symbolic	Terminal control definitions	OS	-
DFHTCDPF	CSECT (OCO)	Terminal control prefix SDUMP module	-	03
DFHTCDUF	CSECT (OCO)	Terminal control SDUMP formatter	-	03
DFHTCORS	Source	Terminal storage routine	OS	-
DFHTCP	CSECT	Terminal control program	OS	03
DFHTCPCL	Macro	DFHZCP request	OS	-
DFHTCPCM	Macro	Common ZCP functions	11	-
DFHTCPLR	Macro	LU6.2 limited resources service	OS	-
DFHTCPQR	Macro	Queued response notification	OS	-
DFHTCPRA	DSECT	Receive-any control element	OS	-
DFHTCPRT	Macro	DFHZCP RETURN macro	OS	-
DFHTCPSM	Macro	TCT generation - VTAM DSECTs	11	-
DFHTCPSV	Macro	DFHZCP SAVE macro	OS	-
DFHTCPZR	Macro	VTAM RPL extension for HPO	11	-
DFHTCQUE	Macro	DFHZCP QUEUE macro	OS	-
DFHTCRP	CSECT	Terminal control recovery program	OS	03
DFHTCRPC	CSECT	XRF tracking interface for TCT contents	OS	03
DFHTCRPL	CSECT	Install TCT macro definitions	OS	03
DFHTCRPS	CSECT	XRF tracking interface for ZCP sessions	OS	03
DFHTCRPU	CSECT	XRF tracking interface for SNTTEs	OS	03
DFHTCRWE	DSECT	Remote install work element	OS	-
DFHTCSAM	Source	Sequential terminal logic	OS	-
DFHTCSRV	Macro	DFHTC inner service macro	11	-
DFHTCSUM	CSECT	Terminal control dump summary program	-	03
DFHTCT	Macro	Terminal control table	11	-
DFHTCTDY	CSECT	Terminal control table (dummy)	19	03
DFHTCTFN	Source	TCT TYPE=FINAL (VTAM)	11	-
DFHTCTFX	DSECT	TCT prefix	11	-
DFHTCTI	Source	Terminal control task initiation logic	OS	-
DFHTCTLC	Macro	TCT inner macro	11	-
DFHTCTLE	DSECT	TCT line entry	11	-
DFHTCTME	Macro	Generate TCT mode group entries	11	-
DFHTCTPR	Macro	TCTTE partition extension builder	11	-
DFHTCTPS	Macro	TCT inner macro	11	-
DFHTCTPX	Macro	TCT inner macro	11	-
DFHTCTRD	Macro	VTAM RDO command list builder	11	-
DFHTCTRE	Macro	TCT definition macro	11	-
DFHTCTRN	Source	Terminal control translation tables	OS	-
DFHTCTSA	Macro	TCT inner macro	11	-
DFHTCTSB	Macro	TCT inner macro	11	-
DFHTCTSE	Macro	Generate ISC system entry	11	-
DFHTCTSK	Macro	Generate TCT skeleton entry	11	-
DFHTCTST	Macro	TCT inner macro	11	-
DFHTCTSV	Macro	TCT inner macro	11	-
DFHTCTTE	DSECT	TCT terminal entry	11	-
DFHTCTUA	Macro	TCT inner macro	11	-
DFHTCTUB	Macro	TCT inner macro	11	-
DFHTCTWA	DSECT	TC transaction work area	11	-
DFHTCTWE	DSECT	TCT autodefine work element	OS	-
DFHTCTZE	Macro	TCTTE definition	11	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHTCT5$	Sample	Terminal control table	19	03
DFHTCUDS	DSECT	COMMAREA passed to autoinstall exit	11	-
DFHTCUDS	DSECT	COMMAREA passed to autoinstall exit	C2	07
DFHTCUDS	DSECT	COMMAREA passed to autoinstall exit	P2	08
DFHTCV29	DSECT	XRF session state data control vector	OS	-
DFHTCX	Macro	TCA extension for LU6.2	11	-
DFHTCXDF	CSECT	DU domain - transaction dump formatter for terminal related areas	OS	03
DFHTD	Macro	Transient data service request	11	-
DFHTDA	CSECT	Transient data request processor	-	03
DFHTDB	CSECT	Transient data request processor	-	03
DFHTDCI	DSECT	Transient data VSAM CI map	OS	-
DFHTDDUF	CSECT (OCO)	Transient data SDUMP formatter	-	03
DFHTDEXL	CSECT	Transient data DCB exit list and DCB abend exit routine	OS	03
DFHTDGDS	DSECT	Transaction dump global statistics	11	-
DFHTDGDS	DSECT	Transaction dump global statistics	C2	07
DFHTDOA	DSECT	Transient data output area	11	-
DFHTDOC	CSECT	Transient data open/close for extrapartition queues	-	03
DFHTDOCA	DSECT	TDOC parameter list	OS	-
DFHTDOCM	Macro	TDOC request	OS	-
DFHTDOCT	CSECT	TDOC trace interpretation data	-	03
DFHTDRDS	DSECT	Transaction dump statistics by dump code	11	-
DFHTDRDS	DSECT	Transaction dump statistics by dump code	C2	07
DFHTDRDS	DSECT	Transaction dump statistics by dump code	P2	-
DFHTDRP	CSECT	Transient data recovery program	OS	03
DFHTDSDS	DSECT	Transient data static storage	OS	-
DFHTDTDA	DSECT	TDTD parameter list	OS	-
DFHTDTDM	Macro	TDTD request	OS	-
DFHTDTDT	CSECT	TDTD trace interpretation data	-	03
DFHTDTM	CSECT	Transient data table management gate	-	03
DFHTDTMA	CSECT	TDTM parameter list	OS	-
DFHTDTMM	Macro	TDTM request	OS	-
DFHTDTMT	DSECT	TDTM translate tables	-	03
DFHTDTRI	CSECT	Transient data trace interpreter	OS	03
DFHTDUED	Macro	TD user exits EXEC argument list	11	-
DFHTDX	CSECT	Transient data phase 1 initialization	OS	03
DFHTDXM	CSECT (OCO)	XM domain - TD facility management services	OS	03
DFHTDXMA	DSECT	TDXM parameter list	OS	-
DFHTDXMM	Macro	TDXM request	OS	-
DFHTDXMT	CSECT (OCO)	TDXM trace interpretation data	OS	03
DFHTEPA	Macro	TEP inner macro	11	-
DFHTEPC	Macro	TEP inner macro	11	-
DFHTEPCA	Macro	TEP communication area	11	-
DFHTEPM	Macro	TEP module generator	11	-
DFHTEPS	Macro	TEP inner macro	11	-
DFHTEPT	Macro	TEP table generator	11	-
DFHTERID	Symbolic	Terminal error definitions	11	-
DFHTEST	Macro	Domain call argument TEST macro	11	-
DFHTFALA	DSECT	TFAL parameter list	OS	-
DFHTFALM	Macro	TFAL request	OS	-
DFHTFALT	CSECT (OCO)	TFAL trace interpretation data	-	03
DFHTFBFA	DSECT	TFBF parameter list	OS	-
DFHTFBFM	Macro	TFBF request	OS	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHTFBFT	CSECT (OCO)	TFBF trace interpretation data	-	03
DFHTFIQ	CSECT (OCO)	Terminal facility manager inquire/set functions	-	03
DFHTFIQA	DSECT	TFIQ parameter list	OS	-
DFHTFIQI	DSECT	TFIQ requests (inline form)	OS	-
DFHTFIQM	DSECT	TFIQ requests	OS	-
DFHTFIQT	CSECT (OCO)	TFIQ trace interpretation data	-	03
DFHTFP	CSECT	Transaction failure program	OS	03
DFHTFRF	CSECT (OCO)	Terminal facility manager release function	-	03
DFHTFRFT	CSECT (OCO)	TFRF trace interpretation data	-	03
DFHTFTRI	CSECT (OCO)	Terminal facility manager trace interpreter	-	03
DFHTFXM	CSECT	TF XM transaction attach	-	03
DFHTIDM	CSECT (OCO)	TI domain - initialization/termination	-	03
DFHTIDUF	CSECT (OCO)	SDUMP formatter for TI domain	-	03
DFHTIEDS	DSECT	Task interface element	OS	-
DFHTIEM	CSECT	Resource manager interface TIE manager	OS	03
DFHTIOA	DSECT	Terminal input/output area	11	-
DFHTIOA	DSECT	Terminal input/output area	C2	07
DFHTISR	CSECT (OCO)	TI domain - services	-	03
DFHTISRA	DSECT	TISR parameter list	OS	-
DFHTISRM	Macro	TISR request	OS	-
DFHTISRT	CSECT	TISR trace interpretation data	-	03
DFHTITRI	CSECT (OCO)	Trace interpreter for TI domain	-	03
DFHTLT	Macro	Terminal list table	11	-
DFHTM	Macro	Table manager interface	11	-
DFHTMDUF	CSECT (OCO)	Table manager SDUMP formatter	-	03
DFHTMP01	CSECT (OCO)	Table manager program - part 1	-	03
DFHTMP02	CSECT (OCO)	Table manager program - part 2	-	03
DFHTMTRI	CSECT (OCO)	Table manager program trace interpreter	-	03
DFHTOACN	CSECT	Terminal object resolution (TOR) - add connection	OS	03
DFHTOAPT	CSECT	TOR - add pooled terminal	-	03
DFHTOASE	CSECT	TOR - add session	OS	03
DFHTOATM	CSECT	TOR - add (non-pooled) terminal	-	03
DFHTOATY	CSECT	TOR - add typeterm	-	03
DFHTOBPS	CSECT	TOR - create BPS and check attributes	OS	03
DFHTOCAN	CSECT	TOR - dynamic backout processing	-	03
DFHTOCMT	CSECT	TOR - syncpoint commit processing	-	03
DFHTOLCR	CSECT	TOR - end logical unit of complex replacement	-	03
DFHTOLUI	CSECT	TOR - end logical unit of installation	-	03
DFHTOM	Macro	BMS terminal output	OS	-
DFHTON	CSECT	Terminal object resolution module	-	03
DFHTONR	CSECT	Terminal object resolution recovery	-	03
DFHTONRT	DSECT	TONR translate tables	-	03
DFHTORP	CSECT	Terminal object recovery program	-	03
DFHTOR00	CSECT	Terminal object resolution program (DFHTOR)	OS	03
DFHTOUT1	CSECT	TOR - set operation utilities	-	03
DFHTOUT2	CSECT	TOR - map operation utilities	-	03
DFHTPE	DSECT	Terminal partition extension	OS	-
DFHTPP	CSECT	BMS terminal page processor	OS	-
DFHTPPA$	CSECT	BMS terminal page processor (standard)	OS	03
DFHTPP1$	CSECT	BMS terminal page processor (full)	OS	03
DFHTPQ	CSECT	BMS terminal page cleanup program	OS	03
DFHTQGDS	CSECT	Global statistics for Transient Data	11	-
DFHTQGDS	CSECT	Global statistics for Transient Data	C2	07
DFHTQRDS	CSECT	Transient data queue statistics	11	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHTQRDS	CSECT	Transient data queue statistics	C2	07
DFHTPR	CSECT	BMS terminal page retrieval program	OS	03
DFHTPS	CSECT	BMS terminal page scheduling program	OS	03
DFHTR	Macro	Trace service request	11	-
DFHTRA	DSECT	TR domain - anchor block	OS	-
DFHTRACE	Macro	Trace system macro	OS	-
DFHTRADS	DSECT	TR domain - parameter list to DFHTRAP	11	-
DFHTRAO	CSECT	TR domain - auxiliary trace output	OS	03
DFHTRAP	CSECT	TR domain - FE global trap/trace exit	11	03
DFHTRBL	DSECT	TR domain - internal trace table block	OS	-
DFHTRCIF	CSECT	CZ Direct-to-CICS	-	03
DFHTRDM	CSECT	TR domain - initialization/termination	OS	03
DFHTRDS	DSECT	TR domain - control blocks	OS	-
DFHTRDUB	CSECT	TR and DU keyword copybook	OS	-
DFHTRDUF	CSECT (OCO)	SDUMP formatter for TR domain	-	03
DFHTREND	DSECT	TR domain - trace entry	11	-
DFHTREX	DSECT		-	03
DFHTRFCA	DSECT	Offline trace formatting control area	OS	-
DFHTRFFD	CSECT	Offline trace formatting - format data fields	OS	03
DFHTRFFE	CSECT	Offline trace formatting - format trace entry	OS	03
DFHTRFPB	CSECT	Offline trace formatting - process block	OS	03
DFHTRFPP	CSECT	Offline trace formatting - process selective print parameters	OS	03
DFHTRFT	CSECT	Trace put routine for features	OS	03
DFHTRFTA	CSECT	TRFT parameter list	OS	-
DFHTRFTD	CSECT	TR feature trace entry header	OS	-
DFHTRFTM	Macro	TRFT macro	OS	-
DFHTRFTT	CSECT	TRFT translate tables	OS	03
DFHTRFTX	Macro	TRFT macro	11	-
DFHTRFTY	Macro	TRFT call structured parameter list	11	-
DFHTRIB	CSECT	Trace interpretation string builder	OS	03
DFHTRP	CSECT	Trace control program	OS	03
DFHTRPRA	CSECT	Auxiliary trace offline formatting	OS	03
DFHTRPRG	CSECT	GTF trace offline formatting	OS	03
DFHTRPT	CSECT	TR domain - trace put (all destinations)	OS	03
DFHTRPTA	DSECT	TRPT parameter list	OS	-
DFHTRPTM	Macro	TRPT request	OS	-
DFHTRPTT	CSECT	TRPT trace interpretation data	OS	03
DFHTRPTX	Macro	TRPT request (XPI)	11	-
DFHTRPTY	DSECT	TRPT parameter list (XPI)	11	-
DFHTRPX	CSECT	TR domain - trace put (fast path)	OS	03
DFHTRSR	CSECT	TR domain - trace destination services	OS	03
DFHTRSRA	DSECT	TRSR parameter list	OS	-
DFHTRSRM	Macro	TRSR request	OS	-
DFHTRSRT	CSECT	TRSR trace interpretation data	OS	03
DFHTRSU	CSECT	TR domain - subroutines	OS	03
DFHTRSUA	DSECT	TRSU parameter list	OS	-
DFHTRSUM	Macro	TRSU request	OS	-
DFHTRSUT	CSECT	TRSU trace interpretation data	OS	03
DFHTRTRI	CSECT	Trace interpreter for TR domain	OS	03
DFHTRTST	Macro	TR domain - test if trace point active	OS	-
DFHTRUDS	DSECT	TRUE 24-bit parameter list save area	11	-
DFHTRXDF	CSECT	DU domain - transaction dump formatter for internal trace table	OS	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHTRZCP	CSECT	Terminal object builder	OS	03
DFHTRZIP	CSECT	Session object builder	OS	03
DFHTRZPP	CSECT	Pool object builder	OS	03
DFHTRZXP	CSECT	Connection object builder	OS	03
DFHTRZYP	CSECT	Typeterm object builder	OS	03
DFHTRZZP	CSECT	Terminal object matching	OS	03
DFHTS	Macro	Temporary-storage service request	11	-
DFHTSAD	CSECT	TS Domain - TSAD Gate Function	-	03
DFHTSADT	CSECT		-	03
DFHTSAM	CSECT	TS auxiliary manager functions subroutine	-	03
DFHTSAMT	DSECT	TSAM translate tables	-	03
DFHTSBR	CSECT	TS browse functions	-	03
DFHTSBRA	CSECT	TSBR parameter list	OS	-
DFHTSBRM	Macro	TSBR request	OS	-
DFHTSBRT	DSECT	TSBR translate tables	-	03
DFHTSDM	CSECT	TS domain manager functions (initialize, quiesce, terminate)	-	03
DFHTSDQ	CSECT	Temporary Storage Delete Queue	-	03
DFHTSDUC	CSECT (OCO)	Temporary-storage SDUMP analysis	-	03
DFHTSDUF	CSECT (OCO)	Temporary-storage SDUMP formatter	-	03
DFHTSDUS	CSECT (OCO)	Temporary-storage SDUMP summary	-	03
DFHTSGDS	DSECT	Temporary-storage statistics DSECT (Assembler)	11	-
DFHTSGDS	DSECT	Temporary-storage statistics DSECT (COBOL)	C2	07
DFHTSHD	Macro	Temporary-storage input/output area header	OS	-
DFHTSIOA	DSECT	Temporary-storage input/output area	11	-
DFHTSICT	CSECT	TSIC translate tables	-	03
DFHTSITR	CSECT	TS trace interpretation	-	03
DFHTSMB	CSECT	DFHTSMB Design	-	03
DFHTSMBT	CSECT		-	03
DFHTSP	CSECT	Temporary-storage control program	OS	03
DFHTSPT	CSECT	TS put functions	-	03
DFHTSPTA	CSECT	TSPT request	OS	-
DFHTSPTM	Macro	TSPT request	OS	-
DFHTSPTT	DSECT	TSPT translate tables	-	03
DFHTSQR	CSECT	TS mainline queue request functions	-	03
DFHTSQRT	DSECT	TSQR translate tables	-	03
DFHTSRM	CSECT	TS recovery manager functions	-	03
DFHTSSBT	DSECT	TSSB translate tables	-	03
DFHTSSH	CSECT	TS shared TS functions	-	03
DFHTSSHT	DSECT	TSSH translate tables	-	03
DFHTSSR	CSECT	TS service functions (inquire, set)	-	03
DFHTSSRT	DSECT	TSSR translate tables	-	03
DFHTSST	CSECT	TS statistics functions	-	03
DFHTST	Macro	Temporary-storage table	11	-
DFHTSTDS	DSECT	Temporary-storage table	OS	-
DFHTSUED	CSECT	XTSEREQ and XTSEREQC EXEC parameter lists	11	-
DFHTSUTC	DSECT	TSUT abstract type internal control blocks	OS	-
DFHTSUTI	Macro	TSUT abstract type inline functions	OS	-
DFHTSWQ	CSECT	TS wait queue functions subroutine	-	03
DFHTSWQT	DSECT	TSWQ translate tables	-	03
DFHTTPDS	DSECT	BMS - terminal type parameter	11	-
DFHTUL	DSECT	Standard-labeled tape user labels	-	-
DFHTUTEN	Macro	Trace table generation macro	OS	-
DFHUCNV	Sample	CICS OS/2 user data conversion program	19	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHUEDUF	CSECT (OCO)	User exit SDUMP formatter	-	03
DFHUEFDS	DSECT	File control user exit file/data set info	11	-
DFHUEH	CSECT	User exit handler (AP domain)	-	03
DFHUEHC	Source	User exit program invocation	-	-
DFHUEHWA	DSECT	User exit work areas	OS	-
DFHUEIQ	CSECT	User exit inquire exitprogram function	-	03
DFHUEIQT	CSECT	EIQT trace interpreter	-	03
DFHUEM	CSECT	User exit manager	OS	03
DFHUEPBD	DSECT	User exit program block	11	-
DFHUEPLD	DSECT	User exit program link	11	-
DFHUERMD	DSECT	User exit resource manager	11	-
DFHUETED	DSECT	User exit table entry	11	-
DFHUETHD	DSECT	User exit table header	11	-
DFHUEXIT	Macro	User-exit-dependent code generator	11	-
DFHUEXPT	Macro	User exit point definition	11	-
DFHUIBA	DSECT	Assembler DSECT for User interface block	11	-
DFHUIBC	CSECT	C structure of the UIB	-	08
DFHUIBO	CSECT	Cobol structure of the UIB	C2	07
DFHUIBP	CSECT	PLI structure of the UIB	P2	17
DFHURLDS	DSECT	BMS - user-supplied route list	11	-
DFHURLDS	DSECT	BMS - user-supplied route list	C2	07
DFHURLDS	DSECT	BMS - user-supplied route list	D2	08
DFHUSAD	CSECT (OCO)	US domain - Add, Delete and Inquire User	-	03
DFHUSADA	DSECT	USAD parameter list	OS	-
DFHUSADM	Macro	USAD request	OS	-
DFHUSADT	CSECT (OCO)	USAD trace interpretation data	-	03
DFHUSAGE	Macro	Usage pricing code generation macro	OS	-
DFHUSAND	CSECT (OCO)	US domain - anchor block	OS	-
DFHUSBP	CSECT	User backout program	OS	03
DFHUSDET	DSECT	USDE translate tables	-	03
DFHUSDM	CSECT (OCO)	US domain - initialize, quiesce, and terminate domain functions	-	03
DFHUSDUF	CSECT (OCO)	US domain - dump formatter	-	03
DFHUSFL	CSECT (OCO)	US domain - Flatten and unflatten user	-	03
DFHUSFLA	DSECT	USFL parameter list	OS	-
DFHUSFLM	Macro	USFL request	OS	-
DFHUSFLT	CSECT (OCO)	USFL trace interpretation data	-	03
DFHUSGDS	DSECT	US domain - global statistics	11	-
DFHUSGDS	DSECT	US domain - global statistics	C2	07
DFHUSIS	CSECT (OCO)	US domain - inquire and set functions	-	03
DFHUSISA	DSECT	USIS parameter list	OS	-
DFHUSISM	Macro	USIS request	OS	-
DFHUSIST	CSECT (OCO)	USIS trace interpretation data	-	03
DFHUSST	CSECT (OCO)	US domain - statistics	-	03
DFHUSTI	CSECT (OCO)	US domain - timeout handler	-	03
DFHUSTIA	DSECT	USTI parameter list	OS	-
DFHUSTIM	Macro	USTI request	OS	-
DFHUSTIT	CSECT (OCO)	USTI trace interpretation data	-	03
DFHUSTRI	CSECT (OCO)	US domain - trace formatter	-	03
DFHUSXM	CSECT (OCO)	US domain - transaction support	-	03
DFHUSXMA	DSECT	USXM parameter list	OS	-
DFHUSXMI	Macro	USXM request (inline version of DFHUSXMM)	OS	-
DFHUSXMM	Macro	USXM request	OS	-
DFHUSXMT	CSECT (OCO)	USXM trace interpretation data	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHUT64	CSECT	RU Base64 encoding and decoding	-	03
DFHVM	Macro	Version/modification level generator	11	-
DFHVSWA	DSECT	VSAM work area	11	-
DFHVTWA	DSECT	NACP LIFO storage definition	OS	-
DFHWBA	CSECT	Web module	-	03
DFHWBADX	CSECT	Web module	19	03
DFHWBAHX	CSECT	Web module	-	19
DFHWBALX	CSECT	Web module	-	19
DFHWBAOX	CSECT	Web module	-	19
DFHWBAP	CSECT	WB Domain WBAP Gate Functions	-	03
DFHWBAPF	CSECT	Web Module	-	03
DFHWBAPT	CSECT	Web Module	-	03
DFHWBAP@	CSECT	Web module	-	03
DFHWBA1	CSECT	Web module	-	03
DFHWBA1D	CSECT	Web module	11	-
DFHWBA1H	CSECT	Web module	-	08
DFHWBA1L	CSECT	Web module	-	17
DFHWBA1O	CSECT	Web module	-	07
DFHWBBLI	CSECT	Business Logic interfac program	-	03
DFHWBBLL	CSECT		-	17
DFHWBBMS	CSECT	WB Web Interface BMS Support	-	03
DFHWBCDD	CSECT	Web module	-	11
DFHWBCDH	CSECT	Web module	-	08
DFHWBCDL	CSECT	Web module	-	17
DFHWBCDO	CSECT	Web module	-	07
DFHWBCNV	Macro	WB CICS Web Interface codepage macro	11	-
DFHWBC01	CSECT	Web module	-	03
DFHWBDCD	CSECT	Web module	OS	-
DFHWBDL@	CSECT	Autocall SCEEOBJ	-	03
DFHWBDM	CSECT	Domain initialization	-	03
DFHWBDUF	CSECT	Web module	-	03
DFHWBENV	CSECT	Web module	-	03
DFHWBEP	CSECT	Web error program	-	03
DFHWBEPL	CSECT		-	17
DFHWBGB	CSECT	WB Web Interface Garbage Collection	-	03
DFHWBIMG	CSECT	Web module	-	03
DFHWBIP	CSECT	Web module	-	03
DFHWBIPA	CSECT	Web module	OS	-
DFHWBIPM	Macro	DFHWBIP interface macro	11	-
DFHWBIPT	CSECT	Web module	-	03
DFHWBLT	CSECT	Web module	-	03
DFHWBOUT	CSECT	Web module	11	-
DFHWBPA	CSECT	Web module	-	03
DFHWBQM	CSECT	Domain Initialization	-	03
DFHWBQMT	CSECT		-	03
DFHWBRP	CSECT	Web module	-	03
DFHWBSR	CSECT	WB Web Send/Receive	-	03
DFHWBSRT	CSECT		-	03
DFHWBST	CSECT	Web module	-	03
DFHWBSTT	CSECT	Web module	-	03
DFHWBTC	CSECT	Web module	-	03
DFHWBTC@	CSECT	Web module	-	03
DFHWBTCT	CSECT	Web module	-	03
DFHWBTDD	CSECT	Web module	11	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHWBTDH	CSECT	Web module	-	08
DFHWBTDL	CSECT	Web module	-	17
DFHWBTDO	CSECT	Web module	-	07
DFHWBTL	CSECT	Web module	-	03
DFHWBTLD	CSECT	Web module	11	-
DFHWBTLG	CSECT	Web module	11	-
DFHWBTLH	CSECT	Web module	-	08
DFHWBTLL	CSECT	Web module	-	17
DFHWBTLO	CSECT	Web module	C2	-
DFHWBTRI	CSECT	Web module	-	03
DFHWBTR1	CSECT	Web GWAPI Trace Interpretation	-	03
DFHWBTRU	CSECT	Web module	-	03
DFHWBTTA	CSECT	Web module	-	03
DFHWBUCD	CSECT	Web module	11	-
DFHWBUCH	CSECT	Web module	-	08
DFHWBUCL	CSECT	Web module	-	17
DFHWBUCO	CSECT	Web module	-	07
DFHWBUN	CSECT	Web Interface Unescaping Program	-	03
DFHWBUND	CSECT	Web Interface Unescaping parameter list	11	-
DFHWBUNH	CSECT		-	08
DFHWBUNL	CSECT		-	17
DFHWBUNO	CSECT		-	07
DFHWBXM	CSECT	Web Interface Attach Client	-	03
DFHWBXMT	CSECT		-	03
DFHWBXN	CSECT	Web Attach Processing	-	03
DFHWCCS	CSECT	CAVM common services	OS	03
DFHWCGDS	DSECT	CAVM global control block	OS	-
DFHWCGNT	CSECT	CAVM entry point table for routines above 16MB line	OS	03
DFHWCSDS	DSECT	XRF static storage	OS	-
DFHWDATT	CSECT	XRF process dispatcher attach control	OS	03
DFHWDINA	CSECT	XRF process dispatcher initialization	OS	03
DFHWDISP	CSECT	XRF process dispatcher	OS	03
DFHWDSDS	DSECT	CAVM dispatcher interface parameter block	OS	-
DFHWDSRP	CSECT	PC/ABEND handler for XRF dispatcher	OS	03
DFHWDWAT	CSECT	XRF process dispatcher wait services	OS	03
DFHWFGDS	DSECT	CAVM file control block	OS	-
DFHWKP	CSECT	Warm keypoint program	-	03
DFHWLF	Macro	XRF LIFO free storage request	OS	-
DFHWLFRE	CSECT	XRF LIFO free allocation service	OS	03
DFHWLG	Macro	XRF LIFO get storage request	OS	-
DFHWLGET	CSECT	XRF LIFO get allocation service	OS	03
DFHWLIST	CSECT	WORDLIST function (used by DFHDBME)	OS	03
DFHWMG1	CSECT	XRF message manager, GETMSG process	OS	03
DFHWMI	CSECT	XRF message manager, signon initialization routine	OS	03
DFHWMMT	CSECT	XRF message manager, I/O services	OS	03
DFHWMPG	CSECT	XRF message manager, data copying service	OS	03
DFHWMP1	CSECT	XRF message manager, PUTMSG process	OS	03
DFHWMQG	CSECT	XRF message manager, CICS TCB part of GETMSG processing	OS	03
DFHWMQH	CSECT	XRF message manager, message block services for GETMSG	OS	03
DFHWMQP	CSECT	XRF message manager, CICS TCB part of PUTMSG processing	OS	03
DFHWMQS	CSECT	XRF message manager, work queue services	OS	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHWMRD	CSECT	XRF message manager, message reader	OS	03
DFHWMS	CSECT	XRF message manager, request interface	OS	03
DFHWMS20	CSECT	XRF message manager, request router	OS	03
DFHWMWR	CSECT	XRF message manager, output routine	OS	03
DFHWNFDS	DSECT	CAVM NOTIFY exit parameter block	OS	-
DFHWORDS	CSECT	WORDS function (used by DFHDBME)	OS	03
DFHWOS	CSECT	XRF overseer startup module	OS	03
DFHWOSA	CSECT	XRF overseer initialization module	OS	03
DFHWOSB	CSECT	XRF overseer services module	OS	03
DFHWOSM	Macro	XRF overseer interface definition	11	-
DFHWSADS	DSECT	CAVM surveillance status control block	OS	-
DFHWSCDS	DSECT	CAVM time-of-day difference control area	OS	-
DFHWSMDS	DSECT	CAVM state management record	OS	-
DFHWSNDS	DSECT	XRF table of entry points in load module DFHWSMS	OS	-
DFHWSRDS	DSECT	CAVM surveillance communication area	OS	-
DFHWSRTR	CSECT	CAVM state management request router and subtask entry point	OS	03
DFHWSSDS	DSECT	CAVM state management parameter block	OS	-
DFHWSSN1	CSECT	CAVM state management signon initial entry point	OS	03
DFHWSSN2	CSECT	CAVM state management signon request handler	OS	03
DFHWSSN3	CSECT	CAVM state management data set initialization routine	OS	03
DFHWSSOF	CSECT	CAVM state management sign-off request handler	OS	03
DFHWSSR	CSECT	CAVM surveillance status reader	OS	03
DFHWSSW	CSECT	CAVM surveillance status writer	OS	03
DFHWSTDS	DSECT	XRF takeover parameter area	OS	-
DFHWSTI	CSECT	CAVM surveillance tick generator and system status monitor	OS	03
DFHWSTKV	CSECT	CAVM state management takeover request handler	OS	03
DFHWSXDS	DSECT	NOTIFY exit control block	OS	-
DFHWSXPI	CSECT	CAVM state management CAVM process initialization	OS	03
DFHWS2DS	DSECT	Parameter list for DFHWSSN2	OS	-
DFHWS3DS	DSECT	Parameter list for DFHWSSN3	OS	-
DFHWTADS	DSECT	XRF takeover initiation argument block	OS	-
DFHWTI	CSECT	XRF takeover initiation program	OS	03
DFHWTIA	Source	XRF takeover initiation program - RST specific routines	OS	-
DFHWTIC	Source	XRF takeover initiation program - CLT specific routines	OS	-
DFHWTII	Source	XRF takeover initiation program - inquire job status	OS	-
DFHWTIJ	Source	XRF takeover initiation program - job termination/wait	OS	-
DFHWTO	Macro	Write to console operator	11	-
DFHWTRP	CSECT	XRF trace routine	OS	03
DFHXBMDS	Macro	BMS User Exits Parameter List	11	-
DFHXCALL	Macro	EXCI EXEC Interface	11	-
DFHXCDMP	CSECT (OCO)	EXCI dump services	-	03
DFHXCEIP	CSECT (OCO)	EXCI EXEC API handler	-	03
DFHXCGUR	CSECT	EXCI Get Unit of Recovery Tokens	-	03
DFHXCO	Macro	EXCI EXEC options	11	-
DFHXCOPT	DSECT	EXCI options table	19	03
DFHXCP	CSECT	Transaction manager (part)	OS	03
DFHXCPLD	Sample	EXCI CALL parameter list (Assembler)	11	-
DFHXCPLH	Sample	EXCI CALL parameter list (C)	-	08
DFHXCPLL	Sample	EXCI CALL parameter list (PL/I)	-	17

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHXCPLO	Sample	EXCI CALL parameter list (COBOL)	-	07
DFHXCPRH	DSECT	EXCI program request handler	-	03
DFHXCRCD	Sample	EXCI return codes (Assembler)	11	-
DFHXCRCH	Sample	EXCI return codes (C)	D2	08
DFHXCRCL	Sample	EXCI return codes (PL/I)	-	17
DFHXCRCO	Sample	EXCI return codes (COBOL)	-	07
DFHXCSTB	CSECT	EXCI stub	-	03
DFHXCSVC	CSECT (OCO)	EXCI SVC services	-	03
DFHXCTAB	CSECT (OCO)	EXCI language table	-	03
DFHXCTRA	CSECT	EXCI global trap program	11	03
DFHXCTRD	DSECT	EXCI global trap program parameter list	11	-
DFHXCTRI	CSECT	EXCI trace initialization termination, and recovery	-	03
DFHXCTRP	CSECT	EXCI trace services	-	03
DFHXCURM	CSECT	EXCI user-replaceable module	19	03
DFHXDTDS	Sample	Data Table User Exits Parameter List	11	-
DFHXDXDF	CSECT	DU domain - transaction dump formatter for headers and general information	OS	03
DFHXFDL	Macro	DL/I function shipping	OS	-
DFHXFFC	Macro	FC function shipping	OS	-
DFHXFHED	Macro	Produce transformation program headings	OS	-
DFHXFIC	Macro	IC function shipping	OS	-
DFHXFIOA	DSECT	Transformer I/O area	OS	-
DFHXFJC	Macro	JC function shipping	OS	-
DFHXFMOD	Macro	Produce data transformation programs	OS	-
DFHXFP	CSECT	Online data transformation program	OS	03
DFHXFPC	Macro	DFHXFMOD inner macro	OS	-
DFHXFQ	CSECT	Batch data transformation program	OS	03
DFHXFQU	Macro	TD and TS function shipping	OS	-
DFHXFRM	Macro	Function shipping recovery module	-	03
DFHXFSM	Macro	DFHXFMOD inner macro	OS	-
DFHXFSTG	Macro	XF control block and transformer	11	-
DFHXFX	CSECT	Optimized data transformation program	OS	03
DFHXIS	Sample	XISCONA global user exit program	19	03
DFHXISDS	Sample	XISCONA data set information	19	-
DFHXLT	Macro	Transaction list table	11	-
DFHXLTDS	DSECT	Transaction list table	OS	-
DFHXMAB	CSECT (OCO)	XM domain - abend handler	-	03
DFHXMACT	CSECT		-	03
DFHXMAT	CSECT (OCO)	XM domain - attach	-	03
DFHXMATA	Source	XMAT parameter list	OS	-
DFHXMATM	Source	XMAT request	OS	-
DFHXMATT	CSECT (OCO)	XMAT trace interpretation data	-	03
DFHXMBD	CSECT (OCO)	XM domain - browse	-	03
DFHXMBDA	Source	XMBD parameter list	OS	-
DFHXMBDM	Source	XMBD request	OS	-
DFHXMBDT	CSECT (OCO)	XMBD trace interpretation data	-	03
DFHXMCDS	DSECT	XM domain - TCLASS statistics	11	-
DFHXMCDS	DSECT	XM domain - TCLASS statistics	C2	07
DFHXMCL	CSECT (OCO)	XM domain - transaction class functions	-	03
DFHXMCLA	Source	XMCL parameter list	OS	-
DFHXMCLM	Source	XMCL request	OS	-
DFHXMCLT	CSECT (OCO)	XMCL trace interpretation data	-	03
DFHXMCLX	Macro	XMCL request	11	-
DFHXMCLY	DSECT	XMCL parameter list	11	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHXMDD	CSECT (OCO)	XM domain - delete installed transaction	-	03
DFHXMDDA	Source	XMDD parameter list	OS	-
DFHXMDDM	Source	XMDD request	OS	-
DFHXMDDT	CSECT (OCO)	XMDD trace interpretation data	-	03
DFHXMDM	CSECT (OCO)	XM domain - pre-initialize, initialize, and quiesce domain functions	-	03
DFHXMDNA	Source	XMDN parameter list	OS	-
DFHXMDNT	CSECT	XMDN trace interpretation data	-	03
DFHXMDUF	CSECT (OCO)	Transaction manager SDUMP formatter	-	03
DFHXMER	CSECT (OCO)	XM domain - XMER gate functions	-	03
DFHXMERA	Source	XMER parameter list	OS	-
DFHXMERM	Source	XMER request	OS	-
DFHXMERT	CSECT	XMER trace interpretation data	-	03
DFHXMFD	CSECT (OCO)	XM domain - XMFD gate functions	-	03
DFHXMFDA	Source	XMFD parameter list	OS	-
DFHXMFDM	Macro	XMFD requests	OS	-
DFHXMFDT	CSECT (OCO)	XMFD trace interpretation data	-	03
DFHXMGDS	DSECT	XM domain - global statistics	11	-
DFHXMGDS	DSECT	XM domain - global statistics	C2	07
DFHXMIQ	CSECT (OCO)	XM domain - XMIQ gate functions	-	03
DFHXMIQA	Source	XMIQ parameter list	OS	-
DFHXMIQI	Source	XMIQ request (inline form of DFHXMIQM)	OS	-
DFHXMIQM	Source	XMIQ requests	OS	-
DFHXMIQT	CSECT (OCO)	XMIQ trace interpretation data	-	03
DFHXMIQX	Macro	XMIQ requests	11	-
DFHXMIQY	DSECT	XMIQ parameter list	11	-
DFHXMLD	CSECT (OCO)	XM domain - XMLD gate functions	-	03
DFHXMLDA	Source	XMLD parameter list	OS	-
DFHXMLDM	Source	XMLD requests	OS	-
DFHXMLDT	CSECT	XMLD trace interpretation data	-	03
DFHXMNTA	DSECT	XMNT parameter list	OS	-
DFHXMNTT	CSECT	XMNT trace interpretation data	-	03
DFHxphPA	DSECT	xphP parameter list	OS	-
DFHxphPT	CSECT	xphP trace interpretation data	-	03
DFHXMQC	CSECT (OCO)	XM domain - tclass functions subroutine	-	03
DFHXMQCA	Source	XMQC parameter list	OS	-
DFHXMQCM	Source	XMQC request	OS	-
DFHXMQCT	CSECT	XMQC trace interpretation data	-	03
DFHXMQD	CSECT (OCO)	XM domain - quiesce and delete transaction definitions functions subroutine	-	03
DFHXMQDT	CSECT (OCO)	XMQD trace interpretation data	-	03
DFHXMRDS	DSECT	XM domain - transaction statistics	11	-
DFHXMRDS	DSECT	XM domain - transaction statistics	C2	07
DFHXMRM	CSECT	XM domain Run Transaction Syncpoint Process.	-	03
DFHXMRM1	CSECT		-	03
DFHXMRP	CSECT (OCO)	XM domain - definition recovery subroutine	-	03
DFHXMRPT	CSECT (OCO)	XMRP trace interpretation data	-	03
DFHXMRSD	DSECT (OCO)	XM domain - communications area for transaction restart (Assembler)	11	-
DFHXMRSH	DSECT (OCO)	XM domain - communications area for transaction restart (C/370)	-	08
DFHXMRSL	DSECT (OCO)	XM domain - communications area for transaction restart (PL/I)	-	17

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHXMRSO	DSECT (OCO)	XM domain - communications area for transaction restart (COBOL)	-	07
DFHXMRU	CSECT	XMRU CDURUN and Gate Module	-	03
DFHXMRUT	CSECT		-	03
DFHXMSG	CSECT	Default XRF recovery message	OS	03
DFHXMSR	CSECT (OCO)	XM domain - XMSR gate functions	-	03
DFHXMSRA	Source	XMSR parameter list	OS	-
DFHXMSRM	Source	XMSR request	OS	-
DFHXMSRT	CSECT (OCO)	XMSR trace interpretation data	-	03
DFHXMSRX	Macro	XMSR request	11	-
DFHXMSRY	DSECT	XMSR parameter list	11	-
DFHXMST	CSECT (OCO)	XM domain - statistics services	-	03
DFHXMSUA	DSECT	XMSU parameter list	OS	-
DFHXMSUM	Macro	XMSU request	OS	-
DFHXMSUT	CSECT	XMSU trace interpretation data	OS	03
DFHXMTA	CSECT (OCO)	XM domain - task reply gate	-	03
DFHXMTRI	CSECT (OCO)	XM domain - trace initialization, termination, and recovery	-	03
DFHXMTRM	Macro	Obtain 3 character task number from TCA of task issuing trace put	OS	-
DFHXMXD	CSECT (OCO)	XM domain - XMXD gate functions	-	03
DFHXMXDA	Source	XMXD parameter list	OS	-
DFHXMXDD	Source	XMXD transaction definition instance parameter list	OS	-
DFHXMXDI	Source	XMXD request (inline form of DFHXMXDM)	OS	-
DFHXMXDM	Source	XMXD request	OS	-
DFHXMXDT	CSECT (OCO)	XMXD trace interpretation data	-	03
DFHXMXDX	Macro	XMXD request	11	-
DFHXMXDY	DSECT	XMXD parameter list	11	-
DFHXMXE	CSECT (OCO)	XM domain - XMXE gate functions	-	03
DFHXMXEA	Source	XMXE parameter list	OS	-
DFHXMXEM	Source	XMXE request	OS	-
DFHXMXET	CSECT (OCO)	XMXE trace interpretation data	-	03
DFHXMXM	CSECT	Run Transaction XM Attach Client	-	03
DFHXMXND	CSECT (OCO)	XM domain - transaction storage	OS	-
DFHXOPU@	CSECT		-	03
DFHXOPUS	Sample	Sample IIOP URM (C Version)	-	19
DFHXQBF	CSECT	XQ queue server buffer pool routines	-	03
DFHXQCF	CSECT	XQ queue server coupling facility I/O	-	03
DFHXQCN	CSECT	XQ queue server connect/disconnect	-	03
DFHXQDF	CSECT	XQ TS queue pool server definitions	-	03
DFHXQEN	CSECT	XQ ENF event interface	-	03
DFHXQIF	CSECT	XQ queue server interface module	-	03
DFHXQIQ	CSECT	XQ queue server inquire module	-	03
DFHXQMN	CSECT	XQ queue server mainline	-	03
DFHXQMS	CSECT	XQ queue pool server messages	-	03
DFHXQOP	CSECT	XQ queue server command processing	-	03
DFHXQPR	CSECT	XQ queue server parameter processing	-	03
DFHXQRL	CSECT	XQ queue server reload routine	-	03
DFHXQRQ	CSECT	XQ queue server request routine	-	03
DFHXQRS	CSECT	XQ ARM Restart Support	-	03
DFHXQST	CSECT	XQ queue server statistics	-	03
DFHXQS1D	CSECT	XQ list structure statistics record	11	-
DFHXQS2D	CSECT	XQ queue buffer statistics record	11	-
DFHXQS3D	CSECT	XQ main storage statistics record	11	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHXQUL	CSECT	XQ queue server unload routine	-	03
DFHXR	Macro	XRF code generation macro	11	-
DFHXRA	CSECT	XRF request processing program	OS	03
DFHXRB	CSECT	XRF NOTIFY exit program	OS	03
DFHXRC	CSECT	XRF inquire status exit program	OS	03
DFHXRCP	CSECT	XRF console communication program	OS	03
DFHXRDUF	CSECT (OCO)	XRF SDUMP formatter	-	03
DFHXRE	CSECT	XRF startup program	OS	03
DFHXRF	CSECT	XRF CAVM sign-off interface	OS	03
DFHXRHDS	DSECT	XRF health data definition	11	-
DFHXROCL	Other	Used by DFHCRST cataloged procedure	11	-
DFHXRSP	CSECT	XRF surveillance program	OS	03
DFHXRXDF	CSECT	DU domain - transaction dump formatter for XRF related areas	OS	03
DFHXSAD	CSECT (OCO)	XS domain - XSAD gate functions	-	03
DFHXSADA	Source	XSAD parameter list	OS	-
DFHXSADM	Source	XSAD request	OS	-
DFHXSADT	CSECT (OCO)	XSAD trace interpretation data	-	03
DFHXSDM	CSECT (OCO)	XS domain - initialize, quiesce, terminate domain functions	-	03
DFHXSDUF	CSECT (OCO)	XS domain - SDUMP formatter	-	03
DFHXSEAI	CSECT	Early verification stub program	-	03
DFHXSEJ	CSECT	Security Interfaces for EJB	-	03
DFHXSEJT	CSECT		-	03
DFHXSEV	CSECT (OCO)	XS domain - early verification support	-	03
DFHXSFL	CSECT (OCO)	XS domain - XSFL gate functions	-	03
DFHXSFLA	Source	XSFL parameter list	OS	-
DFHXSFLM	Source	XSFL request	OS	-
DFHXSFLT	CSECT (OCO)	XSFL trace interpretation data	-	03
DFHXSIDT	CSECT (OCO)	XS domain - trace interpretation data	-	03
DFHXSIS	CSECT (OCO)	XS domain - XSIS gate functions	-	03
DFHXSISA	Source	XSIS parameter list	OS	-
DFHXSISM	Source	XSIS request	OS	-
DFHXSIST	CSECT (OCO)	XSIS trace interpretation data	-	03
DFHXSLU	CSECT (OCO)	XS domain - XSLU gate functions	-	03
DFHXSLUA	Source	XSLU parameter list	OS	-
DFHXSLUM	Source	XSLU request	OS	-
DFHXSLUT	CSECT (OCO)	XSLU trace interpretation data	-	03
DFHXSPUB	DSECT (OCO)	XS domain - public storage fields	OS	-
DFHXSPW	CSECT (OCO)	XS domain - XSPW gate functions	-	03
DFHXSPWA	Source	XSPW parameter list	OS	-
DFHXSPWM	Source	XSPW request	OS	-
DFHXSPWT	CSECT (OCO)	XSPW trace interpretation data	-	03
DFHXSRC	CSECT (OCO)	XS domain - XSRC gate functions	-	03
DFHXSRCA	Source	XSRC parameter list	OS	-
DFHXSRCI	Source	XSRC request (inline form of DFHXSRCM)	OS	-
DFHXSRCM	Macro	XSRC requests	OS	-
DFHXSRCT	CSECT (OCO)	XSRC trace interpretation data	-	03
DFHXSSA	CSECT (OCO)	XS domain - supervisor request router	-	03
DFHXSSAT	CSECT (OCO)	XSSA trace interpretation data	-	03
DFHXSSB	CSECT (OCO)	XS domain - supervisor extraction services	-	03
DFHXSSBT	CSECT (OCO)	XSSB trace interpretation data	-	03
DFHXSSC	CSECT (OCO)	XS domain - resource checking functions	-	03
DFHXSSCT	CSECT (OCO)	XSSC trace interpretation data	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHXSSD	CSECT (OCO)	XS domain - create passticket function	-	03
DFHXSSDT	CSECT (OCO)	XSSD trace interpretation data	-	03
DFHXSSE	CSECT	Security Supervisor Phase E Cert.Mgement	-	03
DFHXSSET	CSECT		-	03
DFHXSSI	CSECT (OCO)	XS domain - storage initialization	-	03
DFHXSSIT	CSECT (OCO)	XSSI trace interpretation data	-	03
DFHXSTRI	CSECT (OCO)	XS domain - trace initialization, termination, and recovery	-	03
DFHXSUXP	Macro	Installation data for ESM exits	11	-
DFHXSWM	CSECT	XRF message manager for security manager	OS	03
DFHXSWMA	CSECT	XSWM parameter list	OS	-
DFHXSWMM	Macro	XSWM request	OS	-
DFHXSXM	CSECT (OCO)	XS domain - XM domain interface	-	03
DFHXSXMA	DSECT	XSXM parameter list	OS	-
DFHXSXMI	Macro	XSXM requests (inline form)	OS	-
DFHXSXMM	Macro	XSXM requests	OS	-
DFHXSXMT	CSECT (OCO)	XSXM trace interpretation data	-	03
DFHXT	Macro	DFHXTP internal table generator	OS	-
DFHXTAB	Macro	BMS internal macro	11	-
DFHXTCI	CSECT	XRF terminal switching	OS	03
DFHXTENF	Sample	XICTENF/XALTENF global user exit program	19	03
DFHXTEP	CSECT	User-replaceable terminal error program	19	03
DFHXTEPT	CSECT	User-replaceable terminal error tables	19	03
DFHXTP	CSECT	Terminal sharing transformation program	OS	03
DFHXTPD	DSECT	XTP internal control blocks	OS	-
DFHXTSTG	Macro	XTP parameter list	OS	-
DFHXTT	Source	XTP data transformation argument descriptions (used by DFHXT macro)	OS	-
DFHXTTT	Macro	DFHXTT inner macro	OS	-
DFHXZIDS	DSECT	XZIQUE exit data set information	11	-
DFHYBTPL	Other	Cataloged procedure to translate, compile, and link-edit Language Environment PL/I application programs that use EXEC DLI and will run in a batch or CICS shared database region	18	-
DFHYBTVL	Other	Cataloged procedure to translate, compile, and link-edit Language Environment COBOL application programs that use EXEC DLI and will run in a batch or CICS shared database region	18	-
DFHYITDL	Other	Cataloged procedure to translate, compile, and link-edit Language Environment C application programs	18	-
DFHYITEL	Other	Cataloged procedure to translate, compile, and link-edit C++ application programs using the Language Environment compiler	18	-
DFHYITPL	Other	Cataloged procedure to translate, compile, and link-edit Language Environment PL/I application programs	18	-
DFHYITVL	Other	Cataloged procedure to translate, compile, and link-edit Language Environment COBOL application programs	18	-
DFHYXTDL	Other	Cataloged procedure to translate, compile, and link-edit Language Environment C application programs that are to use the external CICS interface	18	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHYXTEL	Other	Cataloged procedure to translate (EXCI), compile, and link-edit C++ application programs using the Language Environment compiler	18	-
DFHYXTPL	Other	Cataloged procedure to translate, compile, and link-edit Language Environment PL/I application programs that are to use the external CICS interface	18	-
DFHYXTVL	Other	Cataloged procedure to translate, compile, and link-edit Language Environment COBOL application programs that are to use the external CICS interface	18	-
DFHZABD	CSECT	No VTAM support abend handler	OS	03
DFHZACT	CSECT	Activate scan	OS	03
DFHZAIT	CSECT	Attach initialization table	OS	-
DFHZAND	CSECT	Abend control block	OS	03
DFHZAPB	Sample	3770 application program	19	-
DFHZARER	CSECT	LU6.2 protocol error and exception handler	OS	03
DFHZARL	CSECT	LU6.2 application request logic	OS	03
DFHZARM	CSECT	LU6.2 migration logic	OS	03
DFHZARQ	CSECT	Application request handler	OS	03
DFHZARR	CSECT	LU6.2 application receive request logic	OS	03
DFHZARRA	CSECT	LU6.2 application receive buffer support	OS	03
DFHZARRC	CSECT	LU6.2 classify what next to receive	OS	03
DFHZARRF	CSECT	LU6.2 receive FMH7 and ER1	OS	03
DFHZASX	CSECT	DFASY exit	OS	03
DFHZATA	CSECT	Autoinstall program	OS	03
DFHZATA2	CSECT	ZCINST Autoinstall Program - Console	-	03
DFHZATD	CSECT	Autoinstall delete program	OS	03
DFHZATDX	CSECT	User-replaceable autoinstall exit	19	03
DFHZATDY	CSECT	User-replaceable autoinstall exit with APPC	19	03
DFHZATI	CSECT	Automatic task initiation	OS	03
DFHZATMD	CSECT	Automatic terminal remote definition program	-	03
DFHZATMF	CSECT	Mass flag program for time-out delete	-	03
DFHZATR	CSECT	Autoinstall restart program	OS	03
DFHZATS	CSECT	Remote autoinstall/delete program	OS	03
DFHZATT	CSECT	Task attach	OS	03
DFHZBAN	CSECT	Terminal control bind analysis	OS	03
DFHZBKT	CSECT	LU6.2 bracket state machine	OS	03
DFHZBLX	CSECT	VTAM SCIP exit LU6.2 bind handling	OS	03
DFHZBSM	Macro	LU6.2 bracket state macro	OS	-
DFHZCA	CSECT	VTAM working set module	OS	03
DFHZCB	CSECT	VTAM working set module	OS	03
DFHZCC	CSECT	VTAM working set module	OS	03
DFHZCGRP	CSECT (OCO)	Attach CGRP task (for DFHZGRP)	-	03
DFHZCHM	Macro	LU6.2 chain state macro	OS	-
DFHZCHS	CSECT	LU6.2 chain state machine	OS	03
DFHZCLS	CSECT	CLSDST	OS	03
DFHZCLX	CSECT	CLSDST exit	OS	03
DFHZCNA	CSECT	System console activity control	OS	03
DFHZCNM	Macro	LU6.2 contention state macro	OS	-
DFHZCNR	CSECT	System console application request	OS	03
DFHZCNT	CSECT	LU6.2 contention state machine	OS	03
DFHZCNVM	Macro	MRO application state setting	OS	-
DFHZCN1	CSECT	CICS Client CCIN Transaction	-	03
DFHZCN2	CSECT	CICS Client CCIN ZC domain subroutine	-	03
DFHZCN2T	DSECT	ZCN2 translate tables	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHZCTR1	CSECT	ZC CICS Client trace interpretation	-	03
DFHZCOVR	CSECT	Terminal control open VTAM retry	-	03
DFHZCP	CSECT	Terminal management program	OS	03
DFHZCPBK	Macro	Bracket control	OS	-
DFHZCPLR	CSECT	PL/AS call for TCPLR	OS	03
DFHZCQ	Macro	Terminal control install interface	11	-
DFHZCQCH	CSECT	Catalog a TCT element	OS	03
DFHZCQDL	CSECT	Dynamic delete TCT element	OS	03
DFHZCQIN	CSECT	Initialize DFHZCQ	OS	03
DFHZCQIQ	CSECT	Inquire about a TCTTE	OS	03
DFHZCQIS	CSECT	Install a TCTTE	OS	03
DFHZCQRS	CSECT	Restore a terminal control resource	OS	03
DFHZCQRT	CSECT	ZC resource types table	OS	03
DFHZCQ00	CSECT	Dynamic add/replace TCT elements	OS	03
DFHZCRM	Macro	LU6.2 RPL_B state macro	OS	-
DFHZCRQ	CSECT	CTYPE command request	OS	03
DFHZCRT	CSECT	LU6.2 RPL_B state machine	OS	03
DFHZCSTP	CSECT	Attach CSTP (TCP task)	OS	03
DFHZCTDX	Sample	Autoinstall user exit - COBOL	-	19
DFHZCTRI	CSECT	Persistent sessions trace interpreter	-	03
DFHZCT1	CSECT	CICS Client CTIN transaction	-	03
DFHZCUT	CSECT	Persistent verification signed-on-from list management program	OS	03
DFHZCUTA	DSECT	ZCUT parameter list	OS	-
DFHZCUTM	Macro	ZCUT request	OS	-
DFHZCUTT	CSECT	ZCUT trace interpretation data	OS	03
DFHZCW	CSECT	VTAM nonworking set module	OS	03
DFHZCX	CSECT	LOCATE, ISC/IRC request	OS	03
DFHZCXR	CSECT	Transaction routing module address list	OS	03
DFHZCY	CSECT	VTAM nonworking set module	OS	03
DFHZCZ	CSECT	VTAM nonworking set module	OS	03
DFHZDET	CSECT	Task detach	OS	03
DFHZDSP	CSECT	Dispatcher	OS	03
DFHZDST	CSECT	SNA-ASCII translator	OS	03
DFHZDTDX	Sample	Autoinstall user exit - C/370	D3	-
DFHZEMW	CSECT	Error message writer	OS	03
DFHZEPD	DSECT	TCP/ZCP module entry address list	11	-
DFHZEQU	Symbolic	ZCP equates	11	-
DFHZERH	CSECT	LU6.2 error program	OS	03
DFHZERRM	Macro	ZCP error-handling macro	OS	-
DFHZETR	Macro	ZC VTAM exit GTF trace macro	OS	-
DFHZEV1	CSECT	LU6.2 security encryption program part 1	OS	03
DFHZEV2	CSECT	LU6.2 security encryption program part 2	OS	03
DFHZFRE	CSECT	FREEMAIN request	OS	03
DFHZGAI	CSECT (OCO)	APPC autoinstall - create APPC clones	-	03
DFHZGAIA	Source	ZGAI parameter list	OS	-
DFHZGAIM	Source	ZGAI request	OS	-
DFHZGAIT	CSECT	ZGAI trace interpretation data	OS	03
DFHZGBM	CSECT (OCO)	APPC manipulate bitmap	-	03
DFHZGBMA	Source	ZGBM parameter list	OS	-
DFHZGBMM	Source	ZGBM request	OS	-
DFHZGBMT	CSECT (OCO)	ZGBM trace interpretation data	-	03
DFHZGCA	CSECT (OCO)	LU6.2 CNOS actioning	-	03
DFHZGCAA	Source	ZGCA parameter list	OS	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHZGCAM	Source	ZGCA request	OS	-
DFHZGCAT	CSECT (OCO)	ZGCA trace interpretation data	-	03
DFHZGCC	CSECT (OCO)	Catalog CNOS services	-	03
DFHZGCCA	Source	ZGCC parameter list	OS	-
DFHZGCCM	Source	ZGCC request	OS	-
DFHZGCCT	CSECT (OCO)	ZGCC trace interpretation data	-	03
DFHZGCH	CSECT	ZC VTAM change macro domain subroutine	-	03
DFHZGCHA	CSECT	ZGCH parameter list	OS	-
DFHZGCHM	Macro	ZGCH request	OS	-
DFHZGCHT	DSECT	ZGCH translate tables	OS	03
DFHZGCN	CSECT (OCO)	LU6.2 CNOS negotiation	-	03
DFHZGCNA	Source	ZGCN parameter list	OS	-
DFHZGCNM	Source	ZGCN request	OS	-
DFHZGCNT	CSECT (OCO)	ZGCN trace interpretation data	-	03
DFHZGDA	CSECT (OCO)	VTAM persistent sessions deallocate abend functions	-	03
DFHZGDAA	Source	ZGDA parameter list	OS	-
DFHZGDAM	Macro	ZGDA requests	11	-
DFHZGDAT	CSECT (OCO)	ZGDA trace interpretation data	-	03
DFHZGDCD	CSECT	Terminal control subroutine constants	OS	-
DFHZGET	CSECT	GETMAIN request	OS	03
DFHZGIN	CSECT	ZC VTAM INQUIRE domain subroutine	-	03
DFHZGINA	CSECT	ZGIN parameter list	OS	-
DFHZGINM	Macro	ZGIN request	OS	-
DFHZGINT	DSECT	ZGIN translate tables	-	03
DFHZGPC	CSECT (OCO)	LU6.2 recover CNOS values for modegroups	-	03
DFHZGPCA	Source	ZGPC parameter list	OS	-
DFHZGPCM	Source	ZGPC request	OS	-
DFHZGPCT	CSECT (OCO)	ZGPC trace interpretation data	-	03
DFHZGPR	CSECT (OCO)	VTAM persistent sessions resource handler	-	03
DFHZGPRA	Source	ZGPR parameter list	OS	-
DFHZGPRI	Source	ZGPR request (inline form of DFHZGPRM)	OS	-
DFHZGPRM	Source	ZGPR request	OS	-
DFHZGPRT	CSECT (OCO)	ZGPR trace interpretation data	-	03
DFHZGRP	CSECT (OCO)	VTAM persistent sessions initialization	-	03
DFHZGRPA	Source	ZGRP parameter list	OS	-
DFHZGRPD	Source	ZGRP control blocks	OS	-
DFHZGRPM	Source	ZGRP request	OS	-
DFHZGRPT	CSECT (OCO)	ZGRP trace interpretation data	-	03
DFHZGSL	CSECT (OCO)	VTAM persistent sessions set logon	-	03
DFHZGSLA	Source	ZGSL parameter list	OS	-
DFHZGSLM	Source	ZGSL request	OS	-
DFHZGSLT	CSECT (OCO)	ZGSL trace interpretation data	-	03
DFHZGTA	CSECT	ZC TMP table alter gate	-	03
DFHZGTAA	CSECT	ZGTA parameter list	OS	-
DFHZGTAM	Macro	ZGTA request	OS	-
DFHZGTAT	DSECT	ZGTA translate tables	-	03
DFHZGTI	CSECT	ZC TMP table inquire gate	-	03
DFHZGTIA	CSECT	ZGTI parameter list	OS	-
DFHZGTIC	CSECT	ZGTI create copybook	OS	-
DFHZGTIM	Macro	ZGTI request	OS	-
DFHZGTIT	DSECT	ZGTI translate tables	-	03
DFHZGTRA	DSECT	ZGTR interface parameter area	OS	-
DFHZGTRM	Macro	DFHZGTR interface macro	OS	-
DFHZGTRT	DSECT	ZGTR translate tables	-	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHZGUB	CSECT (OCO)	VTAM persistent sessions terminate	-	03
DFHZGUBA	Source	ZGUB parameter list	OS	-
DFHZGUBM	Source	ZGUB request	OS	-
DFHZGUBT	CSECT (OCO)	ZGUB trace interpretation data	-	03
DFHZGURD	CSECT (OCO)	VTAM persistent sessions URD table	OS	-
DFHZGXA	CSECT	LU6.2 extended attach security	-	03
DFHZGXAA	DSECT	ZGXA parameter list	OS	-
DFHZGXAM	Macro	ZGXA requests	OS	-
DFHZGXAT	CSECT	ZGXA trace interpretation data	OS	03
DFHZHPCH	Macro	Generate authorized path CHECK or CHECK macro	OS	-
DFHZHPDS	DSECT	ZCP call plist for initialization of SRB facility (HPO)	OS	-
DFHZHPRV	Macro	Generate authorized path RECEIVE or RECEIVE macro	OS	-
DFHZHPRX	CSECT	Authorized path SRB mode VTAM EXECRPL	OS	03
DFHZHPSD	Macro	Generate authorized path SEND or SEND macro	OS	-
DFHZHPSR	CSECT	Authorized path SRB requests	OS	03
DFHZINT	Source	Terminal control initialization	OS	-
DFHZISP	CSECT	Allocate/free/point	OS	03
DFHZIS1	CSECT	Prepare/SPR/commit/abend	OS	03
DFHZIS2	CSECT	IRC internal requests	OS	03
DFHZLEX	CSECT	LERAD exit	OS	03
DFHZLGX	CSECT	Logon exit	OS	03
DFHZLOC	CSECT	Locate	OS	03
DFHZLRP	CSECT	Logical record presentation	OS	03
DFHZLS1	CSECT	LU6.2 CNOS request transaction program	-	03
DFHZLS1M	Macro	LU6.2 CNOS request	OS	-
DFHZLTX	CSECT	LOSTERM exit	OS	03
DFHZMJM	Macro	NACP sense code table generation macro	OS	-
DFHZNAC	CSECT	Node abnormal condition program (NACP)	OS	03
DFHZNCA	CSECT	NACP message table generator	OS	-
DFHZNCE	CSECT	NACP interface to NEP	OS	-
DFHZNCM	Macro	NACP message table generation macro	OS	-
DFHZNCS	CSECT	Sense code analysis	OS	-
DFHZNCV	CSECT	VTAM return code analysis	OS	-
DFHZNEPI	Macro	NEP interface generator	11	-
DFHZNEPX	Source	Translated command-level default NEP	19	-
DFHZNEP0	CSECT	User-replaceable node error program	19	03
DFHZNSET	Other	SMP/E zone setter (used by cataloged procedures)	11	-
DFHZNSP	CSECT	VTAM services procedure error exit	OS	03
DFHZOPA	CSECT	Dynamic VTAM open	OS	03
DFHZOPN	CSECT	OPNDST	OS	03
DFHZOPX	CSECT	OPNDST exit	OS	03
DFHZPTDX	Sample	Autoinstall user exit - PL/I	-	19
DFHZQUE	CSECT	Attach chain and queue subroutine	OS	03
DFHZRAC	CSECT	Receive-any completion	OS	03
DFHZRAQ	CSECT	Read ahead queuing	OS	03
DFHZRAR	CSECT	Read ahead retrieval	OS	03
DFHZRAS	CSECT	Receive-any slowdown processing	OS	03
DFHZRBDS	DSECT	LU6.2 application receive set buffer hdr	OS	-
DFHZRLP	CSECT	LU6.2 post-VTAM receive logic	OS	03
DFHZRLX	CSECT	LU6.2 receive exit program	OS	03
DFHZRPL	Source	TC build receive-any RPLs	OS	-
DFHZRQM	Macro	Add element to RPL completion queue	11	-
DFHZRRX	CSECT	Release request exit	OS	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHZRSP	CSECT	Resync send program	OS	03
DFHZRST	CSECT	RESETSR	OS	03
DFHZRSY1	CSECT	VTAM LU6.1 resynchronization	-	03
DFHZRSY2	CSECT	VTAM LU6.1 resynchronization	-	03
DFHZRSY3	CSECT	VTAM LU6.1 resynchronization	-	03
DFHZRSY4	CSECT	VTAM LU6.1 resynchronization	-	03
DFHZRSY5	CSECT	VTAM LU6.1 resynchronization	-	03
DFHZRSY6	CSECT	VTAM LU6.1 resynchronization	-	03
DFHZRTRI	CSECT	VTAM LU6.1 resynchronization trace interpretation	-	03
DFHZRVL	CSECT	LU6.2 pre-VTAM receive logic	OS	03
DFHZRVS	CSECT	Receive specific	OS	03
DFHZRVX	CSECT	Receive specific exit	OS	03
DFHZSAX	CSECT	Send DFASY exit	OS	03
DFHZSCX	CSECT	Session control input exit	OS	03
DFHZSDA	CSECT	Send asynchronous command	OS	03
DFHZSDL	CSECT	LU6.2 send logic	OS	03
DFHZSDR	CSECT	Send response	OS	03
DFHZSDS	CSECT	Send DFSYN	OS	03
DFHZSDX	CSECT	Send DFSYN data exit	OS	03
DFHZSES	CSECT	SESSIONC	OS	03
DFHZSEX	CSECT	SESSIONC exit	OS	03
DFHZSHU	CSECT	Checks shutdown status for VTAM terminals	OS	03
DFHZSIM	CSECT	SIMLOGON	OS	03
DFHZSIX	CSECT	SIMLOGON exit	OS	03
DFHZSKR	CSECT	Command response	OS	03
DFHZSLDS	Symbolic	Send list data structure	11	-
DFHZSLS	CSECT	Set logon start	OS	03
DFHZSLX	CSECT	LU6.2 send exit program	OS	03
DFHZSSX	CSECT	Send DFSYN exit	OS	03
DFHZSTAM	Macro	DFHZSTAP interface	OS	-
DFHZSTAP	CSECT	Conversation state determination	OS	03
DFHZSTU	CSECT	Terminal control status change	OS	03
DFHZSUP	CSECT	Startup task	OS	03
DFHZSYN	CSECT	VTAM recovery module	OS	03
DFHZSYX	CSECT	SYNAD exit	OS	03
DFHZS1DS	DSECT	ZC SUBPOOL_TOKENs table	OS	-
DFHZTAX	CSECT	Turnaround exit	OS	03
DFHZTPX	CSECT	TPEND exit	OS	03
DFHZTR	Macro	ZCP trace macro	OS	-
DFHZTRA	CSECT	VTAM trace module	OS	03
DFHZTSP	CSECT	Terminal sharing program	OS	03
DFHZUCT	CSECT	Uppercase translate	OS	03
DFHZUIX	CSECT	User input exit	OS	03
DFHZUSR	CSECT	LU6.2 conversation state machine	OS	03
DFHZUSRM	Macro	LU6.2 conversation state macro	OS	-
DFHZXCU	CSECT	VTAM XRF catch-up transaction	OS	03
DFHZXDUF	CSECT (OCO)	XRF ZCP queue SDUMP formatter	-	03
DFHZXPS	CSECT	VTAM persistent sessions APPC recovery	-	03
DFHZXQO	CSECT	XRF ZCP tracking queue organizer	OS	03
DFHZXQOS	Symbolic	DFHZXQO internal control blocks	OS	-
DFHZXRC	CSECT	XRF and Persistent sessions state data analysis	OS	03
DFHZXRE0	CSECT	VTAM reconnect transaction	OS	03
DFHZXRL	CSECT	Transaction routing - LU6.2 command processor, AOR	OS	03
DFHZXRPL	Macro	Clear RPL	OS	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFHZXRT	CSECT	Transaction routing - LU6.2 command processor, TOR	OS	03
DFHZXS	Macro	Interface to DFHZXST	OS	-
DFHZXST	CSECT	XRF ZCP session-state tracking	OS	03
DFHZXSTS	CSECT	SETLOGON routine	OS	03
DFH0AZBC	Sample	FEPI sample: CICS back-end application	19	-
DFH0AZBI	Sample	FEPI sample: IMS back-end application	19	-
DFH0AZPA	Sample	FEPI sample: SLU P pseudo-conversational program (Assembler)	19	-
DFH0AZPS	Sample	FEPI sample: SLU P one-out one-in program (Assembler)	19	-
DFH0AZQS	Sample	FEPI sample: STSN processing	19	-
DFH0AZTD	Sample	FEPI sample: 3270 data stream pass through	19	-
DFH0AZXS	Sample	FEPI sample: setup program (Assembler)	19	-
DFH0BAT1	Sample	Batch enabling sample BAT1 - disable transactions coordinator	C3	-
DFH0BAT2	Sample	Batch enabling sample BAT2 - inquire retained locks coordinator	C3	-
DFH0BAT3	Sample	Batch enabling sample BAT3 - force retained locks coordinator	C3	-
DFH0BAT4	Sample	Batch enabling sample BAT1 - disable transactions program	C3	-
DFH0BAT5	Sample	Batch enabling sample BAT2 - inquire retained locks program	C3	-
DFH0BAT6	Sample	Batch enabling sample BAT3 - force indoubt UOWs program	C3	-
DFH0BAT7	Sample	Batch enabling sample BAT2 - retry backout failures program	C3	-
DFH0BAT8	Sample	Batch enabling sample BAT3 - forcibly release locks program	C3	-
DFH0BCA	Sample	CUA communication area layout - COBOL	C3	-
DFH0BCR	Sample	CUA customer record layout - COBOL	C3	-
DFH0BC11	Sample	Batch enabling sample BAT1 - disable transactions TS queue	C3	-
DFH0BC12	Sample	Batch enabling sample BAT1 - disable transactions commarea	C3	-
DFH0BC21	Sample	Batch enabling sample BAT2 - inquire retained locks TS queue	C3	-
DFH0BC22	Sample	Batch enabling sample BAT2 - inquire retained locks commarea	C3	-
DFH0BC23	Sample	Batch enabling sample BAT2 - inquire retained locks map texts	C3	-
DFH0BC31	Sample	Batch enabling sample BAT3 - force retained locks TS queue	C3	-
DFH0BC32	Sample	Batch enabling sample BAT3 - force retained locks commarea	C3	-
DFH0BFKT	Sample	CUA variable function key layout - COBOL	C3	-
DFH0BFPD	Sample	CUA redefinition of file pull-down - COBOL	C3	-
DFH0BHP	Sample	CUA redefinition of help pop-up - COBOL	C3	-
DFH0BHPD	Sample	CUA redefinition of help pull-down - COBOL	C3	-
DFH0BHR	Sample	CUA help text TS queue layout - COBOL	C3	-
DFH0BHT	Sample	CUA help file key table - COBOL	C3	-
DFH0BLST	Sample	CUA redefinition of list base panel - COBOL	C3	-
DFH0BMSG	Sample	CUA application message table - COBOL	C3	-
DFH0BM1	Sample	Batch enabling sample BAT1 - disable transactions BMS mapset	19	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFH0BM1O	Sample	Batch enabling sample BAT1 - disable transactions BMS mapset	C3	-
DFH0BM2	Sample	Batch enabling sample BAT2 - inquire retained locks BMS mapset	19	-
DFH0BM2O	Sample	Batch enabling sample BAT2 - inquire retained locks BMS mapset	C3	-
DFH0BM3	Sample	Batch enabling sample BAT3 - force retained locks BMS mapset	19	-
DFH0BM3O	Sample	Batch enabling sample BAT3 - force retained locks BMS mapset	C3	-
DFH0BRT	Sample	CUA program routing control table - COBOL	C3	-
DFH0BTSQ	Sample	CUA TS queue details layout - COBOL	C3	-
DFH0BZCA	Sample	FEPI sample: system definition and customization (Assembler)	19	-
DFH0BZCC	Sample	FEPI sample: system definition and customization (C/370)	D3	-
DFH0BZCO	Sample	FEPI sample: system definition and customization (COBOL)	C3	-
DFH0BZCP	Sample	FEPI sample: system definition and customization (PL/I)	P3	-
DFH0BZMA	Sample	FEPI sample: messages and text (Assembler)	19	-
DFH0BZMC	Sample	FEPI sample: messages and text (C/370)	D3	-
DFH0BZMO	Sample	FEPI sample: messages and text (COBOL)	C3	-
DFH0BZMP	Sample	FEPI sample: messages and text (PL/I)	P3	-
DFH0BZ1O	Sample	FEPI sample: front-end terminal map (COBOL)	C3	-
DFH0BZ2O	Sample	FEPI sample: front-end terminal map (COBOL)	C3	-
DFH0BZ3A	Sample	FEPI sample: front-end terminal map (Assembler)	19	-
DFH0BZ4O	Sample	FEPI sample: front-end terminal map (COBOL)	C3	-
DFH0BZ5O	Sample	FEPI sample: front-end terminal map (COBOL)	C3	-
DFH0BZ6C	Sample	FEPI sample: front-end terminal map (C/370)	D3	-
DFH0BZ7P	Sample	FEPI sample: front-end terminal map (PL/I)	P3	-
DFH0BZ8A	Sample	FEPI sample: front-end terminal map	19	-
DFH0BZ9A	Sample	FEPI sample: front-end terminal map	19	-
DFH0CALL	Sample	Inquiry/update - COBOL	C3	-
DFH0CBAC	Sample	Sample CICS BTS 3270 Transaction Client	C3	-
DFH0CBAE	Sample	Sample Bridge Exit Routine	C3	-
DFH0CBAI	Sample	Sample input routine for BTS 3270 txn	C3	-
DFH0CBAO	Sample	Sample output routine for BTS 3270 txn	C3	-
DFH0CBDC	Sample	CSD backup program - COBOL	C3	-
DFH0CBRD	Sample	Sample bridge exit common area	C3	-
DFH0CBRE	Sample	Sample bridge exit	C3	-
DFH0CBRF	Sample	Sample bridge formatter	C3	-
DFH0CBRU	Sample	Sample bridge exit user area	C3	-
DFH0CBRW	Sample	Browse - COBOL	C3	-
DFH0CCOM	Sample	Order entry queue print - COBOL	C3	-
DFH0CESD	Sample	Shutdown assist program - COBOL	C3	-
DFH0CFIL	Sample	Customer file (FILEA) record layout - COBOL	C3	-
DFH0CLOG	Sample	Audit trail (log) record layout - COBOL	C3	-
DFH0CL86	Sample	Order entry queue record layout - COBOL	C3	-
DFH0CMA	Sample	Operator instructions map set - COBOL	19	-
DFH0CMB	Sample	Customer details map set - COBOL	19	-
DFH0CMC	Sample	File browse map set - COBOL	19	-
DFH0CMD	Sample	Low balance inquiry map set - COBOL	19	-
DFH0CMK	Sample	Order entry map set - COBOL	19	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFH0CML	Sample	Order report map set - COBOL	19	-
DFH0CMNU	Sample	Operator instructions - COBOL	C3	-
DFH0CONT	Sample	sample program for CICS BTS	C3	-
DFH0CMP	Sample	Keystroke overlap/look-aside query - map set - COBOL	19	-
DFH0CPKO	Sample	Keystroke overlap - COBOL	-	19
DFH0CPLA	Sample	Look-aside query - COBOL	-	19
DFH0CREN	Sample	Order entry - COBOL	-	19
DFH0CREP	Sample	Low balance inquiry - COBOL	-	19
DFH0CRFC	Sample	CSD cross-reference program - COBOL	-	19
DFH0CXCC	Sample	Keystroke overlap - COBOL	-	19
DFH0CZTK	Sample	FEPI sample: keystroke CONVERSE program (C/370)	D3	19
DFH0CZXS	Sample	FEPI sample: setup program (C/370)	D3	19
DFH0DCUS	Sample	CUA customer details file contents	05	-
DFH0DEL1	Sample	Sample program for CICS BTS	-	19
DFH0DHLP	Sample	CUA help file contents	04	-
DFH0DHTX	Sample	Sample EXITPGM Template	-	19
DFH0DLCC	Sample	CICS-DL/I program (CALL) - COBOL	-	19
DFH0DLCE	Sample	CICS-DL/I program (EXEC) - COBOL	-	19
DFH0FORC	Sample	DB2 formatting program - COBOL	-	19
DFH0GMAP	Sample	Sample goodnight program map set	-	19
DFH0GNIT	Sample	Sample goodnight transaction	-	19
DFH0INV1	Sample	Sample program for CICS BTS	-	19
DFH0IZRI	Sample	FEPI sample: RDO data for back-end IMS	19	-
DFH0IZRQ	Sample	FEPI sample: RDM data for front-end CICS	19	-
DFH0JCUS	Other	JCL to create CUA customer details file	02	-
DFH0JHLP	Other	JCL to create CUA help file	02	-
DFH0MAB	Sample	CUA abend handling - map set - COBOL	19	-
DFH0MABT	Sample	CUA about the sample application pop-up - map set - COBOL	19	-
DFH0MBRW	Sample	CUA browse customer details, base panel - map set - COBOL	19	-
DFH0MDEL	Sample	CUA delete a customer record, base panel - map set - COBOL	19	-
DFH0MFPD	Sample	CUA file pull-down - map set - COBOL	19	-
DFH0MHLP	Sample	CUA help stub full-screen pop-up - map set - COBOL	19	-
DFH0MHP	Sample	CUA contextual help pop-up - map set - COBOL	19	-
DFH0MHPD	Sample	CUA help pull-down - map set - COBOL	19	-
DFH0MLST	Sample	CUA list processing, base panel - map set - COBOL	19	-
DFH0MNEW	Sample	CUA new customer record, base panel - map set - COBOL	19	-
DFH0MOPN	Sample	CUA file open pop-up - map set - COBOL	19	-
DFH0MPRT	Sample	CUA print pop-up - map set - COBOL	19	-
DFH0MSAS	Sample	CUA save changed customer record pop-up - map set - COBOL	19	-
DFH0MT1	Sample	CUA primary panel for sample application - map set - COBOL	19	-
DFH0MUPD	Sample	CUA update customer details, base panel - map set - COBOL	19	-
DFH0MZ1	Sample	FEPI sample: keystroke CONVERSE map (COBOL)	19	-
DFH0MZ2	Sample	FEPI sample: send/start and receive map (COBOL)	19	-
DFH0MZ3	Sample	FEPI sample: map for back-end CICS application (Assembler)	19	-
DFH0MZ4	Sample	FEPI sample: SLU P one-out one-in map (COBOL)	19	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFH0MZ5	Sample	FEPI sample: SLU P pseudo-conversational map (COBOL)	19	-
DFH0MZ6	Sample	FEPI sample: keystroke CONVERSE map (C/370)	19	-
DFH0MZ7	Sample	FEPI sample: keystroke CONVERSE map (PL/I)	19	-
DFH0MZ8	Sample	FEPI sample: SLU P one-out one-in map (Assembler)	19	-
DFH0MZ9	Sample	FEPI sample: SLU P pseudo-conversational map (Assembler)	19	-
DFH0PAYC	Sample	Sample program for CICS BTS	19	-
DFH0PAYM	Sample	Sample program for CICS BTS	19	-
DFH0PAY0	Sample	Sample program for CICS BTS	19	-
DFH0PAY1	Sample	Sample program for CICS BTS	19	-
DFH0PS	Sample	Keystroke overlap/look-aside query - partition set - COBOL	19	-
DFH0PZTK	Sample	FEPI sample: keystroke CONVERSE program (PL/I)	-	19
DFH0RED1	Sample	Sample program for CICS BTS	19	-
DFH0REM1	Sample	Sample program for CICS BTS	19	-
DFH0SALC	Sample	Sample program for CICS BTS	19	-
DFH0SALM	Sample	Sample program for CICS BTS	19	-
DFH0SAL0	Sample	Sample program for CICS BTS	19	-
DFH0SAL1	Sample	Sample program for CICS BTS	19	-
DFH0SAL2	Sample	Sample program for CICS BTS	19	-
DFH0SET	Sample	Menu map for sample application	19	-
DFH0SINX	Sample	Rebuild primer index from master file	-	19
DFH0SIXR	Sample	Name index record for sample application	-	19
DFH0SREC	Sample	Account file record for sample application	-	19
DFH0STAT	Sample	Collect and print statistics - COBOL	C3	03
DFH0STCM	Sample	Statistics sample (DFH0STAT) Commarea	-	19
DFH0STLK	Sample		C3	03
DFH0STM	Sample	Collect and print stats map set - COBOL	19	03
DFH0STMD	Sample		19	-
DFH0STMU	Sample		19	-
DFH0STOC	Sample	Sample program for CICS BTS	19	-
DFH0STPR	Sample	Sample program for CICS BTS	19	03
DFH0STS	Sample	Statistics sample mapset - report selection	19	03
DFH0STSD	Sample		19	-
DFH0STSU	Sample		19	-
DFH0STSY	Sample		19	03
DFH0STTP	Sample		19	03
DFH0S00	Sample	Online account menu sample program	C3	-
DFH0S01	Sample	File inquire for sample application	C3	-
DFH0S02	Sample	File update for sample application	C3	-
DFH0S03	Sample	Print customer record for sample application	C3	-
DFH0S04	Sample	Error routine for sample application	C3	-
DFH0VAB	Sample	CUA abend handler - COBOL	C3	-
DFH0VABT	Sample	CUA about pop-up handler - COBOL	C3	-
DFH0VBRW	Sample	CUA browse customer details processing - COBOL	C3	-
DFH0VDEL	Sample	CUA delete customer details processing - COBOL	C3	-
DFH0VDQ	Sample	CUA temporary-storage cleanup - COBOL	C3	-
DFH0VHLP	Sample	CUA help pop-up handler - COBOL	C3	-
DFH0VHP	Sample	CUA contextual help pop-up handler - COBOL	C3	-
DFH0VLIO	Sample	CUA help file handler - COBOL	C3	-
DFH0VLST	Sample	CUA list panel handler - COBOL	C3	-
DFH0VNEW	Sample	CUA new customer panel processing - COBOL	C3	-
DFH0VOL	Sample	CUA overlay handler - COBOL	C3	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFH0VOPN	Sample	CUA file open pop-up handler - COBOL	C3	-
DFH0VPRT	Sample	CUA print pop-up handler - COBOL	C3	-
DFH0VRIO	Sample	CUA customer detail file handler - COBOL	C3	-
DFH0VSAS	Sample	CUA save customer details pop-up handler - COBOL	C3	-
DFH0VTBL	Sample	CUA table router - COBOL	C3	-
DFH0VT1	Sample	CUA primary panel processing - COBOL	C3	-
DFH0VUPD	Sample	CUA update customer record processing - COBOL	C3	-
DFH0VZPA	Sample	FEPI sample: SLU P pseudo-conversational program (COBOL)	C3	-
DFH0VZPS	Sample	FEPI sample: SLU P one-out one-in program (COBOL)	C3	-
DFH0VZQS	Sample	FEPI sample: STSN handler (COBOL)	C3	-
DFH0VZTD	Sample	FEPI sample: 3270 data stream pass through (COBOL)	C3	-
DFH0VZTK	Sample	FEPI sample: keystroke CONVERSE program (COBOL)	C3	-
DFH0VZTR	Sample	FEPI sample: screen image RECEIVE/ EXTRACT FIELD (COBOL)	C3	-
DFH0VZTS	Sample	FEPI sample: screen image SEND/START (COBOL)	C3	-
DFH0VZUC	Sample	FEPI sample: begin session handler (COBOL)	C3	-
DFH0VZUU	Sample	FEPI sample: end session handler (COBOL)	C3	-
DFH0VZUX	Sample	FEPI sample: monitor unsolicited data handler (COBOL)	C3	-
DFH0VZXS	Sample	FEPI sample: setup program (COBOL)	C3	-
DFH0WBCA	Sample	Sample Client Authentication Program	-	19
DFH2980	Symbolic	Special characters for 2980	C2	07
DFH3QSS	Sample		OS	03
DFH62XM	Sample	62 XM transaction attach	-	03
DFH99BC	Sample	Dynamic allocation - convert to binary target	19	03
DFH99BLD	Other	Dyn alloc - JCL to build sample program	02	-
DFH99CC	Sample	Dyn alloc - character and numeric string conversion	19	03
DFH99DY	Sample	Dyn alloc - issue SVC and analyze	19	03
DFH99FP	Sample	Dyn alloc - process function keyword	19	03
DFH99GI	Sample	Dyn alloc - format display and get input	19	03
DFH99KC	Sample	Dyn alloc - keyword value conversion	19	03
DFH99KH	Sample	Dyn alloc - list keywords for help	19	03
DFH99KO	Sample	Dyn alloc - process operator keywords	19	03
DFH99KR	Sample	Dyn alloc - convert returned value to keyword	19	03
DFH99LK	Sample	Dyn alloc - search key set for given token	19	03
DFH99M	Sample	Dyn alloc - macro	11	-
DFH99MAC	Sample	Dyn alloc - macro	19	-
DFH99ML	Sample	Dyn alloc - build message text from token list	19	03
DFH99MM	Sample	Dyn alloc - main control program	19	03
DFH99MP	Sample	Dyn alloc - message filing routine	19	03
DFH99MT	Sample	Dyn alloc - match abbreviation with keyword	19	03
DFH99RP	Sample	Dyn alloc - process returned values	19	03
DFH99SVC	Sample	Dyn alloc - SVC services	19	-
DFH99T	Sample	Dyn alloc - table of keywords	19	03
DFH99TK	Sample	Dyn alloc - tokenize input command	19	03
DFH99TX	Sample	Dyn alloc - text display routine	19	03
DFH99VH	Sample	Dyn alloc - list description for help	19	03
DFH$AALL	Sample	Inquiry/update	19	03
DFH$ABRW	Sample	Browse	19	03
DFH$ACOM	Sample	Order entry queue print	19	03
DFH$ADSP	Sample	XRF overseer - display status	19	03
DFH$AFIL	Sample	Customer file (FILEA) record layout	19	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFH$AGA	Sample	Generated version of DFH$AMA	19	03
DFH$AGB	Sample	Generated version of DFH$AMB	19	03
DFH$AGC	Sample	Generated version of DFH$AMC	19	03
DFH$AGCB	Sample	XRF overseer - set up RPL	19	03
DFH$AGD	Sample	Generated version of DFH$AMD	19	03
DFH$AGK	Sample	Generated version of DFH$AMK	19	03
DFH$AGL	Sample	Generated version of DFH$AML	19	03
DFH$ALOG	Sample	Audit trail (log) record layout	19	-
DFH$AL86	Sample	Order entry queue record layout	19	-
DFH$AMA	Sample	Operator instructions map set	19	-
DFH$AMAU	Sample	Operator instructions map set	19	-
DFH$AMB	Sample	Customer details map set	19	-
DFH$AMBU	Sample	Customer details map set	19	-
DFH$AMC	Sample	File browse map set	19	-
DFH$AMCU	Sample	File browse map set	19	-
DFH$AMD	Sample	Low balance inquiry map set	19	-
DFH$AMDU	Sample	Web Interface BMS screen emulation	19	-
DFH$AMK	Sample	Order entry map set	19	-
DFH$AMKU	Sample	Order entry map set	19	-
DFH$AML	Sample	Order report map set	19	-
DFH$AMNU	Sample	Operator instructions	19	03
DFH$AREN	Sample	Order entry	19	03
DFH$AREP	Sample	Low balance inquiry	19	03
DFH$ARES	Sample	XRF overseer - restart failed region	19	03
DFH$ATXC	Sample	EXCI batch client program (Assembler)	19	03
DFH$AXCC	Sample	EXCI batch client program (Assembler)	19	03
DFH$AXCS	Sample	EXCI batch server program (Assembler)	19	03
DFH$AXRO	Sample	XRF overseer program	19	03
DFH$AXVS	Sample	EXCI sample server	19	03
DFH$BMXT	Sample	Sample BMS global user exit	19	-
DFH$BTCH	Sample	Batch test data for DFHIVPBT	19	-
DFH$CAT1	Sample	CLIST to create RACF profiles for CICS category 1 transactions	19	-
DFH$CAT2	Sample	CLIST to create RACF profiles for CICS category 2 transactions	19	-
DFH$CESD	Sample	Shutdown assist program	P3	-
DFH$CRFA	Sample	CSD cross-reference program	19	03
DFH$CRFP	Sample	CSD cross-reference program - PL/I	P3	-
DFH$CSDU	Sample	RDO offline utilities	19	-
DFH$CUS1	Sample	CSDUP invocation from TSO environment	19	03
DFH$DALL	Sample	Inquiry/update - C/370	D3	-
DFH$DBAN	Sample	Batch test data for DFHIVPDB (Assembler)	19	-
DFH$DBCB	Sample	Batch test data for DFHIVPDB (Cobol)	19	-
DFH$DBPL	Sample	Batch test data for DFHIVPDB (PL/I)	19	-
DFH$DBRW	Sample	Browse - C/370	D3	-
DFH$DB2T	Sample	DB2 table definitions for DFH$FORx	19	-
DFH$DCOM	Sample	Order entry queue print - C/370	D3	-
DFH$DCTD	Sample	DCT SDSCI entries	19	-
DFH$DCTR	Sample	DCT entries for basic facilities	19	-
DFH$DCTS	Sample	DCT entries for sample applications	19	-
DFH$DFIL	Sample	Customer file (FILEA) record layout -C/370	D3	-
DFH$DLAC	Sample	CICS-DL/I program using CALL interface	19	03
DFH$DLAE	Sample	CICS-DL/I program using EXEC DLI	19	03
DFH$DLPC	Sample	CICS-DL/I program (CALL) - PL/I	P3	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFH$DLPE	Sample	CICS-DL/I program (EXEC) - PL/I	P3	-
DFH$DL86	Sample	Order entry queue record layout - C/370	D3	-
DFH$DMA	Sample	Operator instructions map set - C/370	19	-
DFH$DMB	Sample	Customer details map set - C/370	19	-
DFH$DMC	Sample	File browse map set - C/370	19	-
DFH$DMD	Sample	Low balance inquiry map set - C/370	19	-
DFH$DMK	Sample	Order entry map set - C/370	19	-
DFH$DML	Sample	Order report map set - C/370	19	-
DFH$DMNU	Sample	Operator instructions - C/370	D3	-
DFH$DREN	Sample	Order entry - C/370	D3	-
DFH$DREP	Sample	Low balance inquiry - C/370	D3	-
DFH$DTLC	Sample	Shared Data Tables XDTLC exit program	19	-
DFH$DTAD	Sample	Shared data tables XDTAD exit program	19	-
DFH$DTRD	Sample	Shared data tables XDTRD exit program	19	-
DFH$DXCC	Sample	Batch Client Program (C/370)	D3	-
DFH$DXVC	Sample	EXCI client program - Java environment	19	03
DFH$FAIN	Sample	Data for batch load of FILEA	19	-
DFH$FCBF	Sample	Sample XFCBFAIL exit program	19	-
DFH$FCBV	Sample	Sample XFCBOVER exit program	19	-
DFH$FCLD	Sample	Sample XFCLDEL exit program	19	-
DFH$FORA	Sample	DB2 formatting program	19	03
DFH$FORP	Sample	DB2 formatting program - PL/I	P3	-
DFH$GMAP	Sample	Sample goodnight transaction BMS map	19	-
DFH$ICCN	Sample	Call to CPSM to issue cancel command	19	-
DFH$ICIC	Sample	CICS-CICS or CICS-IMS conversation	19	03
DFH$IFBL	Sample	Remote file browse - local processing	19	03
DFH$IFBR	Sample	Remote file browse - remote processing	19	03
DFH$IGB	Sample	Generated version of DFH$IMB	19	03
DFH$IGC	Sample	Generated version of DFH$IMC	19	03
DFH$IGS	Sample	Generated version of DFH$IMS	19	03
DFH$IGX	Sample	Generated version of DFH$IMX	19	03
DFH$IG1	Sample	Generated version of DFH$IM1	19	03
DFH$IG2	Sample	Generated version of DFH$IM2	19	03
DFH$IIAT	Sample	IIOP banking sample app.to C Account	19	-
DFH$IIBI	Sample	IIOP banking sample app.to C Init.	19	-
DFH$IIBQ	Sample	IIOP banking sample app.to C Query	19	-
DFH$IICC	Sample	IIOP banking sample app.to C Credit Check	19	-
DFH$IICH	Sample	IIOP banking sample app.to C Cr.Chk commarea	19	-
DFH$IIMA	Sample	IIOP banking sample app.to C BMS Map	19	-
DFH$IIQR	Sample	IIOP banking sample app.to C Comm_struct	19	-
DFH$IMB	Sample	Remote file browse - map set	19	-
DFH$IMC	Sample	CICS-CICS or CICS-IMS conversation - map set	19	-
DFH$IMS	Sample	CICS-IMS conversation/demand paged output - map set	19	-
DFH$IMSN	Sample	CICS-IMS conversation	19	03
DFH$IMSO	Sample	CICS-IMS demand paged output	19	03
DFH$IMX	Sample	Local to remote temporary-storage queue transfer - map set	19	-
DFH$IM1	Sample	TS record retrieval - map set 1	19	-
DFH$IM2	Sample	TS record retrieval - map set 2	19	-
DFH$IQRD	Sample	TS record retrieval - local display	19	03
DFH$IQRL	Sample	TS record retrieval - local request	19	03
DFH$IQRR	Sample	TS record retrieval - remote request	19	03

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFH$IQXL	Sample	Local to remote temporary-storage queue transfer - local processing	19	03
DFH$IQXR	Sample	Local to remote temporary-storage queue transfer - remote processing	19	03
DFH$JSAM	Sample	Java Sample Linker in C	19	-
DFH$LCCA	Sample	Java Sample COMMAREA checker in C	19	-
DFH$LDSP	Sample	Create FILEA data file	19	03
DFH$LGLS	Sample	Sample GLUE program for XLGSTRM	19	-
DFH$MCTD	Sample	MCT entry for DBCTL	19	-
DFH$MOLS	Sample	Offline processor of monitoring data	19	03
DFH$OFAR	Sample		19	-
DFH$PALL	Sample	Inquiry/update - PL/I	P3	-
DFH$PBRW	Sample	Browse - PL/I	P3	-
DFH$PCEX	Sample	XPCFTCH global user exit program	19	03
DFH$PCGA	Sample	Global work area for DFH$PCEX	19	-
DFH$PCOM	Sample	Order entry queue print - PL/I	P3	-
DFH$PCPI	Sample	Enabling program for DFH$PCEX and DFH$ZCAT	19	03
DFH$PCPL	Sample	DFH$PCEX global user exit invocation	19	03
DFH$PCTA	Sample	XPCTA user exit program	19	-
DFH$PDUM	Sample	Dummy main program for PL/I programs using CSD offline extract function	P3	-
DFH$PFIL	Sample	Customer file (FILEA) record layout - PL/I	P3	-
DFH$PLOG	Sample	Audit trail (log) record layout - PL/I	P3	-
DFH$PL86	Sample	Order entry queue record layout - PL/I	P3	-
DFH$PMA	Sample	Operator instructions map set - PL/I	19	-
DFH$PMB	Sample	Customer details map set - PL/I	19	-
DFH$PMC	Sample	File browse map set - PL/I	19	-
DFH$PMD	Sample	Low balance inquiry map set - PL/I	19	-
DFH$PMK	Sample	Order entry map set - PL/I	19	-
DFH$PML	Sample	Order report map set - PL/I	19	-
DFH$PMNU	Sample	Operator instructions - PL/I	P3	-
DFH$PMP	Sample	Keystroke overlap/look-aside query - map set - PL/I	19	-
DFH$PPKO	Sample	Keystroke overlap - PL/I	P3	-
DFH$PPLA	Sample	Look-aside query - PL/I	P3	-
DFH$PREN	Sample	Order entry - PL/I	P3	-
DFH$PREP	Sample	Low balance inquiry PL/I	P3	-
DFH$PS	Sample	Keystroke overlap/look-aside query - partition set - PL/I	19	-
DFH$PXCC	Sample	Batch client program (PL/I)	P3	-
DFH$RACF	Sample	RACF class descriptor table	19	-
DFH$RING	Sample	Build KEYRING profiles in RACF	19	-
DFH$SIPA	Other	System initialization parameters for use with AOR and default SIT	19	-
DFH$SIPD	Other	System initialization parameters for use with DOR and default SIT	19	-
DFH$SIPT	Other	System initialization parameters for use with TOR and default SIT	19	-
DFH$SIP1	Other	System initialization parameters for use by DFHIVPOL (online IVP)	19	-
DFH$SIP2	Other	System initialization parameters for use by DFHIVPBT (batch IVP)	19	-
DFH$SIP5	Other	System initialization parameters for use by DFHIVPDB (DBCTL IVP)	19	-
DFH$SNPW	Sample	Password expiration mgement for Windows/NT	19	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
DFH$SNP2	Sample	Password expiration mgement for OS/2 Warp	19	-
DFH$SQLT	Sample	Input for DB2 table load utility	19	-
DFH$STAS	Sample	DFH0STAT storage statistics subroutine	19	03
DFH$STCN	Sample	DFH0STAT time calculations subroutine	19	03
DFH$STED	Sample	Stagger end-of-day time for statistics	19	03
DFH$STER	Sample	PLT program to print recovery statistics on CICS emergency restart	19	03
DFH$STTB	Sample	Statistics sample user exit ID table	19	03
DFH$SXP1	Sample	Suppress message by number (user exit)	19	03
DFH$SXP2	Sample	Suppress message by destination route code	19	03
DFH$SXP3	Sample	Suppress message by transient data queue	19	03
DFH$SXP4	Sample	Reroute console message to transient data queue	19	03
DFH$SXP5	Sample	Reroute message from one transient data queue to another	19	03
DFH$SXP6	Sample	Reroute message from transient data queue to list of consoles	19	03
DFH$TCTS	Sample	TCT entries for sequential (CRLP) terminals	19	-
DFH$TDWT	Sample	Transient data write to terminal	19	03
DFH$ULPA	Other	Placeholder for DFH$ULPA	19	-
DFH$UMOD	Other	SMP/E USERMOD to move LPA-eligible CICS modules into LPA library	19	-
DFH$WBAU	Sample	Web module	19	03
DFH$WBSA	Sample	Web module	19	03
DFH$WBSB	Sample	Web module	19	03
DFH$WBSC	Sample	Web module	19	03
DFH$WBSN	Sample	Web module	19	03
DFH$WBSR	Sample	Web module	19	03
DFH$WBST	Sample	Web module	19	03
DFH$WB1A	Sample	Web module	19	03
DFH$WB1C	Sample	Web module	D3	-
DFH$XDRQ	Sample		19	03
DFH$XNQE	Sample	Exec ENQ/DEQ Sample XNQEREQ Exit	19	03
DFH$XRDS	Sample	XRF overseer control blocks	19	-
DFH$XTSE	Sample	XTSEREQ global user exit program	19	03
DFH$XZIQ	Sample	Sample XZIQUE global user exit program	19	03
DFH$ZCAT	Sample	Sample XZCATT global user exit program	19	03
DFH$ZCGA	Sample	Global work area for DFH$ZCAT	19	-
DFJ$UMOD	Sample	Place holder for DFJ$UMOD	19	-
DLIUIB	DSECT	DL/I user interface block	C2	-
DLIUIB	DSECT	DL/I user interface block	P2	-
DLIUIB	DSECT	DL/I user interface block	D3	-
DLIUIB	Macro	DL/I user interface block	12	-
DFH99SVC	CSECT	Dyn alloc - SVC services	-	03
DSNCPRMA	Macro	CICS-DB2 connect dynamic plan selection parmlist (Assembler)	12	-
DSNCPRMC	Macro	CICS-DB2 connect dynamic plan selection parmlist (COBOL)	C2	-
DSNCPRMP	Macro	CICS-DB2 connect dynamic plan selection parmlist (PL/I)	P2	-
DSNCRCT	Macro	CICS-DB2 connect RCT macro	12	-
DSNCUEXT	CSECT	CICS-DB2 connect dynamic plan selection	19	03
MEUKEYS	CSECT	MEU key definitions	17	-
MEULANG	CSECT	MEU language table	11	-
MEU00	CSECT	MEU MEU00x message set	13	-

Table 92. CICS modules directory (continued)

Name	Type	Description	Library	
MEU01	CSECT	MEU MEU01x message set	13	-
MEU02	CSECT	MEU MEU02x message set	13	-
MEU03	CSECT	MEU MEU03x message set	13	-
MEU04	CSECT	MEU MEU04x message set	13	-
MEU05	CSECT	MEU MEU05x message set	13	-
SRRC	Symbolic	SAA resource recovery pseudonyms for C	D3	-
SRRCOBOL	Symbolic	SAA resource recovery pseudonyms for COBOL	C2	-
SRRHASM	Symbolic	SAA resource recovery pseudonyms for assembler-language	12	-
SRRPLI	Symbolic	SAA pseudonym file for PL/I	P2	-

Chapter 117. CICS executable modules

The following list shows, for each module:

1. The name of the module
2. Its entry points
3. Callers of the module
4. A brief description of the module
5. Where the module returns to. This information is omitted where the module returns to its caller (the normal situation).

In general, this list is restricted to non-OCO modules. In the few cases where OCO modules are included, no design details are given.

DFHACP

Entry points

DFHACPNA

Called by

DFHAPRM, DFHAPXME

Description

The abnormal condition program writes a message to the terminal and to the CSMT destination if a transaction abends or cannot be started. Subject to tests on the type of terminal, DFHACP invokes DFHMGP to output the message. It calls DFHPEP and, depending on the result, may disable the transaction. For each error, there is an entry in a table which contains the number of the message to be written to the principal facility (terminal) and the number of the message to be written to CSMT. If, in either case, there is no message, zero is entered.

The main subroutines of DFHACP are:

```
ABCSMTWT - Write to CSMT
ACPCALMG - Use DFHMGP to output a message
ACPCLPEP - Invoke DFHPEP
ACPFENTY - Identify message for terminal
TERMERR  - Terminal error.
```

DFHAICBP

Entry points

DFHAICB

Called by

User application program

Description

The application interface control block program acts both as a control block and, for compatibility with early releases of CICS/VS, as executable code. DFHAICBP provides addressability between application programs and CICS entry points, namely those of the EXEC interface and the common programming interface. DFHAICBP is link-edited with the EXEC interface programs (DFHEIP and DFHEIPA), and the common programming interface program (DFHCPI) to form the application interface program (DFHAIP) load module.

DFHALP

Entry points

DFHALPNA

Called by

DFHCRQ, DFHCRS, DFHICP, DFHTPQ, DFHTPR, DFHTPS, DFHZATI, DFHZISP, DFHZNAC, DFHZTSP

Description

The terminal allocation program contains the logic to allocate TCTTE resources to requesting transactions. The request operates in a multiple exchange between the requesting transaction and terminal control. DFHALP passes a SCHEDULE request to terminal control as an ATI terminal control, then responds with an AVAIL command. The requests are represented by AIDs (AID chain manipulations being performed by calls to DFHALP). For LU6.2, DFHALP issues a terminal control allocate mode name macro.

DFHAMP

Entry points

DFHAMPNA

Called by

DFHEIP, DFHSII1

Description

The allocation management program is invoked by the CEDA transaction. It analyzes commands and calls the definition file management program, DFHDMP, to process changes to records in the CSD. For the INSTALL command, DFHAMP also calls program manager, transaction manager, and DFHSPP. DFHPUP is called to convert data between address list format and the CSD record format.

DFHAPJC

Entry points

DFHAPJCN

Called by

User

Description

The AP domain journal control gate service module handles WRITE_JOURNAL_DATA calls made by the user exit's XPI. It gets a TCA if the task doesn't currently have one, and also a JCA. If the task already has a JCA, this is stacked. It then copies the parameter list passed in the domain call, to the JCA, and then issues one of four journal writes, depending on the request. Finally the return code from the JC write is copied into the domain parameter list, and the JCA and TCA are released if they were obtained by DFHAPJC.

DFHAPSIP

Entry points

DFHSIPNA

Called by

DFHAPDM

Description

The main AP domain initialization program provides DFHWTO support and common subroutines used by DFHSIA1 through DFHSIJ1. In sequence, DFHAPSIP performs the following functions:

- Defines the AP domain subpools
- Acquires the SIT address
- Passes control to the DFHSIA1, DFHSIB1, and so on.

The main subroutines of DFHAPSIP are:

```
CHKRLVLR - Check release level
OVERLSUP - Overlay supervisor
SIGETCOR - Storage allocation
SILOADR  - Program loader
SIPCONS  - Console WRITE.
```

DFHAPST

Entry points

DFHAPST

Called by

DFHEIP, DFHSTST

Description

The supervisory statistics program within the AP domain accepts a request for and then supervises the copying/resetting of statistics counters in the AP domain by calling the appropriate DFHSTxx modules to access the counters.

This module is called when:

- Statistics domain is collecting INTERVAL statistics and calls this module to pass it copies of and to reset all statistics in AP domain. This module then sequentially calls all of the DFHSTxx modules to do the copying and resetting.
- A CEMT PERFORM STATISTICS command results in a call to the statistics domain which then makes an appropriate call to this module to pass it copies of the requested statistics. This module then calls the DFHSTxx modules required to do the copying.
- An EXEC CICS COLLECT STATISTICS command results in a call to this module which then calls the DFHSTxx module required to pass copies of the statistics back to the application program.

Thus, this module is called only by the statistics domain or by DFHEIP.

This module provides two functions:

COLLECT_STATISTICS
: collects statistics for all resources in the AP domain and calls the statistics domain to write them out to the SMF data set.

COLLECT_RESOURCE_STATS
: collects statistics for the named resource type (optionally qualified by the resource identifier) and either copies them to a buffer available through the API, or causes them to be written to the SMF data set.

DFHAPTD

Entry points

DFHAPTD

Called by

DFHETD, DFHTDA, DFHTDB, ME domain

Description

DFHAPTD handles DFHTDTDM macro requests; as such, it provides the transient data gate into the AP domain. DFHTDTDM macro requests are routed from DFHAPTD to DFHTDP using the corresponding DFHTD CTYPE requests.

DFHAPTI

Entry points

DFHAPTI

Called by

the timer domain to handle NOTIFY calls for the application domain.

Description

The DFHAPTO module looks at the token passed by the timer domain and resumes either the DFHAPTI or DFHAPTIX module, as appropriate.

DFHAPTIM

Entry points

DFHAPTIM

Called by

runs as a system task attached by the DFHSII1 module.

Description

The DFHAPTIM module is part of the interval control mechanism. When it first gets control, it suspends itself to wait for an interval control ICE to expire. Interval control uses the timer domain to handle time intervals. When the timer domain detects the expiry of an interval control related interval, it calls the DFHAPTI module, which in turn resumes the DFHAPTIM module. The DFHAPTIM module then makes an “expiry analysis” call to the DFHICP module, which processes any expired ICEs. On return, the DFHAPTIM module suspends itself again to wait for the next ICE to expire.

DFHAPTIX

Entry points

DFHAPTIX

Called by

runs as a system task attached by the DFHSII1 module.

Description

The DFHAPTIX module is part of the interval control mechanism. When it first gets control, it tells the timer domain that it wants to be told every time it is midnight. It then suspends itself to wait for the next midnight. When that occurs, the timer domain calls the DFHAPTI module, which resumes the DFHAPTIX module, which in turn calls the DFHICP module to do midnight processing.

DFHASV

Entry points

DFHASVNA

Called by

DFHCSVC

Description

DFHASV is one of the modules that run under the CICS type 3 SVC. On entry to DFHASV, register 0 contains one of the following request codes:

```
0 - Paging request
8 - SRB termination
9 - HPO initialization
```

```
 24 - Monitoring services
 64 - Authorize general purpose subtask TCB
 80 - Issue SDUMP
136 - Bind AP domain.
```

DFHBSIB3

Entry points

DFHBSIB3

Called by

DFHTBSxx

Description

DFHBSIB3 adds BMS 3270 support to a TCT table entry.

DFHBSIZ1

Entry points

DFHBSIZ1

Called by

DFHTBSxx

Description

DFHBSIZ1 adds SCS support to a TCT table entry.

DFHBSIZ3

Entry points

DFHBSIZ3

Called by

DFHTBSxx

Description

DFHBSIZ3 adds DFHZCP 3270 support to a TCT table entry.

DFHBSMIR

Entry points

DFHBSMIR

Called by

DFHTBSxx

Description

DFHBSMIR builds a TCT table entry for a session.

DFHBSMPP

Entry points

DFHBSMPP

Called by

DFHTBSxx

Description

DFHBSMPP builds a TCT table entry for a pipeline pool entry.

DFHBSM61

Entry points

DFHBSM61

Called by

DFHTBSxx

Description

DFHBSM61 builds sessions for an LU6.2 mode group.

DFHBSM62

Entry points

DFHBSM62

Called by

DFHTBSxx

Description

DFHBSM62 builds the mode entry for an LU6.2 mode group.

DFHBSS

Entry points

DFHBSS

Called by

DFHTBSxx

Description

DFHBSS adds a new connection (system entry) to a CICS system.

DFHBSSA

Entry points

DFHBSSA

Called by

DFHTBSxx

Description

DFHBSSA initializes DFHKCP support in a new TCT system entry.

DFHBSSF

Entry points

DFHBSSF

Called by

DFHTBSxx

Description

DFHBSSF initializes the statistics counters in a new TCT system entry.

DFHBSSS

Entry points

DFHBSSS

Called by

DFHTBSxx

Description

DFHBSSS builds security support for a new TCT system entry.

DFHBSSZ

Entry points

DFHBSSZ

Called by

DFHTBSxx

Description

DFHBSSZ builds VTAM interface support for a new TCT system entry.

DFHBSSZB

Entry points

DFHBSSZB

Called by

DFHTBSxx

Description

DFHBSSZB adds a new batch interregion connection to a CICS system.

DFHBSSZG

Entry points

DFHBSSZG

Called by

DFHTBSxx

Description

DFHBSSZG adds a new advanced program-to-program communication (APPC) single-session connection to a CICS system.

DFHBSSZI

Entry points

DFHBSSZI

Called by

DFHTBSxx

Description

DFHBSSZI adds an indirect terminal control system table entry to a CICS system.

DFHBSSZL

Entry points

DFHBSSZL

Called by

DFHTBSxx

Description

DFHBSSZL adds a local terminal control system table entry to a CICS system.

DFHBSSZM

Entry points

DFHBSSZM

Called by

DFHTBSxx

Description

DFHBSSZM introduces a new connection (system) to ZCP.

DFHBSSZP

Entry points

DFHBSSZP

Called by

DFHTBSxx

Description

DFHBSSZP builds an advanced program-to-program communication (APPC) parallel-session connection to a CICS system.

DFHBSSZR

Entry points

DFHBSSZR

Called by

DFHTBSxx

Description

DFHBSSZR builds an MRO session entry.

DFHBSSZS

Entry points

DFHBSSZS

Called by

DFHTBSxx

Description

DFHBSSZS builds an advanced program-to-program communication (APPC) session entry.

DFHBSSZ6

Entry points

DFHBSSZ6

Called by

DFHTBSxx

Description

DFHBSSZ6 builds an LU6.1 connection entry.

DFHBST

Entry points

DFHBST

Called by

DFHTBSxx

Description

DFHBST performs TCTTE initialization common to terminals, pipeline pool entries, and sessions for IRC and ISC.

DFHBSTB

Entry points

DFHBSTB

Called by

DFHTBSxx

Description

DFHBSTB adds support for BMS to a new TCT terminal or session entry.

DFHBSTBL

Entry points

DFHBSTBL

Called by

DFHTBSxx

Description

DFHBSTBL adds support for logical device components (LDCs).

DFHBSTB3

Entry points

DFHBSTB3

Called by

DFHTBSxx

Description

DFHBSTB3 adds partition support to a new TCT terminal or session entry.

DFHBSTC

Entry points

DFHBSTC

Called by

DFHTBSxx

Description

DFHBSTC performs those operations that are executed after the installation of a terminal.

DFHBSTD

Entry points

DFHBSTD

Called by

DFHTBSxx

Description

DFHBSTD adds data interchange program (DFHDIP) support for a new TCT table entry.

DFHBSTE

Entry points

DFHBSTE

Called by

DFHTBSxx

Description

DFHBSTE adds EXEC diagnostic facility (EDF) support for a new TCT table entry.

DFHBSTH

Entry points

DFHBSTH

Called by

DFHTBSxx

Description

DFHBSTH initializes EXEC interface fields for a new TCT table entry.

DFHBSTI

Entry points

DFHBSTI

Called by

DFHTBSxx

Description

DFHBSTI adds interval control program (DFHICP) support for a new TCT table entry.

DFHBSTM

Entry points

DFHBSTM

Called by

DFHTBSxx

Description

DFHBSTM adds message generation program (DFHMGP) support for a new TCT table entry.

DFHBSTO

Entry points

DFHBSTO

Called by

DFHTBSxx

Description

DFHBSTO is the spooler builder.

DFHBSTP3

Entry points

DFHBSTP3

Called by

DFHTBSxx

Description

DFHBST adds 3270-copy support for a new TCT table entry.

DFHBSTS

Entry points

DFHBSTS

Called by

DFHTBSxx

Description

DFHBSTS adds signon program (DFHSNP) support for a new TCT table entry.

DFHBSTT

Entry points

DFHBSTT

Called by

DFHTBSxx

Description

DFHBSTT adds task control program (DFHKCP) support for a new TCT table entry.

DFHBSTZ

Entry points

DFHBSTZ

Called by

DFHTBSxx

Description

DFHBSTZ builds a session or terminal resource.

DFHBSTZA

Entry points

DFHBSTZA

Called by

DFHTBSxx

Description

DFHBSTZA adds DFHZCP activity scan support to a new TCT terminal or session entry.

DFHBSTZB

Entry points

DFHBSTZB

Called by

DFHTBSxx

Description

DFHBSTZB appends or deletes a BIND image for a TCT terminal or session entry.

DFHBSTZC

Entry points

DFHBSTZC

Called by

DFHTBSxx

Description

DFHBSTZC adds a single-session LU6.2 system as an advanced program-to-program communication (APPC) terminal.

DFHBSTZE

Entry points

DFHBSTZE

Called by

DFHTBSxx

Description

DFHBSTZE sets error message writer fields for a new TCT table entry.

DFHBSTZH

Entry points

DFHBSTZH

Called by

DFHTBSxx

Description

DFHBSTZH adds an interregion (IRC) batch session to a CICS system.

DFHBSTZL

Entry points

DFHBSTZL

Called by

DFHTBSxx

Description

DFHBSTZL adds logical device code support to a new TCT terminal or session entry.

DFHBSTZO

Entry points

DFHBSTZO

Called by

DFHTBSxx

Description

DFHBSTZO adds an MVS console to a CICS system.

DFHBSTZP

Entry points

DFHBSTZP

Called by

DFHTBSxx

Description

DFHBSTZP adds a pipeline pool entry to a CICS system.

DFHBSTZR

Entry points

DFHBSTZR

Called by

DFHTBSxx

Description

DFHBSTZR adds an interregion (IRC) session to a CICS system.

DFHBSTZS

Entry points

DFHBSTZS

Called by

DFHTBSxx

Description

DFHBSTZS adds an advanced program-to-program communication (APPC) session to the terminal control program.

DFHBSTZV

Entry points

DFHBSTZV

Called by

DFHTBSxx

Description

DFHBSTZV adds the parts of a terminal or session TCT table entry that are special to VTAM and IRC.

DFHBSTZZ

Entry points

DFHBSTZZ

Called by

DFHTBSxx

Description

DFHBSTZZ adds a non-APPC session to the TCT. (APPC is advanced program-to-program communication.)

DFHBSTZ1

Entry points

DFHBSTZ1

Called by

DFHTBSxx

Description

DFHBSTZ1 adds support for a remote terminal to a CICS system.

DFHBSTZ2

Entry points

DFHBSTZ2

Called by

DFHTBSxx

Description

DFHBSTZ2 adds support for a remote advanced program-to-program communication (APPC) connection.

DFHBSTZ3

Entry points

DFHBSTZ3

Called by

DFHTBSxx

Description

DFHBSTZ3 adds a 3270 to the TCT.

DFHBSXGS

Entry points

DFHBSXGS

Called by

DFHBSMIR, DFHZTSP

Description

DFHBSXGS generates a unique session name for an LU6.2 TCTTE.

DFHBSZZ

Entry points

DFHBSZZ

Called by

DFHTBSxx

Description

DFHBSZZ adds a terminal or session to the TCT.

DFHBSZZS

Entry points

DFHBSZZS

Called by

DFHTBSxx

Description

DFHBSZZS adds a new session to LU6.2 support.

DFHBSZZV

Entry points

DFHBSZZV

Called by

DFHTBSxx

Description

DFHBSZZV adds a VTAM terminal or session to the TCT.

DFHCAPB

Entry points

DFHCAPNA

Called by

DFHTCRP

Description

DFHCAPB processes command analysis for VTAM terminal definitions contained in a load module table DFHRDTxx for TCT migration.

DFHCCNV

Entry points

DFHCCNV

Called by

DFHCHS, DFHMIRS

Description

DFHCCNV provides conversion of user data from ASCII to EBCDIC and from EBCDIC to ASCII for function-shipped requests from external clients. DFHCCNV is called from either the LU2 remote server program DFHCHS or the mirror program DFHMIRS, for EXEC CICS requests and replies originating from the identified server or mirror. For any function-shipped request it is invoked twice, once on the inbound side and once on the outbound path. DFHCCNV is passed the EXEC CICS parameter list by its caller. On the request side, this occurs after DFHCHS or DFHMIRS has called transformer 2 but before DFHEIP is invoked. On the response side, this occurs after DFHEIP returns to DFHCHS or DFHMIRS but before transformer 3 is invoked.

DFHCMP

Entry points

DFHCMPNA

Called by

DFHETR

Description

The CICS monitoring compatibility module is invoked by the old event monitoring point of EXEC CICS ENTER TRACEID to interface to the monitoring domain.

DFHCPY

Entry points

DFHCPYNA

Called by

DFHPRK

Description

The 3270 copy program (transaction CSCY) causes data to be copied from screen to printer in a (VTAM) 3270 system. DFHCPY is invoked by DFHPRK (only if the 3270 has the copy feature) and issues a DFHTC TYPE=COPY macro to the printer. DFHCPY then initiates DFHRKB.

DFHCRC

Entry points

DFHCRCNA

Called by

MVS

Description

The interregion abnormal exit module is a CICS module that contains an ESTAE exit to terminate interregion communication in abnormal conditions. DFHCRC issues a CLEAR request to the interregion SVC.

DFHCRNP

Entry points

DFHCRNNA

Called by

DFHCRSP, dispatcher

Description

DFHCRNP, the connection manager (transaction CSNC), controls IRC connections. It establishes and breaks these connections and processes inbound requests to attach tasks (for example, mirror) to communicate with connected systems.

DFHCRQ

Entry points

DFHCRQNA

Called by

transaction CRSQ

Description

The remote schedule page program is invoked periodically to delete requests to attach a transaction on a remotely owned terminal if those requests have been outstanding for more than the ATI purge delay interval.

DFHCRR

Entry points

DFHCRRNA

Called by

DFHCRNP

Description

The interregion session recovery program performs session recovery on behalf of primary or secondary IRC sessions.

DFHCRS

Entry points

DFHCRSNA

Called by

transaction CRSR

Description

The remote scheduler program builds and ships AIDs for automatic transaction initiation when the terminal is in a remote address space. It receives requests to schedule an AID shipped to it from a remote address space.

DFHCRSP

Entry points

DFHCRSNA

Called by

DFHEIP, DFHSIJ1

Description

The interregion communication startup module can be invoked, either at system initialization or by a CEMT request, in order to make the CICS address space available for communication by other address spaces. DFHCRSP issues a logon request to the interregion communication SVC routine and attaches transaction CSNC (DFHCRNP).

DFHCRT

Entry points

DFHCRTNA

Called by

transaction CXRT

Description

DFHCRT is the relay program used when a transaction attempts to allocate a conversation to a remote advanced program-to-program (APPC) terminal.

DFHCSA

Entry points

DFHCSANA

Called by

Not applicable

Description

The DFHCSA module contains the common system area (CSA) and CSA optional features list, the queue control area (QCA) and, for HPO systems, the SRB interface control area.

DFHCSDUP

Entry points

DFHCUCNA

Called by

MVS

Description

The CSD utility program is an offline program that provides services for the CSD. The utility command processor (DFHCUCP) validates commands and invokes the appropriate routine to execute the requested function. DFHCSDUP calls DFHDMP to access the CSD.

DFHCSSC

Entry points

DFHCSSNA

Called by

DFHSIJ1, DFHSNSN, DFHSUSN, DFHTCRP, DFHZCUT

Description

DFHCSSC, the signon time-out program, is invoked as a system task by DFHSIJ1 and DFHTCRP to perform XRF takeover sign-off time-out processing. It is invoked elsewhere as the CSSC transaction for time-out processing of the following:
- Terminals signed on with the TIMEOUT option
- Entries in the internally managed signon table (SNT)
- Entries in the local userid tables (LUITs).

The CSSC transaction is scheduled when task termination determines that a time-out is necessary. When DFHCSSC is executed, it examines all signed-on terminals, all entries in the SNT managed by DFHTMP, and all entries in the LUITs. It signs off or deletes expired entries as appropriate, and then reschedules itself to perform later time-outs if required.

DFHCSVC

Entry points

DFHCSVC

Called by

MVS

Description

This module is a type 3 SVC that passes control to the various required routines, dependent on the parameter passed to it. On a first request for a particular function, it loads the required module and puts its address in the AFCB and then branches to that code. Further calls result in the address in the AFCB being branched to.

Returns to

Type 3 SVC

DFHCUCAB

Entry points

DFHCUCA

Called by

DFHCAPB

Description

The resource definition online command analyzer interprets a VTAM resource definition in command form and produces a parameter list.

DFHCUCB

Entry points

DFHCUCB

Called by

DFHCUCP

Description

The resource definition online command builder receives commands and transforms them to a format for use by the command processors.

DFHCUCCB

Entry points

DFHCUCC

Called by

DFHCAPB

Description

This program extracts a single entry from a loaded RDT table containing VTAM resource definitions for TCT migration.

DFHCUCDB

Entry points

DFHCUCD

Called by

DFHCAPB

Description

The resource definition online command default values program modifies the parameter list produced by DFHCUCAB by inserting the default values.

DFHCWTO

Entry points

DFHCWTNA

Called by

CWTO transaction

Description

The console write-to-operator module is a CICS-supplied transaction that allows an operator to send a message to the console operator. DFHCWTO issues SVC 35 (WTO) to pass the message to the operator's console.

DFHDBAT

Entry points

AENTRY

Called by

DFHERM, IMS database resource adapter (DRA).

Description

This program provides a mapping between the external architectures of CICS (the resource manager interface (RMI) and of DBCTL (the database resource adapter (DRA)). Both are independently defined and different. DFHDBAT is part of the support for the CICS-DBCTL interface and runs in an application program environment. DFHDBAT is invoked by a DFHRMCAL request through the CICS RMI. The RMI supplies DFHDBAT with a parameter list from which DFHDBAT constructs the DRA INIT, DRA TERM, and DRA THREAD parameter lists. It must also transform the DRA parameter list back, after a DL/I call to the format expected by CICS. Thus, DFHDBAT is also referred to as the CICS-DBCTL adapter-transformer.

DFHDBCON

Entry points

DFHDBCON

Called by

DFHDBME

Description

This program issues a CICS-DBCTL interface connection request to the CICS-DBCTL adapter-transformer, DFHDBAT. DFHDBCON is part of the support for the CICS-DBCTL interface and runs in an application program environment.

DFHDBCR

Entry points

DFHDBCR

Called by

DFHSII1 via attach

Description

DFHDBCR is the CICS/DBCTL XRF tracking program. DFHDBCR runs in an alternate CICS system during the tracking phase. DFHDBCR receives messages from the active CICS system regarding the state of the connection to DBCTL, and drives the XXDFB and XXDTO exits and takes appropriate action.

DFHDBCT

Entry points

DFHDBCT

Called by

DFHDBCTX, DFHDBAT

Description

This program processes any elements placed on the CICS-DBCTL control work element (CWE) chain. DFHDBCT is part of the support for the CICS-DBCTL interface and runs in an application program environment. It is invoked when the CICS-DBCTL connection program, DFHDBCON, attempts to connect to DBCTL. The program then issues a wait. The DFHDBCT program is posted whenever an element is placed on the CWE chain.

DFHDBCTX

Entry points

DFHDBCTX

Called by

DFHDBAT

Description

This program notifies the CICS-DBCTL control transaction of changes in the state of the CICS-DBCTL interface. DFHDBCTX is part of the support for the CICS-DBCTL interface. It does not run in a CICS environment and thus does not use any CICS services. This exit is invoked by the DBCTL adapter on behalf of the DBCTL DRA.

DFHDBDI

Entry points

DFHDBDI

Called by

DFHDBCT

Description

This program disables the CICS-DBCTL adapter program and cleans up the storage used by the CICS-DBCTL interface programs. DFHDBDI is part of the support for the CICS-DBCTL interface and runs in an application program environment. DFHDBDI is invoked by the CICS/VS DBCTL control program, DFHDBCT, just before it terminates.

DFHDBDSC

Entry points

DFHDBDSC

Called by

DFHDBCT, DFHDBME

Description

This program issues a CICS-DBCTL interface disconnection request to the CICS-DBCTL adapter-transformer. DFHDBDSC is part of the support for the CICS-DBCTL interface and runs in an application program environment.

DFHDBIQ

Entry points

DFHDBIQ

Called by

CDBI transaction

Description

This program is the CDBI CICS-supplied transaction. Its function is to inquire on the current status of the CICS-DBCTL interface. DFHDBIQ is part of the support for the CICS-DBCTL interface.

DFHDBME

Entry points

DFHDBME

Called by

CDBC transaction

Description

This program is the CDBC CICS-supplied transaction. Its function is to provide a front end for making certain changes to the status of the CICS-DBCTL interface. DFHDBME is part of the support for the CICS-DBCTL interface.

DFHDBMOX

Entry points

DFHDBMOX

Called by

DFHDBAT

Description

This program outputs monitoring information supplied by DBCTL to the monitoring domain, using monitoring domain services. The information is supplied by DBCTL when it has processed a PSB schedule request and a thread termination request. This exit forms part of the support for the CICS-DBCTL interface. It runs in a CICS application environment. This exit is invoked by the CICS-DBCTL adapter.

DFHDBP

Entry points

DFHDBPNA

Called by

DFHAPRC

Description

This program invokes DWE processors when a UOW backs out.

DFHDBREX

Entry points

DFHDBREX

Called by

DFHDBAT

Description

This program is the CICS-DBCTL resume exit. The resume exit is driven whenever the adapter or the DRA requires to resume a task which they have suspended. This exit forms part of the support for the CICS-DBCTL interface. It does not run in a CICS environment and thus cannot use CICS services.

DFHDBSPX

Entry points

DFHDBSPX

Called by

DFHDBAT

Description

This program is the CICS-DBCTL suspend exit. The suspend exit is driven whenever the adapter or the DRA requires to suspend a task. DFHDBSPX forms part of the support for the CICS-DBCTL interface. It runs in a CICS application environment.

DFHDBSSX

Entry points

DFHDBSSX

Called by

DFHDBAT

Description

DFHDBSSX is the CICS/DBCTL status exit. In the event of a DRA thread failure, DFHDBSSX is called to transfer ownership of PCB storage to CICS. When the task ends, DFHDBSSX is called to release this storage.

DFHDBSTX

Entry points

DFHDBSTX

Called by

DFHDBAT

Description

This program is the CICS-DBCTL statistics exit. The exit outputs CICS-DBCTL session termination statistics to the statistics domain. DFHDBSTX forms part of the support for the CICS-DBCTL interface. It runs in a CICS application environment, but it can also be invoked during CICS orderly termination. This exit is invoked by the CICS-DBCTL adapter.

DFHDBTOX

Entry points

DFHDBTOX

Called by

DFHDBAT

Description

This program is the CICS-DBCTL token exit. The function of this exit is to provide the CICS-DBCTL adapter with task tokens for tasks that have not been through the DBCTL call processor ,DFHDLIDP, or the DBCTL connection program, DFHDBCON, or the DBCTL disconnection program, DFHDBDSC, where task tokens are usually generated. DFHDBTOX forms part of the support for the CICS-DBCTL interface. It runs in a CICS application environment. This exit is invoked by the CICS-DBCTL adapter.

DFHDBUEX

Entry points

DFHDBUEX

Called by

DFHDBCT, DFHDBDSC

Description

DFHDBUEX is the user-replaceable CICS-DBCTL exit program. It is invoked whenever CICS successfully connects to DBCTL and whenever CICS disconnects from DBCTL. DFHDBUEX forms part of the support for the CICS-DBCTL interface. It runs in a CICS application environment.

DFHDCP

Entry points

DFHDCPNA

Called by

DFHDC macro, DFHEDC

Description

DFHDCP translates DFHDC macro requests for a transaction dump to DU domain TRANSACTION_DUMP calls.

DFHDES

Entry points

DFHDESNA

Called by

DFHZEV1, DFHZEV2, DFHZOPN

Description

DFHDES performs data encryption and bind-time security.

DFHDIP

Entry points

DFHDIPNA

Called by

DFHACP, DFHDI macro, DFHEDI, DFHKCP, DFHMCP, DFHTOM, DFHZEMW, DFHZRSP, DFHZSUP

Description

The data interchange program acts as a function manager when transactions want to communicate with batch devices using SNA support. DFHDIP builds and receives FMHs, which control the data set selection and function currently being performed by the batch device.

The main subroutines of DFHDIP are:

```
DESTCHEK - Destination change
D1ABORTE - Abort
D1CONRTE - Continue
D1ENDRTE - End
D1INARTE - Transaction attach
D1INPRTE - Input
D1NOTRTE - Note
D1QUERTE - Query.
```

DFHDLI

Entry points

DFHDLINA

Called by

User application, DFHMIRS, DFHSPP

Description

DFHDLI is the DL/I call router program. It decides which call processor is to be used for the request: DBCTL or REMOTE. It then invokes the appropriate processor: DFHDLIDP or DFHDLIRP.

DFHDLIAI

Entry points

ASMTDLI, CBLTDLI, PLITDLI

Called by

User application using DL/I CALL interface

Description

This module is used by the CICS-DL/I interface. It is link-edited with the application program to provide D/I communication between the application and the CICS-DL/I interface routine DFHDLI. Calls for DL/I to the ASMTDLI, CBLTDLI, or PLITDLI entry points are resolved by this processor.

DFHDLIDP

Entry points

DFHDLIDP

Called by

DFHDLI

Description

DFHDLIDP is the DBCTL call processor. It services DL/I calls for PSBs that are owned by a DBCTL subsystem, and invokes the DL/I task-related user exit (adapter) to interface with DBCTL.

DFHDLIRP

Entry points

DFHDLIRP

Called by

DFHDLI

Description

DFHDLIRP is the remote call processor. It services DL/I calls that are function-shipped to another CICS system.

DFHDMP

Entry points

DFHDMPNA

Called by

DFHAMP, DFHCSDUP

Description

The definition file management program handles physical changes to the CSD. The main processes in DFHDMP are:

```
BUILDKWA (DM16)  - Build key work area
CONNECT (DM01)   - CONNECT
CREATSET (DM11)  - Create SET
DELETE (DM05)    - DELETE
DISCONN (DM02)   - DISCONNECT
ENDBRO (DM10)    - End BROWSE
ERASESET (DM12)  - Delete SET
GETNEXT (DM09)   - Get next record
LOCK (DM06)      - LOCK
QUERYSET (DM13)  - QUERYSET
READ (DM04)      - Read CSD control records
RELSEKWA (DM17)  - Free key work area
SETBRO (DM08)    - Set browse
UNLOCK (DM06)    - UNLOCK
WRITE (DM03)     - WRITE.
```

DFHDRPG

Entry points

DFHDRPNA

Called by

DFHEIP

Description

DFHDRPG is the EXEC interface processor for EXEC DLI commands for database sharing. It receives the parameters of the command and from them builds a list that is appropriate to call DFHDRPE, the program request handler. On return from DFHDRPE, the status code in the PCB is examined. For some codes, an MVS abend is executed; the other codes are passed back to the application program.

DFHDSBA$, DFHDSB1$

Entry points

DFHDSBNA

Called by

DFHPBP

Description

The data stream build program produces the final device-dependent data stream for each page of BMS output. It is invoked only for processing data streams that are not in 3270 format. DFHDSB removes blanks from the ends of lines, converts logical new-line characters into the device-dependent equivalents (adding idle characters where necessary), and inserts horizontal and vertical tab characters if supported.

DFHDU660

Entry points

DFHDUPNA

Called by

MVS

Description

The dump utility program formats and prints transaction dumps from a CICS transaction dump data set (DFHDMPA or DFHDMPB). The transaction dumps are written to the data set by the dump domain. They contain information about the state of a particular transaction at the time of a transaction abend or user-requested dump.

DFHDXACH

Entry points

DFHDXACH

Called by

DFHDBCR, DFHDBCT

Description

DFHDXACH is a stub that is also MVS-attached, and which branches to an input address.

DFHDXSTM

Entry points

DFHDXSTM

Called by

DFHDBCT, DFHDBCR

Description

DFHDXSTM is used to attach, detach, and inquire on MVS subtasks attached by DFHDBCR and DFHDBCT.

DFHDYP

Entry points

DFHDYP

Called by

DFHAPRT

Description

This is the system-provided (default) dynamic routing program invoked from the CICS relay program (DFHAPRT) when a remote transaction is defined as being dynamic.

DFHEAI

Entry points

DFHEI1

Called by

User application

Description

This is a stub that is link-edited with an assembler-language application program to provide communication with DFHEIP. The command-language translator turns each EXEC CICS command into a call statement. The external entry point invoked by the call is resolved to an entry point in this stub. The address of the entry point in DFHEIP (DFHEIPCN) is found through a chain of system and CICS control blocks.

DFHEAI0

Entry points

DFHEAI0

Called by

User application

Description

This is a stub that is link-edited with an assembler-language application program to provide communication with DFHEIPA, part of the EXEC interface layer, for the prolog and epilog calls generated by the command-language translator in the application program. The external entry point invoked by the calls is resolved to an entry point in this stub. The address of the entry point in DFHEIPA (DFHEIPAN) is found using a chain of system and CICS control blocks.

DFHEAP1$

Entry points

PREPROC

Description

The assembler-language translator module performs the following functions:
- Runs offline.
- Takes on an input file.
- Produces an output or listing file.
- Gives a return code according to the highest severity of the message produced:
```
 0 - no message
 4 - warning
 8 - error
12 - severe error
16 - translator failure.
```
- Replaces CICS commands by invocations of the DFHECALL macro, and inserts invocations of DFHEIENT, DFHEIRET, DFHEISTG, and DFHEIEND macros at appropriate places.
- Inserts diagnostics resulting from errors in commands, as comments in the output program that are not listed on the listing file.

DFHEBF

Entry points

DFHEBFNA

Called by

DFHEIP

Description

DFHEBF is the EXEC interface processor for the field edit built-in function, DEEDIT.

DFHEBU

Entry points

DFHEBUNA

Called by

DFHETL, DFHETC

Description

The EXEC function management header (FMH) construction module is called by DFHETC when a SEND or CONVERSE command is being processed, and ATTACH function management headers have to be built and concatenated ahead of user data.

DFHECI

Entry points

DFHEI1

Called by

User application

Description

This is a link-edit stub similar to DFHEAI, except that it is used for COBOL application programs.

DFHECID

Entry points

DFHEIN01

Called by

DFHECIP

Description

The command interpreter module analyzes CECI commands, and manages its displays. It uses the EXEC interface to invoke other CICS functions.

DFHECIP

Entry points

DFHEIN00

Called by

CECI transaction

Description

The command interpreter program performs preliminary validation and initialization for the CECI transaction, and links to DFHECID.

DFHECP1$

Entry points

PREPROC

Description

The COBOL translator module performs the following functions:

- Runs offline.
- Takes on an input file.
- Produces an output or listing file.
- Gives a return code according to the highest severity of the message produced:

```
 0 - no message
 4 - warning
 8 - error
12 - severe error
16 - translator failure.
```

- Inserts DFHEIBLK and COMMAREA declarations in the LINKAGE section.
- Inserts the EIB definition in the LINKAGE section.
- Inserts the DIB definition (for DL/I HLPI) in the WORKING_STORAGE section.
- In the PROCEDURE DIVISION, the translator inserts a USING clause in the DIVISION statement, and replaces all CICS and DL/I commands by COBOL CALL statements.
- Inserts diagnostics resulting from any errors in commands, as messages in the translator listing file.

DFHEDAD

Entry points

DFHESP01

Called by

DFHEDAP

Description

The resource definition online (RDO) transactions module analyzes the commands, and manages the displays for CEDA, CEDB, and CEDC. It uses the EXEC interface.

DFHEDAP

Entry points

DFHESP00

Called by

CEDA, CEDB, CEDC transaction

Description

The resource definition online (RDO) transactions program performs preliminary validation and initialization for CEDA, and links to DFHEDAD.

Returns to

DFHEIP

DFHEDC

Entry points

DFHEDCNA

Called by

DFHEIP

Description

DFHEDC is the EXEC interface processor for dump commands.

DFHEDFBR

Entry points

DFHEDFBR

Called by

CEBR transaction, DFHEDFD

Description

The temporary-storage browse transaction browses, copies, or deletes entries in a temporary-storage queue. It interprets commands and PF key actions.

DFHEDFD

Entry points

DFHEDFD

Called by

DFHEDFP

Description

The EDF display program is invoked from DFHEDFP to analyze and display the current status of the user program. DFHEDFD stores control information about a temporary-storage message queue and uses BMS to format the display screen. DFHEDFD interfaces with other CICS control programs using the EXEC interface.

DFHEDFM

Description

The EDF map set contains BMS maps used by DFHEDFD to format the EDF display.

DFHEDFP

Entry points

DFHEDFNA

Called by

transaction CEDF

Description

The EDF main program is the control program for EDF. DFHEDFP can be invoked in one of two ways:

1. Directly from the EDF display terminal by entering the CEDF transaction identification
2. By pressing the user-defined PF key.

DFHEDFP is also attached by DFHEDFX as the main program of the EDF task.

DFHEDFR

Entry points

DFHEDFNA

Called by

Not applicable

Description

The EDF response table contains a description of the exception responses for each EXEC command and the abend codes associated with error responses. DFHEDFR is used by DFHEDFD to interpret the responses obtained from an EXEC command.

DFHEDFX

Entry points

DFHEDFNA

Called by

DFHACP, DFHEIP, program manager

Description

The EDF task switch program is invoked from DFHACP, DFHEIP, or program manager when a program is running in debug mode. DFHEDFX suspends the user task and attaches the debugging task, passing it information about the user task in the TWA of the debugging task.

DFHEDI

Entry points

DFHEDINA

Called by

DFHEIP

Description

DFHEDI is the EXEC interface processor for data interchange commands.

DFHEDP

Entry points

DFHEDPNA

Called by

DFHERM

Description

DFHEDP converts command-level DL/I statements into a call parameter list acceptable to DL/I. In addition, it provides 31-bit application support by moving segment I/O areas above and below the 16MB line as required.

DFHEDP1$

Entry points

PREPROC

Description

The C translator module performs the following functions:
- Runs offline.
- Takes on an input file.
- Produces an output or listing file.
- Gives a return code according to the highest severity of the message produced:

```
 0 - no message
 4 - warning
 8 - error
12 - severe error
16 - translator failure.
```

- Inserts the EIB definition at the head of the translated output.
- If the DLI translator option is specified, inserts the DIB definition
- Replaces all CICS and DL/I commands in the input program by function calls (dfhexec) in the output program.
- Inserts diagnostics from any errors in commands, as messages on the translator listing file.

DFHEEI

Entry points

DFHEEINA

Called by

DFHEIP

Description

DFHEEI is the EXEC interface processor for DFHEIP ADDRESS, ASSIGN, PUSH, POP, and HANDLE commands.

DFHEEX

Entry points

DFHEEXNA

Called by

DFHETC

Description

The EXEC function management header (FMH) extraction module is called by DFHETC when a RECEIVE or CONVERSE command is being processed, and when data has to be extracted from ATTACH function management headers.

DFHEFRM

Entry points

DFHEFRM

Called by

DFHDBP, DFHSPP

Description

DFHEFRM is the EXEC interface file control syncpoint processor. At syncpoint commit or rollback time, DFHEFRM deletes the FFLE entries that were created by DFHFCEI for the task.

DFHEGL

Entry points

DFHEGLNA

Called by

DFHEIP

Description

DFHEGL is the EXEC interface processor for unmapped LU6.2 commands.

DFHEIIC

Entry points

DFHEICNA

Called by

DFHEIP

Description

DFHEIIC is the EXEC interface processor for interval control commands.

Exits

DFHEIIC has the following global user exit points:
  XICERES

DFHEIDTI

Entry points

DFHEIDTI

Called by

DFHEIP

Description

DFHEIDTI is the EXEC interface processor for ASKTIME and FORMATTIME. DFHEIDTI updates the time and date fields in the EIB and certain time fields in the CSA, and returns the current time, or date, to the application.

DFHEIP

Entry points

DFHEIPNA

Called by

application programs

Description

DFHEIP is the main EXEC interface module. See Chapter 19, “EXEC interface,” on page 153 for further information.

DFHEIPA

Entry points

DFHEIPAN

Called by

DFHEAI0

Description

DFHEIPA is part of the EXEC interface layer. It acquires and partially initializes the DFHEISTG dynamic storage when called from the DFHEIENT macro in an assembler-language application program. It frees this storage when called from the DFHEIRET macro.

DFHEIFC

Entry points

DFHEIFC

Called by

DFHEIP

Description

DFHEIFC is the file control EXEC interface module, providing an interface between DFHEIP and file control. It locates the AFCTE, and performs the security check. For a remote file, DFHEIFC passes the request to a transformer, which then ships the request to the other system. For a local file, DFHEIFC converts the EXEC argument list to an FCFR parameter list (as defined by the DFHFCFRA DSECT) and calls DFHFCFR, the file control file request handler. After the request completes, DFHEIFC builds return code information in the EIB.

DFHEISR

Entry points

DFHEISR

Called by

DFHEDI, DFHEGL, DFHEIQMS, DFHEMS, DFHEOP, DFHETC, DFHETL, DFHTDB, DFHXFFC, DFHXFX

Description

DFHEISR obtains buffers and copies data for the calling EXEC interface modules, at the location and in the storage key required by the application.

DFHEJC

Entry points

DFHEJCNA

Called by

DFHEIP

Description

DFHEJC is the EXEC interface processor for journaling commands.

DFHEKC

Entry points

DFHEKCNA

Called by

DFHEIP

Description

DFHEKC is the EXEC interface processor for task control commands.

DFHELII

Entry points

DFHEI1

Called by

User application

Description

This is a link-edit stub similar to DFHEAI, except that it is used for C application programs.

DFHEMS

Entry points

DFHEMSNA

Called by

DFHEIP

Description

DFHEMS is the EXEC interface processor for BMS commands.

DFHEMTA

Entry points

DFHEMT00

Called by

User application

Description

The master terminal programmed interface program is a special version of DFHEMTP that a user application can link to for master terminal services.

DFHEMTD

Entry points

DFHEMT01

Called by

DFHEMTA, DFHEMTP, DFHEOTP, DFHESTP

Description

The master terminal module analyzes the commands, and manages displays for CEMT, CEOT, and CEST transactions. It uses the EXEC interface.

DFHEMTP

Entry points

DFHEMT00

Called by

CEMT transaction

Description

The master terminal program performs preliminary validation and initialization for the CEMT transaction, and links to DFHEMTD.

DFHEOTP

Entry points

DFHEMT00

Called by

CEOT transaction

Description

The master terminal program performs preliminary validation and initialization for the CEOT transaction, and links to DFHEMTD.

DFHEPC

Entry points

DFHEPCNA

Called by

DFHEIP

Description

DFHEPC is the EXEC interface processor for program control commands.

DFHEPI

Entry points

DFHEI1

Called by

User application

Description

This is a link-edit stub similar to DFHEAI, except that it is used for PL/I application programs.

DFHEPP1$

Entry points

PREPROC

Description

The PL/I translator module performs the following functions:
- Runs offline.
- Takes on an input file.

- Produces an output or listing file.
- Gives a return code according to the highest severity of the message produced:

```
 0 - no message
 4 - warning
 8 - error
12 - severe error
16 - translator failure.
```

- If the input program is a MAIN procedure, inserts DFHEIPTR as the first parameter on the PROCEDURE statement to address the EIB. The translator also inserts declarations of the EIB and certain temporary variables.
- Replaces all CICS and DL/I commands in the input program by CALL statements in the output program.
- Inserts diagnostics from any errors in commands, as messages on the translator listing file.

DFHEPS

Entry points

DFHEPSNA

Called by

DFHEIP

Description

DFHEPS is the link between DFHEIP and the JES interface program, DFHPSP.

DFHERM

Entry points

DFHERMNA

Called by

DFHEIP

Description

DFHERM is called by DFHEIP on behalf of the other components of CICS to manage the connection between CICS and non-CICS products.

DFHESC

Entry points

DFHESCNA

Called by

DFHEIP

Description

DFHESC is the EXEC interface processor for storage control commands.

DFHEISP

Entry points

DFHESPNA

Called by

DFHEIP

Description

DFHEISP is the EXEC interface processor for syncpoint commands.

DFHESTP

Entry points

DFHEMT00

Called by

CEST transaction

Description

The master terminal program performs preliminary validation and initialization for the CEST transaction, and links to DFHEMTD.

DFHETC

Entry points

DFHETCNA

Called by

DFHEIP

Description

DFHETC is the EXEC interface processor for terminal control commands.

DFHETD

Entry points

DFHETDNA

Called by

DFHEIP

Description

DFHETD is the EXEC interface processor for transient data commands. The EXEC requests are routed from DFHETD to DFHTDP using the corresponding DFHTD CTYPE requests.

DFHETL

Entry points

DFHETLNA

Called by

DFHETC

Description

DFHETL is the EXEC interface processor for mapped LU6.2 commands.

DFHETR

Entry points

DFHETRNA

Called by

DFHEIP

Description

DFHETR is the EXEC interface processor for trace commands.

DFHETS

Entry points

DFHETSNA

Called by

DFHEIP

Description

DFHETS is the EXEC interface processor for temporary-storage commands.

DFHEXI

Entry points

DFHEXINA

Called by

DFHZARQ

Description

The exceptional input program is invoked from DFHZCP when unexpected input is received from a VTAM 3270 terminal that has a task attached. DFHEXI checks whether the input is the result of a 3270 print function key being pressed; if so, DFHEXI issues a DFHTC TYPE=PRINT macro, and then unlocks the keyboard; in any case, DFHEXI then passes control back to DFHZCP.

DFHFCAT

Entry points

DFHFCAT

Called by

DFHFCDN, DFHFCN

Description

DFHFCAT processes inquire and update requests on the state of the backup while open (BWO) attributes in the ICF catalog for VSAM data sets, and inquires on the quiesce state in the ICF catalog.

DFHFCBD

Entry points

DFHFCBD

Called by

DFHFCFR

Description

DFHFCBD handles BDAM file control requests except for OPEN and CLOSE.

DFHFCDN

Entry points

DFHFCDN

Called by

DFHAMFC, DFHAMPFI, DFHEIQDN, DFHEIQDS, DFHFCLF, DFHFCMT, DFHFCN, DFHFCRC, DFHFCRO, DFHFCRD, DFHFCRP

Description

DFHFCDN builds data set name blocks at cold start or in response to CEDA requests. It also examines or modifies data set name blocks in response to EXEC CICS INQUIRE or EXEC CICS SET commands.

DFHFCDTS

Entry points

DFHFCDTS

Called by

DFHFCFR

Description

DFHFCDTS processes file control requests to access data table records for READ-ONLY requests against CICS-maintained tables, and for all record requests against user-maintained tables. It calls data table services to retrieve or modify table records, calls DFHFCVS to retrieve data from the VSAM source data set if it is not in the table, and calls DFHFCDTX to function ship requests that cannot be satisfied by sharing.

DFHFCFR

Entry points

DFHFCFR

Called by

DFHAPLI, DFHAPSM, DFHDTLX, DFHDMPCA, DFHEIFC, DFHERM, DFHFCDTS, DFHFCFR, DFHFCFS, DFHFCRC, DFHFCRP, DFHUEH

Description

DFHFCFR is the central module in the file control component. It handles file control requests issued by DFHFCEI (requests from application programs), or by other CICS modules (internal file control requests). DFHFCFR ensures that the file is both opened and enabled, acquires an FRTE as necessary, performs request validity checking, and then routes the request to the appropriate access-method dependent module (DFHFCBD for BDAM, DFHFCVS for non-RLS VSAM and also for update or browse requests against a CICS-maintained data table, DFHFCRS for RLS VSAM, and DFHFCDTS for all other data table requests).

DFHFCFS

Entry points

DFHFCFS

Called by

DFHAMFC, DFHDMPCA, DFHDMRM, DFHDTLX, DFHEIQDS, DFHFCDTS, DFHFCFR, DFHFCLF, DFHFCQU, DFHFCRC, DFHFCRD, DFHFCRU, DFHFCSD, DFHFCU, DFHFCVS

Description

DFHFCFS changes the state of a file. It invokes DFHFCN to open, or close, files.

DFHFCL

Entry points

DFHFCLNA

Called by

DFHFCN

Description

DFHFCL is a file control program that is link-edited into DFHFCFS. DFHFCL builds and deletes VSAM LSR pools. It is called by DFHFCN with a parameter list that specifies the pool number (1 through 8) and the action to be taken (build or delete).

DFHFCM

Entry points

DFHFCMNA

Called by

DFHFCFS

Description

DFHFCM is a file control program that is link-edited into DFHFCFS. When records are added via a VSAM path, DFHFCM is called to open the base associated with the path.

DFHFCMT

Entry points

DFHFCMT

Called by

DFHAFMT, DFHAMFC, DFHAMPFI, DFHDMPCA, DFHEDFX, DFHEIQDS

Description

DFHFCMT builds file control table entries in response to CEDA commands. It also examines or modifies FCT entries in response to EXEC CICS INQUIRE or EXEC CICS SET commands.

DFHFCN

Entry points

DFHFCNNA

Called by

DFHFCFS

Description

DFHFCN is a file control program that is link-edited into DFHFCFS. DFHFCN opens and closes files. If a file has not been allocated, DFHFCN allocates it, and frees it on closure.

DFHFCRL

Entry points

DFHFCRL

Called by

DFHAMFC

Description

DFHFCRL modifies SHRCTL blocks (describing VSAM LSR pools) in response to CEDA requests.

DFHFCRP

Entry points

DFHFCRP

Called by

DFHFCIN2

Description

The file control restart program builds the file control environment and initializes file control.

DFHFCSD

Entry points

DFHFCSD

Called by

DFHSTP

Description

DFHFCSD is called during CICS controlled shutdown processing to close all open files managed by CICS file control.

DFHFCST

Entry points

DFHFCST

Called by

DFHSTFC, DFHSTLS

Description

DFHFCST is called to collect or reset file or LSRPOOL statistics on request from DFHSTFC or DFHSTLS.

DFHFCU

Entry points

DFHFCUNA

Called by

CSFU transaction

Description

DFHFCU issues an OPEN for files specified in the file control table (FCT). This program examines the FCT, and calls DFHFCFS to open all specified files.

DFHFCVR

Entry points

DFHFCVR, UPADEXIT

Called by

DFHFCBD, DFHFCFR, DFHFCVR, DFHFCVS, VSAM

Description

DFHFCVR is a file control program that is link-edited into DFHFCVS. It handles requests to VSAM, and also contains the VSAM UPAD exit.

DFHFCVS

Entry points

DFHFCVS

Called by

DFHFCDTS, DFHFCFR

Description

DFHFCVS handles requests for file control services made against VSAM files. These services include:

- Communication with files defined in the file control table
- Logging of changes to these files by DFHFCJL and the log manager.
- Syncpoint services.

DFHFDP

Entry points

DFHFDPNA

Called by

DFHFD macro

Description

DFHFDP translates DFHFD macro requests for a system dump to DU domain SYSTEM_DUMP calls.

DFHFEP

Entry points

DFHFEPNA

Called by

CSFE transaction

Description

The FE terminal test program can be used to send a complete character set to a terminal or to echo input or to turn tracing on or off. This program is an application program and does not exit to any other CICS modules. However it does use CICS facilities.

DFHGMM

Entry points

DFHGMMNA

Called by

DFHKCP

Description

The “good morning” program is invoked by the CSGM system transaction to write a “good morning” message to VTAM logical units when a satisfactory OPNDST has occurred (and if the message has been requested in the TCT TYPE=TERMINAL entry).

DFHHPSVC

Entry points

IGCnnn

Called by

DFHZHPSR (via an SVC call)

Description

This is a type 6 SVC module used only on MVS. Its sole purpose is to cause MVS to dispatch an SRB. DFHHPSVC provides part of the CICS high performance option (HPO) code, and is invoked only if HPO is in use. In the entry point name, nnn is the number of the SVC.

Returns to

MVS

DFHICP

Entry points

DFHICPNA

Called by

DFHEIIC, DFHIC macro

Description

The interval control program is used for time management and has two main functions:

1. Services DFHIC macros under the control of a requesting task’s TCA
2. Detects the expiration of time-dependent events, as defined in ICEs.

The main subroutines of DFHICP are:

```
ICCANCLN - Cancel a time-ordered request
ICEXPANL - Time expiration analysis
ICGTIMEN - Current time of day
ICGTTTDM - Data retrieval
ICICECRN - Build basic ICE
ICPCTSN  - Task initiation
ICPOSTN  - Signal expiration of a specified time
ICRESETN - Time of day clock reset support
ICSCHEDN - ICE schedule
ICWAITN  - Delay processing of a task.
```

DFHIIPA$, DFHIIP1$

Entry points

DFHIIPNA

Called by

DFHMCP

Description

The non-3270 input mapping program performs all BMS input mapping functions for all devices except the 3270. On exit from the module, the input data has been mapped into a newly acquired TIOA that is returned to the application program and is then addressable using BMS DSECTs in the application.

The main subsections of DFHIIP are:

```
IIMID  - GETMAINs TIOA to return to user, and maps
         page buffer into it using specified map.
IIREAD - Reads input data, issuing DFHTC or DFHDI
         requests to get data from the terminal.
IISCAN - Scans data stream for device-dependent
         control characters and creates page
         buffer.
```

DFHIRP

Entry points

DFHIRPNA

Called by

DFHCRC, DFHCRNP, DFHCRSP, DFHDRPD, DFHDRPE, DFHDRPF, DFHSRP, DFHSTP, DFHZCX

Description

The interregion communication program is used to pass data from one region to another in the same CEC. The programs being run in the regions are usually CICS programs, but DFHIRP does not assume this.

DFHIRW10

Entry points

As defined in interest ladder [3]

Called by

DFHIRP

Description

The interregion work exit delivers work to the IRC control task (CSNC). DFHIRW10 is called whenever DFHIRP has work to deliver to a system that logged on with DFHIRW10 as its interregion work exit. This module checks whether the work being delivered to the target system requires that work be enqueued on CSNC; if so, it enqueues the work and posts CSNC. DFHIRW10 is invoked in access register (AR) mode and user key.

DFHISP

Entry points

DFHISPNA

Called by

DFHDLI, DFHEIP, DFHEIFC

Description

The intersystem communication program is invoked when a request to access a resource has to be shipped to a remote system (through ISC or MRO).

These requests are passed to DFHISP:
- File control
- Interval control
- Temporary storage
- Transient data
- DL/I

DFHISP controls the acquisition, use, and freeing of a session to the remote system, and invokes DFHXFP or DFHXFX to process requests and replies. Two user exits are provided in DFHISP: XISCONA can be used to control the queuing of requests from DFHISP to allocate intersystems sessions and XISLCLQ can be used to override the LOCALQ option of the transaction attributes. XISCONA is invoked for any function-shipping requests that cannot be processed immediately. XISLCLQ supports the local queuing of function-shipped START NOCHECK requests when the link to the remote system is out of service. If a START NOCHECK request is queued, DFHISP starts the CMPX transaction when the link is brought into service.

3. **Interest ladder**: ladder within DFHIRW10 that expresses interest in all types of MRO work.

DFHJCP

Entry points

DFHJCPNA

Called by

DFHEJC, DFHJC macro

Description

The journal control program (DFHJCP) either processes a request to get a JCA control block, or has been called to write to a journal. In the latter case it examines the information in the JCA that is passed with the request and decides whether to call the recovery manager or the log manager based on whether it finds journalname DFHLOG in the JCA or not. There are three separate calls to the DFHLGGL gate of the log manager: one for a write, a put or a wait request. The same is true for the recovery manager calls, which use the DFHRMRE gate. In addition there is a call to this gate for requests which have keypoint record data with them.

When control returns from either of these domains, the domain's outcome is mapped onto a valid return code which is put into the JCA before control returns back to the calling program

DFHJUP

Entry points

DFHJUPNA

Called by

MVS

Description

The journal print utility program examines, selects, and displays data in QSAM data sets, such as the CICS and IMS logs. Data selection is controlled by input parameters, and an optional user exit. DFHJUP provides access to the MVS log streams via the SUBSYS keyword in the JCL.

DFHKCP

Entry points

DFHKCPNA

Called by

DFHEKC, DFHKC macro

Description

This is a startup routine that passes control to either DFHXCP or DFHXCPC. It also deals with some ENQ and DEQ calls.

DFHKCQ

Entry points

DFHKCQNA

Called by

DFHXCPC

Description

DFHKCQ processes DFHKC INITIALIZE, REPLACE, WAITINIT, and DISCARD macro calls to the transaction manager.

DFHKCRP

Entry points

DFHKCRP

Called by

DFHKCP (attaches DFHKCRP as a CICS task)

Description

DFHKCRP is the task control restart program.

DFHKCSC

Entry points

DFHKCSC

Called by

DFHKCQ

Description

This module forms part of the transaction manager. It provides the QUERY_TRANSACTION and QUERY_PROFILE functions for use in determining whether the transaction or profile specified on a DISCARD TRANSACTION or DISCARD PROFILE command respectively can validly be discarded. For the QUERY_TRANSACTION function, DFHKCSC examines the ICE chain, the AID chains, and the SIT, looking for references to the transaction that is the subject of the DISCARD. For the QUERY_PROFILE function, DFHKCSC examines the PCT for a reference to the profile that is the subject of the DISCARD.

DFHKCSP

Entry points

DFHKCSPA, DFHKCSPI, DFHKCSPD, DFHKCSPF, DFHKCSPP

Description

The task SRB control program is part of the high performance option (HPO) code available on CICS on MVS. It runs in SRB mode and resides in protected storage.

DFHLUP

Entry points

DFHLUPNA

Description

DFHLUP is the LU6.2 services manager. It initializes and shuts down a network, and resynchronizes flows.

DFHMCPA$, DFHMCPE$, DFHMCP1$

Entry points

DFHMCPNA

Called by

DFHBMS macro, DFHEMS

Description

The mapping control program processes DFHBMS macro requests and completes the processing of a logical message when a task terminates without issuing a DFHBMS TYPE=PAGEOUT. DFHMCP's main function is to analyze DFHBMS requests and to pass control to the appropriate modules. Other functions include the loading of maps and partition sets, and scheduling of output messages transmitted by temporary storage.

The main subsections of DFHMCP are:

```
MCPCPO   - Completes logical message build message
           control record for temporary storage
MCPDWEXT - DWE processing, invoked by DFHKCP to
           complete BMS processing at application
           termination
MCPINPT  - Handles all input requests
MCPIN    - TYPE=IN (EXEC CICS RECEIVE MAP)
MCPMAPLO - Loads map set and locates map
MCPPGBLD - TYPE=PAGEBLD|TEXTBLD (EXEC SEND TEXT)
MCPPGOUT - TYPE=PAGEOUT (EXEC CICS SEND PAGE)
MCPPURGE - TYPE=PURGE (EXEC CICS PURGE MESSAGE)
MCPROUTE - TYPE=ROUTE (EXEC CICS ROUTE).
```

DFHMCX

Entry points

DFHMCXNA

Called by

DFHMCP

Description

DFHMCX is the BMS fast path module for standard and full-function BMS, and the program for minimum BMS support. It is called by DFHMCP if the request satisfies one of the following conditions:

- It is a noncumulative direct terminal send map or receive map issued by a command-level program.
- It is for a 3270 display or an LU3 printer which does not support outboard formatting. If the terminal supports partitions, it is in the base state.
- The CSPQ transaction has been started.
- The message disposition has not changed.

DFHMGP

Entry points

DFHMGPNA

Called by

DFHACP, DFHCRQ, DFHCRT, DFHEOP, DFHFEP, DFHRTC, DFHRTE, DFHZEMW, DFHZERH, DFHZIS1, DFHZTSP, DFHZXRL

Description

The message generation program provides an interface for sending CICS messages to the terminal end user.

DFHMGT

Entry points

DFHMGTNA

Called by

DFHMGP

Description

The message prototype control table, or message generation table, consists of a series of copybooks, DFHMGTnn, each of which contains up to 100 messages that are issued by DFHMGP.

DFHMIRS

Entry points

DFHMIRNA

Called by

Task initiation

Description

The mirror program is invoked when a request to access a resource is received from a remote ISC system or from a remote MRO system. DFHMIRS may be thought of as returning the answer to the requesting actions of DFHISP. It is DFHMIRS that controls the receipt of requests and transmission of replies.

DFHMIRS processes requests from:
- MRO-connected systems
- LU6.1 connected systems
- LU6.2 sync level 1 connected systems
- LU6.2 sync level 2 connected systems.

The input to DFHMIRS consists of a TCTTE representing the session between CICS and its session partner, and a TIOA containing the function shipping request.

The TIOA is passed to DFHXFP (transformer 2) for conversion of the request from transmission format to the parameter list format required for DFHEIP or DFHDLI. If the data requires conversion (transaction CPMI), an EXEC CICS LINK is used to link to the data conversion program DFHCCNV, passing a COMMAREA that contains the EXEC CICS parameter list for the request where applicable. DFHMIRS then passes the request to DFHEIP or DFHDLI for execution.

On return from DFHEIP or DFHDLI the data conversion program is called to convert the reply (if applicable), and then the transformer program DFHXFP (transformer 3) is called to convert the reply parameter list to transmission format. DFHMIRS then determines the DFC to send with the reply and transmits the reply to the requesting system. If the mirror task has modified protected resources, it continues receiving requests and transmitting replies until a syncpoint request is received from the remote system.

A mirror task on an IRC link suspends itself on completion of a request and it is then available for use by any other MRO function-shipped request. The dispatcher terminates the mirror task if it is not reused within ten seconds.

DFHML1

Entry points

DFHML1NA

Called by

DFHMCP, DFHPBP

Description

The SCSPRT logical unit type 1 output mapping routine is called by DFHPBP to build a page of data stream from a chain of map and application data structure copies. The data contains only features that the TTP says are supported by the target terminal. This routine is called when NLEOM is specified for 3270 printers or LU3 printers.

The main subsections of DFHML1 are:

ML1SPACE
: Calculate space for chaining and mapping

ML1FMCA
: Format the chains that describe the maps

ML1PF
: Process map fields

DFHMROQP

Entry points

DFHMRONA

Called by

DFHCRNP, DFHCRSP

Description

The MRO work queue enable/disable program is invoked by the DFHMROQM macro for ENABLE and DISABLE requests (other requests are processed by an inline expansion). DFHMROQP is called by DFHCRSP to enable the MRO work queues when starting interregion communication, and by either DFHCRSP or DFHCRNP to disable the work queues when stopping interregion communication. MRO work queues are used to deliver work to the IRC control task (CSNC).

DFHMSP

Entry points

DFHMSPNA

Called by

CMSG transaction

Description

The message switching program routes a message entered at the terminal to one or more operator-defined terminals or to other operators. DFHMSP can be used in conversational mode to process operands entered from separate input operations. In this case the operands already processed are preserved in temporary storage.

The main sections and subroutines of DFHMSP are:

```
MSBMSRT  - Check for complete operands
MSCNVRS  - Issue conversational response
MSCONTIN - Process conversational response
MSMSG4   - MSG operand
MSNTRY   - Process operands
MSROUTE  - Route operand.
```

DFHMXP

Entry points

DFHMXPNA

Called by

Automatic transaction initiation

Description

The local queuing shipper provides the means of transferring to a remote system a START request that has been temporarily deferred by use of the local queuing option.

DFHM32A$, DFHM321$

Entry points

DFHM32NA

Called by

DFHMCP, DFHPBP

Description

For a BMS output request, the 3270 mapping program generates the appropriate data stream for a 3270 device, and returns control to DFHPBP which invokes the DFHTPP module to send the data to the appropriate destination, which is either to the direct terminal, or to temporary storage, or back to the caller. For a BMS input request, the data stream from a 3270 device is examined and mapped into a user application TIOA format.

The main subsections of DFHM32 are:

```
BMFMHTST - Create beginning of 3270 data stream
           (FMH cursor positioning)
BMMID    - Input mapping
BMMMS    - Merge maps (output mapping)
M32PF    - Process field.
```

DFHPBPA$, DFHPBP1$

Entry points

DFHPBPNA

Called by

DFHMCP

Description

The page and text build program positions maps or text, including header or trailer maps or text, within a page of output. For non-3270 devices, the module creates a page buffer containing the user's data which is then passed to DFHDSB to produce a device-dependent data stream. When mapping, this includes merging the data supplied by the application with the constant data included in the map. For 3270 devices, copies of the maps and application-supplied data for a page are chained together, to be processed by module DFHM32, to produce a 3270 data stream. The page and text build program creates dummy maps, and chains them in the same way for 3270 text building. For LU1 printers with extended attributes, copies of the maps and application-supplied data for a page are chained together, to be processed by module DFHML1 to produce an SCS data stream. The page and text build program creates dummy maps, and chains them in the same way for text building. After the maps have been processed by DFHDSB, DFHM32, or DFHML1, DFHPBP calls DFHTPP to write them out.

The main subroutines of DFHPBP are:

PBDOUTPT
: Mapping/text build complete, decide whether to call data stream generator and which one (DFHDSB or DFHM32). Return to caller (DFHMCP)

PBD00005
: Main control logic, request analysis.

PBD01000
: Map placement logic (3270 and non-3270 mapping).

PBD01130
: Non-3270 mapping.

PBD10000
: Pageout routine.

PBD11000
: Modify field positions within map (used by 3270 and non-3270 mapping).

PBD20000
: Text processing (3270 and non-3270).

PBD30000
: 3270 mapping.

PBFMHBLD
: Build FMH if FMHPARM specified (non-3270 text and map processing).

DFHPD660

Entry points

DFHPD660

Called by

MVS IPCS program

Description

DFHPD660 runs as an exit from the MVS IPCS program. It formats an MVS system dump (SDUMP) using the IPCS service routines to extract data and print output, including interpreted trace.

DFHPEP

Entry points

DFHPEPNA

Called by

DFHACP

Description

The program error program is CICS-supplied and establishes a base register, establishes addressability to the COMMAREA passed from DFHACP using a DFHPC CTYPE=LINK_URM macro call, and returns control to DFHACP. DFHPEP can be modified by the user to perform further recovery operations.

DFHPHP

Entry points

DFHPHPNA

Called by

DFHMCP, DFHTOM

Description

The partition handling program has one entry point, and starts with a branch table that passes control to the required routine according to the request.

The main routines of DFHPHP are:

```
PHPPSI - Loads a partition set
PHPPSC - Destroys any existing partitions and
         creates new partitions
PHPPIN - Extracts the AID, cursor position, and
         partition ID
PHPPXE - Activates the appropriate partition if
         data is received from an unexpected
         partition.
```

DFHPL1OI

Description

The PL/I interface module contains the following routines:

DFHPL1N
: Initial entry point for PL/I programs under CICS

DFHPL1I
: CICS macro service interface

DFHPL1C
Set the CSA address

IBMBOCLA/B/C
Startup routines for open/close functions.

DFHPRK

Entry points

DFHPRKNA

Called by

DFHZATT

Description

The 3270 print key program (transaction CSPK) is invoked when, under VTAM, the 3270 program access key designated as the print key is pressed and no task is attached to the terminal. If the 3270 hardware copy feature is present, DFHPRK attaches task CSCY to the printer designated in the TCTTE, and DFHCPY is executed. If the copy feature is not present, DFHPRK executes a DFHTC TYPE=PRINT macro.

DFHPSP

Entry points

DFHPSPNA

Called by

DFHEPS

Description

DFHPSP is the system spooling interface control module.

DFHPSPDW

Entry points

DFHPSPDW

Called by

DFHSPP

Description

DFHPSPDW is the system spooling interface DWE.

DFHPSPSS

Entry points

DFHPSPSS

Called by

DFHPSP

Description

The system spooling JES interface subtask module attaches a subtask to check whether a writer name and a token have been supplied. It opens and closes JES data sets, reads a record, and writes a record.

DFHPSPST

Entry points

DFHPSPST

Called by

DFHPSPSS

Description

DFHPSPST is the system spooling JES interface control module.

DFHPSSVC

Entry points

DFHPSSNA

Called by

DFHPSPSS, DFHPSPST

Description

DFHPSSVC is the system spooling interface module that retrieves a data set name for a given external writer name, dynamically allocates it, and returns its DDNAME.

DFHPUP

Entry points

DFHPUPNA

Called by

DFHAMP, DFHCSDUP

Description

The parameter utility program transforms the definition data of the CSD. In the CSD, the data is held in a compacted form and each field is self-identifying. Elsewhere in the processing, these fields are handled in parameterized form, using an argument address list. It also serves to transform the resource definition to the original high-level command.

DFHP3270

Entry points

DFHP32NA

Called by

CSPP transaction, DFHTCP, DFHZCP

Description

The 3270 print program prints 3270 data received from a screen on a 3270 printer. The data is compressed where possible and then transmitted to the printer.

DFHQRY

Entry points

DFHQRY

Called by

DFHALP, DFHTCTI, DFHZATT

Description

The query transaction (DFHQRY) sends a READ PARTITION QUERY structured field to a 3270, analyzes the response, and completes information in the corresponding TCTTE. DFHQRY can be attached by DFHALP, DFHTCTI, or DFHZATT.

DFHRCEX

Entry points

DFHRCEX

Called by

DFHFCBP, DFHTCBP, DFHUSBP

Description

DFHRCEX enables the global user exits for emergency restart processing.

DFHRKB

Entry points

DFHRKBNA

Called by

DFHCPY

Description

The release 3270 keyboard program is initiated by DFHCPY to release a 3270 keyboard. It does this by issuing a DFHTC TYPE=WRITE macro that sends a 3270 write control character.

DFHREST

Entry points

DFHREST

Called by

DFHXMTA

Description

The transaction restart program, DFHREST, is a user-replaceable module that helps you to determine whether or not a transaction is restarted. The default DFHREST module requests a transaction restart under certain conditions; for example, for a program isolation deadlock, one of the tasks is backed out and automatically restarted, and the other is allowed to complete its update.

DFHRLRA$, DFHRLR1$

Entry points

DFHRLRNA

Called by

DFHMCP

Description

The route list resolution program builds a terminal type parameter (TTP) control block for each type of terminal for which a message is to be built. A TTP is acquired for each terminal type in the user route list and the direct terminal if there is one.

The main subsections of DFHRLR are:

```
RLRALL   - Routing with ROUTE=ALL specified in
           application
RLRLIST  - Routing with route list specified in
           application
```

```
RLROPCL  - Routing with OPCLASS= specified in
           application
RLRRTEBY - Nonrouting, non-LDC device (that is
           direct terminal)
RLR3601  - Nonrouting LDC device.
```

DFHRMSY

Entry points

DFHRMSNA

Called by

DFHERMSP, DFHERMRS

Description

The purpose of task-related user exit resynchronization is to resolve any indoubt LUWs. Task-related user exit resynchronization is called by DFHERMRS during execution of the RESYNC command to restore the CICS end of the thread that was interrupted by the failure of the connection with the resource manager.

It is also called by DFHERMSP when a wait is unshunted and requires RMI resynchronization with a resource manager.

DFHRTC

Entry points

DFHRTCNA

Called by

CSSF transaction

Description

The CSSF transaction is invoked on the remote system when a CRTE routing session is to be canceled. CSSF runs the CRTE cancel command processor, DFHRTC, to sign off the user and terminate the extended routing session. DFHRTC calls DFHSUSN to sign off the surrogate.

DFHRTE

Entry points

DFHRTENA

Called by

transaction CRTE, DFHSNTU

Description

The transaction routing program establishes a transaction routing session with a remote region specified by the user. Subsequent input is analyzed by DFHRTE, the transaction code extracted, and a request issued to DFHZTSP to route the transaction to the required system.

DFHSFP

Entry points

DFHSFP

Called by

CESF trans.

Description

The sign-off program signs off the user who invoked the CESF transaction.

DFHSIA1

Entry points

DFHSIANA

Called by

DFHAPSIP

Description

The DFHSIA1 system initialization program loads and initializes the CSA.

DFHSIB1

Entry points

DFHSIBNA

Called by

DFHAPSIP

Description

The DFHSIB1 system initialization program loads the CICS nucleus.

DFHSIC1

Entry points

DFHSICNA

Called by

DFHAPSIP

Description

The DFHSIC1 system initialization program initializes the transaction manager and the storage manager domain’s macro compatibility interface, acquires a TCA for LIFO functions during initialization, initializes user exits, and processes the START parameter.

DFHSID1

Entry points

DFHSIDNA

Called by

DFHAPSIP

Description

The DFHSID1 system initialization program performs the following functions:
- Adds storage subpools for transient data use
- Allocates storage for transient data control blocks:
  - TDST
  - MBCA, MBCBs, and MQCBs, I/O buffers if required
  - MRCA, ACBs, MRCBs, and RPLs
- Creates the DCTE and SDSCI for CXRF.

DFHSIF1

Entry points

DFHSIFNA

Called by

DFHAPSIP

Description

The DFHSIF1 system initialization program initializes terminal control. DFHSIF1:
- Opens the VTAM ACB
- Builds hash-table entries for non-VTAM terminals
- Constructs a DFHZCP module list in the TCT prefix
- Initializes the attach tables.

DFHSIG1

Entry points

DFHSIGNA

Called by

DFHAPSIP

Description

The DFHSIG1 system initialization program opens the dump data set.

DFHSIH1

Entry points

DFHSIHNA

Called by

DFHAPSIP

Description

The DFHSIH1 system initialization program:

- Loads the DBCTL call processor (DFHDLIDP)
- Loads the remote DBCTL call processor (DFHDLIRP) if necessary
- Attaches the TCP task.

DFHSII1

Entry points

DFHSIINA

Called by

DFHAPSIP

Description

The DFHSII1 system initialization program establishes AP domain recovery routines in DFHSRP and calls DFHICRC to initialise Interval Control services. It attaches the CPLT transaction to run the first stage PLTPI programs, the CSTP transaction (the TCP task) and a system transaction to run the rest of AP initialization (the III task). The rest of DFHSII1, running as the III task:

- Starts XRF control transactions if required
- Attaches the CICS restart tasks to run in parallel:
  - Security interface
  - Transient data
  - Terminal control

- Program control
  - Task control
  - File control
  - Common programming interface (CPI)
  - Partner resource manager
  - Object recovery
  - Autoinstall terminal model manager
- Waits for the restart tasks to complete
- Processes the GRPLIST parameter

DFHSIJ1

Entry points

DFHSIJNA

Called by

DFHAPSIP

Description

DFHSIJ1 is the last to be executed in the process of system initialization. It issues the message 'CONTROL IS BEING GIVEN TO CICS' and passes control back to DFHAPSIP. DFHSIJ1:

- Links to DFHCRSP, if IRCSTRT=YES is specified as a system initialization parameter, to start up the interregion communication session
- Links to DFHPSIP to enable the system spooling interface
- Enables the DL/I high-level programming interface by acquiring an exit program block and addressing DFHEDP
- Enables AUTOINSTALL
- Links to the second-stage PLT programs listed in DFHPLT, then deletes this table
- Issues a DFHLDLDM SET_OPTIONS call to instruct the loader domain to write all outstanding program definitions to the catalogs.

DFHSIP

Entry points

DFHKESIP

Called by

MVS

Description

DFHSIP initializes CICS and also contains code for the following domains:

- Kernel (KE)
- Domain manager (DM)
- Dispatcher (DS)

- Dump (DU)
- Global catalog (GC)
- Local catalog (LC)
- Loader (LD)
- Lock manager (LM)
- Message (ME)
- Parameter manager (PA)
- Storage manager (SM)
- Trace (TR).

DFHSKP

Entry points

DFHSKMNA, DFHSKC, DFHSKE

Called by

MVS, DFHFCL, DFHFCM, DFHFCN, DFHPSPSS, DFHSTP, DFHXSMX

Description

DFHSKP consists of these modules, which are link-edited together:

```
DFHSKM - subtask manager
DFHSKC - subtask control program
DFHSKE - subtask execution program.
```

DFHSKM calls and, if necessary, attaches DFHSKC to process the created work queue element (WQE). DFHSKM also causes termination of the subtask when requested, and handles DWE processing and task cancel requests. DFHSKC starts an operating system subtask, DFHSKE, and waits for its completion. DFHSKE processes WQEs, looking at in-progress and waiting queues on a first-in, first-out basis. DFHSKE intercepts program checks and operating system abends.

DFHSMSCP

Entry points

DFHSMSCP

Called by

DFHSC macro

Description

The storage control program is called as a result of DFHSC GETMAIN and FREEMAIN macro requests issued from CICS modules.

DFHSNAT

Entry points

DFHSNAT

Called by

DFHCRNP, DFHZISP, DFHZSUP (via DFHSUSN)

Description

The attach-time signon/sign off interface program provides support for the signon and sign off of LU6.2 sessions.

DFHSNNFY

Entry points

DFHSNNFY

Called by

IRRDPR10

Description

The CICS segment notify exit is called by RACF whenever a change is made to a user's CICS segment in the RACF database.

DFHSNMIG

Entry points

DFHSNMIG

Called by

MVS

Description

The signon table migration utility program produces a CLIST file containing ADDUSER and ALTUSER commands that provide RACF with all the user attributes for each user entry in the signon table (SNT). This CLIST file is run by a TSO user to migrate the user information to RACF.

DFHSNP

Entry points

DFHSNP

Called by

CESN transaction

Description

The signon program is called in response to a CESN signon request. DFHSNP interprets the signon parameters, prompts the operator for more parameters if needed, and passes the values to the security manager for verification.

DFHSNSN

Entry points

DFHSNSN

Called by

DFHCSSC, DFHSNAT (via DFHSUSN)

Description

The optimized signon/sign off interface program provides a mechanism for optimizing calls to the security manager. It achieves this optimization using the signon table (SNT).

DFHSNVCL

Entry points

DFHSNVCL

Called by

IRRDPR02

Description

The OPCLASS validation exit is called by RACF to validate the operands of the OPCLASS subparameter of the CICS parameter in the ADDUSER or ALTUSER TSO commands. DFHSNVCL checks whether the operands are in the range 1 through 24.

DFHSNVID

Entry points

DFHSNVID

Called by

IRRDPR02

Description

The OPIDENT validation exit is called by RACF to validate the operand of the OPIDENT subparameter of the CICS parameter in the ADDUSER or ALTUSER TSO commands.

DFHSNVPR

Entry points

DFHSNVPR

Called by

IRRDPR02

Description

The OPPRTY validation exit is called by RACF to validate the operand of the OPPRTY subparameter of the CICS parameter in the ADDUSER or ALTUSER TSO commands. DFHSNVPR checks whether the operand is in the range 0 through 255.

DFHSNVTO

Entry points

DFHSNVTO

Called by

IRRDPR02

Description

The TIMEOUT validation exit is called by RACF to validate the operand of the TIMEOUT subparameter of the CICS parameter in the ADDUSER or ALTUSER TSO commands. DFHSNVTO checks whether the operand is in the range 1 through 60.

DFHSPP

Entry points

DFHSPPNA

Called by

DFHESP, DFHSP macro

Description

The syncpoint program is invoked during a user-specified syncpoint (by a DFHSP macro) or at task termination. For a rollback request only, DFHSPP calls DFHDBP to restore recoverable resources. It scans the DWE chain invoking the appropriate DWE processors, and performs the necessary syncpoint logging. It dequeues all resources enqueued by the transaction. DFHSPP processes any DWEs connected with the resource manager, and processes the RESYNC command.

The main subroutines of DFHSPP are:

```
SPP00005 - Write DWE log data
SPP02020 - Build a DWE chain that can be logged
SPP03000 - End.
```

DFHSRLI

Entry points

DFHSRLI

Called by

DFHSRP

Description

DFHSRLI is called during recovery processing after a system abend has occurred, to build the SRP_ERROR_DATA block and pass control to the XSRAB global user exit.

DFHSRP

Entry points

DFHSRPNA

Called by

AP domain recovery routines

Description

The system recovery program deals with program check interrupts, system abends, and runaway tasks in the AP domain. For a program check, DFHSRP abends the task with abend code ASRA. For a system abend, DFHSRP searches the SRT for the abend code that has arisen and, if a match is found, calls DFHSRLI to invoke the XSRAB global user exit (if active). Afterwards, DFHSRP can either abend CICS or attempt to keep it running with only the faulty task abended (ASRB). For a runaway task, DFHSRP abends the task with abend code AICA.

DFHSSEN

Entry points

DFHSSEN

Called by

MVS subsystem interface

Description

The subsystem end-of-memory routine is invoked by the MVS subsystem interface at all end-of-task (EOT) and end-of-memory (EOM) events when the CICS subsystem has been initialized by module DFHSSIN. It cleans up any subsystem control blocks owned by the terminating CICS region.

DFHSSGC

Entry points

DFHSSGC

Called by

DFHCSVC, DFHSSEN (through the subsystem interface)

Description

The subsystem generic connect routine records the existence of active CICS address spaces. When the first CICS address space becomes active in an MVS image, DFHSSGC enables the subsystem broadcast facility of MVS console management. When the last CICS address space becomes inactive in an MVS image, it disables the broadcast facility.

DFHSSIN

Entry points

DFHSSIN

Called by

MVS master scheduler initialization

Description

The CICS subsystem initialization routine reads subsystem parameters from SYS1.PARMLIB, and creates a subsystem vector table (SSVT) for the CICS subsystem. DFHSSIN loads modules DFHSSEN, DFHSSGC, and DFHSSWT into MVS common storage, and saves their addresses in the SSVT.

DFHSSMGP

Entry points

DFHSSMGP

Called by

DFHSSIN

Description

The subsystem interface message program provides message formatting support for the subsystem interface routines, analogous to DFHMGP within CICS. (Neither DFHMGP nor the message domain can be used in this environment because CICS is not active.)

DFHSSMGT

Entry points

DFHSSMNA

Called by

DFHSSMGP

Description

The subsystem interface message table contains the text of messages that are issued by DFHSSMGP.

DFHSSWT

Entry points

DFHSSWTA

Called by

MVS console support

Description

The subsystem interface WTO router is invoked for all MVS console messages when the console message broadcast facility has been enabled by DFHSSGC. DFHSSWT routes DFH messages to DFHSSWTO, and routes MODIFY command text to DFHSSWTF.

DFHSSWTF

Entry points

DFHSSWTF

Called by

DFHSSWT

Description

This module suppresses signon passwords that are supplied on CESN transactions entered through MODIFY commands on an MVS console. Any passwords are replaced by eight asterisks.

DFHSSWTO

Entry points

DFHSSWTO

Called by

DFHSSWT

Description

This module inserts the CICS region's applid into all DFH messages issued under a CICS TCB whose applid can be determined.

DFHSTDT

Entry points

DFHSTDT

Called by

DFHAPST

Description

This module is called by DFHAPST to collect or reset dynamic transaction backout statistics. Statistics are written to the SMF data set or made available on the API according to the type of request.

DFHSTFC

Entry points

DFHSTFC

Called by

DFHAPST

Description

This module is called by DFHAPST to collect or reset file control statistics. Statistics are written to the SMF data set or made available on the API according to the type of request.

DFHSTIB

Entry points

DFHSTIB

Called by

DFHAPST

Description

This module and called by DFHAPST to collect or reset IRC batch system connected statistics. Statistics are written to the SMF data set or made available on the API according to the type of request.

DFHSTJC

Entry points

DFHSTJC

Called by

DFHAPST

Description

This module is called by DFHAPST to collect or reset journal control statistics. Statistics are written to the SMF data set or made available on the API according to the type of request.

DFHSTLK

Entry points

DFHSTLK

Called by

DFHAPST

Description

This module is called by DFHAPST to collect or reset ISC/IRC statistics. Statistics are written to the SMF data set or made available on the API according to the type of request.

DFHSTLS

Entry points

DFHSTLS

Called by

DFHAPST

Description

This module is called by DFHAPST to collect or reset LSRPOOL statistics. Statistics are written to the SMF data set or made available on the API according to the type of request.

DFHSTP

Entry points

DFHSTPNA

Called by

DFHEMTP

Description

The main function of the system termination program is to shut down CICS. In sequence, DFHSTP performs the following functions (according to options specified):

1. Collects statistics now if immediate shutdown
2. Shuts down the resource managers

3. Terminates subsystem interface
4. Resumes suspended tasks
5. Executes the programs defined in the first part of DFHPLT
6. Rebuilds AIDs for paging sessions
7. Breaks the ICE and AID chains
8. Quiesces IRC
9. Executes the programs defined in the second part of DFHPLT
10. Closes all open files managed by CICS file control
11. Synchronize with Recovery Manager shutdown keypoint
12. Call WKP to catalog terminals and profiles
13. Terminate extra partition TD
14. Signs off from the CAVM
15. Terminates general-purpose subtasking facility
16. Calls the kernel to terminate the system.

Returns to

MVS

DFHSTSZ

Entry points

DFHSTSZ

Called by

DFHAPST

Description

DFHSTSZ is called by DFHAPST to collect or reset FEPI statistics. Statistics are written to the SMF data set or made available on the API according to the type of request.

DFHSTTD

Entry points

DFHSTTD

Called by

DFHAPST

Description

DFHSTTD is called by DFHAPST to collect or reset transient data statistics. Statistics are written to the SMF data set or made available on the API according to the type of request.

DFHSTTM

Entry points

DFHSTTM

Called by

DFHAPST

Description

DFHSTTM is called by DFHAPST to collect or reset table manager statistics. Statistics are written to the SMF data set or made available on the API according to the type of request.

DFHSTTR

Entry points

DFHSTTR

Called by

DFHAPST

Description

DFHSTTR is called by DFHAPST to collect or reset terminal statistics. Statistics are written to the SMF data set or made available on the API according to the type of request.

DFHSTTS

Entry points

DFHSTTS

Called by

DFHAPST

Description

DFHSTTS is called by DFHAPST to collect or reset temporary-storage statistics. Statistics are written to the SMF data set or made available on the API according to the type of request.

DFHSUSN

Entry points

DFHSUSN

Called by

DFHACP, DFHBSTS, DFHCRNP, DFHCSSC, DFHEEI, DFHEIQST, DFHERM, DFHESN, DFHMGPME, DFHMGP00, DFHRTC, DFHSUSX, DFHTCTI, DFHTPQ, DFHTPR, DFHXSMN, DFHZCUT, DFHZEV1, DFHZEV2, DFHZISP, DFHZIS2, DFHZNAC, DFHZOPN, DFHZSUP, DFHZTSP, DFHZXCU

Description

DFHSUSN is used to create, destroy, and query the contents of a signon table element (SNTTE). It calls DFHSUSX to notify the XRF alternate system of the creation and destruction of SNTTEs. It also provides an interface for the creation and validation of encrypted passwords used in LU6.2 bind password processing.

DFHSUSX

Entry points

DFHSUSX

Called by

DFHTCRPU, DFHZXCU, DFHSUSN

Description

DFHSUSX provides tracking for SNTTEs. This module is responsible for:

- Sending messages to an alternate system to reflect the current state of the SNTTEs in the active system
- Actioning an add or delete of an SNTTE in an alternate system, based on information tracked from another CICS system
- Making changes to the signed-on state in an alternate system, based on information tracked from another CICS system.

Entry points

DFHSUWT

Called by

DFHMEME, DFHSUWT

Description

The DFHSUWT module provides the following support for executing MVS WTO and WTOR SVCs:

- SEND support for Write To Operator (WTO)
- CONVERSE support for Write To Operator With Reply (WTOR).

For further information about DFHSUWT, see Chapter 68, “WTO and WTOR,” on page 553.

DFHSUZX

Entry points

DFHSUZX

Called by

DFHBSTZV, DFHEIQSC, DFHEIQST, DFHEIQTR

Description

The ZC trace controller is responsible for actioning set, cancel, and inquire requests for the CICS VTAM exit tracing facility. It sets or unsets the control flags and gets or releases the storage used by the DFHZETR function located in the ACB and RPL exits.

DFHTACP

Entry points

DFHTACNA

Called by

DFHTCP

Description

The terminal abnormal condition program is invoked by DFHTCP and performs the following functions:

- Analyzes error codes in the TACLE
- Sends appropriate messages to the CSMT transient data destination (for terminal errors), or to the CSTL transient data destination (for logical errors)
- Invokes the user-supplied (or sample) terminal error program (DFHTEP)
- Takes the appropriate actions resulting from the defaults which may have been modified by the terminal error program.

DFHTAJP

Entry points

DFHTAJNA

Description

The time adjustment program calls DFHICP to reset the CSA's time fields according to the host-supplied time-of-day. DFHTAJP then scans the ICE chain and adjusts the expiry time of interval-controlled ICEs. Time-controlled ICEs are not adjusted but the ICE chain is reordered so that it is left in order by expiry time. Times held in the TCT and CSATCNDT are decreased, and negative times are made zero. Lastly, DFHTAJP writes a message.

DFHTBSB

Entry points

DFHTBSB

Called by

DFHZCQIS

Description

DFHTBSB adds a node to the control-block structure. It is called during the dynamic installation of TCT resources, and calls routines in the control block builder.

DFHTBSBP

Entry points

DFHTBSBP

Called by

DFHTBSB, DFHTBSBP

Description

DFHTBSBP is the recursive part of DFHTBSB.

DFHTBSD

Entry points

DFHTBSD

Called by

DFHZCQDL

Description

DFHTBSD deletes a node in a CICS terminal network.

DFHTBSDP

Entry points

DFHTBSDP

Called by

DFHTBSD, DFHTBSDP

Description

DFHTBSDP is the recursive part of DFHTBSD.

DFHTBSL

Entry points

DFHTBSL

Called by

DFHTBSR, DFHZCQCH

Description

DFHTBSL creates the recovery record for a node during the dynamic installation of a TCT table entry using the CEDA INSTALL command, for example, and calls routines in the control-block builder.

DFHTBSLP

Entry points

DFHTBSLP

Called by

DFHTBSL, DFHTBSLP, DFHTBSSP

Description

DFHTBSLP is the recursive part of DFHTBSL.

DFHTBSQ

Entry points

DFHTBSQ

Called by

DFHZCQIQ

Description

DFHTBSQ is called to retrieve the parameters that were supplied to a TCT table entry at build time.

DFHTBSQP

Entry points

DFHTBSQP

Called by

DFHTBSQ

Description

DFHTBSQP is called by DFHTBSQ to retrieve parameters that were supplied to a TCT table entry at build time.

DFHTBSR

Entry points

DFHTBSR

Called by

DFHZCQRS

Description

DFHTBSR takes a table-builder recovery record and re-creates the corresponding table entry. It is called during warm or emergency restart.

DFHTBSRP

Entry points

DFHTBSRP

Called by

DFHTBSR

Description

DFHTBSRP is called by DFHTBSR.

DFHTBSSP

Entry points

DFHTBSSP

Description

DFHTBSSP performs a commit or rollback action for a previous table-builder change according to the outcome of a logical unit of work. Each action is dequeued from a DWE.

DFHTBS00

Entry points

DFHTBS

Description

DFHTBS00 is the main routine for DFHTBS and holds the addresses of the modules used to build control blocks for the dynamic installation of TCT resources.

DFHTCBP

Entry points

DFHTCBNA

Description

The terminal control backout program restores TCTTEs and other ISC state data during emergency restart.

DFHTCP

Entry points

DFHTCPNA

Description

DFHTCP is the terminal control program. The terminal control task is attached during system initialization and remains until termination. DFHTCP manages all non-VTAM terminals, which involves:
- Ensuring that I/O operations are started when possible on the lines
- Analyzing completion information
- Attaching transactions when data is received from a terminal and no task is attached to that terminal
- Servicing terminal control requests from user transactions.

The modules and subsections of DFHTCP are:

DFHTCAM
Terminal control TCAM device dependent

DFHTCCLC
Terminal control line control scan routine

DFHTCCOM
Terminal control common logic

DFHTCCSS
Terminal control start-stop common logic

DFHTCDEF
Terminal control symbol definition

DFHTCORS
Terminal control storage handling

DFHTCSAM
Terminal control sequential terminal device dependent

DFHTCTI
Terminal control task initiation

DFHTCTRN
Terminal control translate tables

DFHTCRP

Entry points

DFHTCRP

Description

DFHTCRP initializes and recovers terminal control definitions and protected messages. It is run as a task during CICS initialization.

DFHTCRPC

Entry points

DFHTCRPC

Called by

DFHZXQO

Description

DFHTCRPC is the XRF tracking interface for TCT contents. It is one of a set of routines called by DFHZXQO from the same CALL statement, the entry point address having been passed to DFHZXQO. This routine calls ZC RESTORE to add or delete a TCT entry based on information from another CICS system using the log, the catalog, or the XRF tracking queues.

DFHTCRPL

Entry points

DFHTCRPL

Called by

DFHTCRP

Description

DFHTCRPL installs TCT resources defined by the TCT macros.

DFHTCRPS

Entry points

DFHTCRPS

Called by

DFHZXQO

Description

DFHTCRPS is the XRF tracking interface for ZCP sessions. It is one of a set of routines called by DFHZXQO from the same CALL statement, the entry point address having been passed to DFHZXQO. This routine calls DFHZXST (through DFHZXS) to make changes to the session state.

DFHTCRPU

Entry points

DFHTCRPU

Called by

DFHZXQO

Description

DFHTCRPU is the XRF tracking interface for signon table elements (SNTTEs). It is one of a set of routines called by DFHZXQO from the same CALL statement, the entry point address having been passed to DFHZXQO. This routine calls DFHSUSX to add or delete tracked SNTTEs, and to make changes to the signed-on state.

DFHTDA

Entry points

DFHTDANA

Called by

DFHAKP, DFHAMCSD, DFHAPTD, DFHCRNP, DFHCRQ, DFHDBP, DFHEIQMS, DFHEIQSQ, DFHESE, DFHETD, DFHJCP, DFHMCP, DFHMGP00, DFHRCRP, DFHRUP, DFHSII1, DFHSTP, DFHSTTD, DFHTCAP, DFHTDRP, DFHTEPM, DFHTPQ, DFHTRP, DFHTSRP, DFHWKP, DFHZNAC

Description

DFHTDA, which is link-edited with RMODE(24), handles DFHTD macro requests. In particular:

- DFHTD TYPE=GET|PUT|PURGE requests are converted to the corresponding DFHTD CTYPE=GET|PUT|PURGE requests.
- DFHTD CTYPE=GET|PUT|PURGE requests for intrapartition queues are routed to DFHTDQ for further processing.
- All of the processing for DFHTD CTYPE=GET|PUT for extrapartition queues is done under the QR TCB.
- Much of the processing for DFHTD CTYPE=OPEN|CLOSE for extrapartition queues is done under the RO TCB.

CICS Transaction Server for z/OS uses QSAM GL|PL mode processing.

DFHTDB

Entry points

DFHTDBNA

Called by

DFHTDA

Description

DFHTDB, which is link-edited with RMODE(ANY), handles DFHTD macro requests for intrapartition queues. In particular, DFHTDB:

- Manages the input and output cursors for each queue
- Manages space on the intrapartition data set
- Initiates transactions when trigger levels are reached
- Manages the buffers; processing is done under the QR TCB
- Manages the strings; processing is done under the CO TCB.

DFHTDEXL

Entry points

EX11RTNE

Called by

QSAM

Description

DFHTDEXL contains the DCB abend exit routine used for extrapartition processing.

DFHTDP

Entry points

DFHTDANA

Called by

DFHAKP, DFHAMCSD, DFHAPTD, DFHCRNP, DFHCRQ, DFHDBP, DFHEIQMS, DFHEIQSQ, DFHESE, DFHETD, DFHMCP, DFHMGP00, DFHRCRP, DFHRUP, DFHSII1, DFHSTP, DFHSTTD, DFHTACP, DFHTDRP, DFHTEPM, DFHTPQ, DFHTRP, DFHTSRP, DFHWKP, DFHZNAC

Description

DFHTDP is a load module link-edited from object modules for DFHTDA, DFHTDEXL, and DFHTDX.

DFHTDQ

Entry points

DFHTDBNA

Called by

DFHTDA

Description

DFHTDQ is a load module link-edited from object modules for DFHTDB.

DFHTDRM

Entry points

DFHTDRM

Called by

DFHDBP

Description

DFHTDRM is the transient data recovery manager processor. If transient data has any outstanding resources, DFHTDRM is called at phase 1 syncpoint (or backout). For phase 1 syncpoint (or backout) requests, DFHTDRM issues a request to mainline transient data(DFHTDA) to reset any resources that have not yet been released.

DFHTDRP

Entry points

DFHTDRNA

Called by

DFHTDX

Description

DFHTDRP handles transient data recovery during CICS initialization. In particular, DFHTDRP:

- Adds the entries found in the DCT load module by calling the DFHTDTM gate.
- Restores input and output cursors for intrapartition queues on warm start; the cursors are recovered by DFHRUP on emergency restart
- Restores the CI state map on warm start
- Opens extrapartition queues
- Opens the intrapartition data set
- Recovers the CI state map on emergency restart.

DFHTDTM

Entry points

DFHTDTM

Called by

DFHALP, DFHEIQMS, DFHEIQSQ, DFHESE, DFHSZRPM, DFHTDRP

Description

DFHTDTM manages the entries in the destination control table. It is used to add, update and delete entries in this table and records images of each entry on the global catalog for use during a warm start or emergency restart. It allows table entries to be inquired upon.

DFHTDX

Entry points

DFHTDXNA

Called by

Task initiation

Description

DFHTDX is the initial program invoked by the transient data recovery task. It links to program DFHTDRP.

DFHTEP

Entry points

DFHTEPNA

Called by

DFHTACP

Description

The terminal error program is invoked by DFHTACP using a DFHPC CTYPE=LINK_URM macro. The sample DFHTEP (invoked only if there is no customer-supplied version) puts a terminal out of service if the number of terminal errors detected by DFHTACP exceeds default values contained in DFHTEP tables.

DFHTMP

Entry points

DFHTMPNA

Called by

DFHTM macro

Description

The table management program performs locates, adds, deletes, locks, and unlocks to entries in certain CICS tables. DFHTMP uses a hash table for these operations.

The main subroutines of DFHTMP are:

```
CHKTTC     - Check table type code
COMMIT     - Commit table changes
CRTCLE     - Create a change list element
CRTDWE     - Create deferred work element
DELDWE     - Cancel deferred work element
DEQALLDE   - Dequeue on directory element
DEQUEUE    - Dequeue on table modification
DYNHASH    - Dynamic re-hash
ENQDEQDE   - Enqueue/dequeue on directory element
ENQUEUE    - Enqueue on table modification
GET_STORAGE - Get storage from the CICS shared subpool
GET_TASK_STORAGE - Get task lifetime 31-bit storage
GET_TASK_STORAGE_COND - Get task lifetime 31-bit storage
                        (conditionally)
GET_STORAGE_FAILURE - Get storage failure routine
FREE_STORAGE - Release storage from the CICS shared subpool
FREE_TASK_STORAGE - Release task lifetime 31-bit storage
LOCATE_PREVIOUS_DE - Locate previous directory
             element in collating series
LOCATETE   - Locate a table/directory entry
LOCFDIRE   - Locate a free directory element
NOTERL     - Note Read Lock
SETABORD   - Set up alphabetic ordering pointer
             for a given table type
TMFINDLOCK - Find a read lock
TMPDWEEP   - Deferred work element processor
TMSETLOCK  - Set a read lock
TMUNLOCK   - Release a read lock
UNQUIES    - Unquiesce a directory element.
```

DFHTON

Entry points

DFHTONNA

Called by

DFHDBP, DFHSPP

Description

The terminal object resolution module is called by DFHDBP or DFHSPP during DWE processing for DFHTOR. It calls DFHTOR with end-LUW-cancel or end-LUW-commit code to perform cancel or commit of changes to TERMINAL, TYPETERM, CONNECTION, or SESSIONS definitions.

DFHTOR

Entry points

DFHTORNA

Called by

DFHAMP, DFHTON

Description

DFHTOR is the terminal object resolution program. DFHAMP calls DFHTOR for a TERMINAL, TYPETERM, CONNECTION, or SESSIONS object in a CICS system definition (CSD) file that is being installed, or when DFHAMP encounters an end-of-group. DFHTOR processes the objects and passes them to the terminal control builder program (DFHZCQ). The DFHTON entry is used for DWE processing.

DFHTORP

Entry points

DFHTORNA

Called by

DFHSII1

Description

DFHTORP is the terminal object recovery program. It is called during CICS initialization to purge TYPETERM and model terminal definitions from the catalog on a cold start, and to recover these definitions on an emergency restart.

DFHTPPA$, DFHTPP1$

Entry points

DFHTPPNA

Called by

DFHDSB, DFHM32

Description

The terminal page processor program handles DFHBMS TYPE=OUT, STORE, and RETURN requests. If OUT, DFHTPP sends the complete page using DFHTC macro requests; if STORE, the page is sent to temporary storage; and if RETURN, no output operation takes place but the page is returned to the application program.

The main subroutines of DFHTPP are:

```
TPNODDS - TYPE=STORE (PAGING) requests
TPOUT   - TYPE=OUT (TERMINAL) requests (the macro
          DFHTOM is used by both DFHTPP and DFHTPR
          to handle output to terminals)
TPRETPG - TYPE=RETURN (SET) requests.
```

Returns to

DFHPBP

DFHTPQ

Entry points

DFHTPQNA

Called by

DFHICP, DFHMCP, DFHTCP

Description

The undelivered messages cleanup program is initiated periodically in order to cancel the delivery of BMS messages that have been placed in temporary storage, but have remained undelivered for an interval exceeding the purge delay time interval specified by the PRGDLAY system initialization parameter, if this has a nonzero value.

DFHTPR

Entry points

DFHTPRNA

Called by

DFHMCP, DFHTCP

Description

The terminal page retrieval program (transaction CSPG) is invoked:

- By automatic transaction initiation as a result of a SCHEDULE issued by DFHTPS
- By a DFHPGLK LINK from DFHMCP, when CTRL=RETAIN or RELEASE on DFHBMS TYPE=PAGEOUT (RETAIN or RELEASE on SEND PAGE at command level)
- When CSPG or an operator paging command is entered at a terminal.

If the message is autopaged, DFHTPR retrieves the pages of the message in order, transmits them to the terminal, and then purges the message. Otherwise DFHTPR runs pseudo-conversationally. All further input is passed to DFHTPR, until the message is purged explicitly or implicitly. If the input is a valid paging command (page retrieval, page copy, page purge, or page chaining), it is processed. It is rejected if explicit purge is required, or passed back to normal task initiation if automatic purge is allowed.

The main subsections of DFHTPR are:

```
DFHMSPUT - Send error message to terminal
TPENCCHN - Encode and execute page chain
TPENCCOP - Encode and execute page copy
TPENCPUR - Execute page purge
TPENCRET - Encode page retrieval
TPERETA  - Reset to autopaging
TPERETQ  - Page query
TPEXIT   - Exit from program
TPEXPUR  - Execute page purge
TPEXRET  - Execute page retrieval
TPTSGET  - Get MCR or page from temporary storage.
```

DFHTPS

Entry points

DFHTPSNA

Called by

DFHICP, DFHMCP

Description

The terminal page scheduling program (transaction CSPS) is invoked for each terminal type to which a BMS logical message built with TYPE=STORE is to be sent. For each terminal designated by the originating application program, DFHTPR is scheduled to display the first page of the logical message if the terminal is in paging status, or the complete message if it is in autopage status. DFHTPS contains the following major subsections, each dealing with a separate function:

- DFHTPSNA—used when DFHTPS is invoked by automatic initiation on expiry of ICE, and as a result of an IC PUT request issued by DFHMCP (there is no associated terminal). This invocation schedules CSPG for terminals on this system, and schedules CSPS on the link to each remote system which owns terminals contained in the route list for the message (that is the function of TPS02000).
- TPS01000—used when DFHTPS is linked to from DFHMCP for direct paging requests to a terminal on a remote system. The task has a surrogate TCTTE as its primary facility, and owns a relay link connected to the terminal owning system. This section ships the pages of the message to the terminal-owning region, where it is re-created by the relay program (DFHAPRT) which issues BMS, STORE, TEXT, NOEDIT, and PAGEOUT requests.
- TPS02000—used when DFHTPS is scheduled by TPS01000 to run against the link to a remote system. This routine ships the logical message to the remote system and deletes the terminals on the remote system from the terminal list in the original message control record. (TPS03000 receives the information at the remote system.)
- TPS03000—used when DFHTPS is invoked by an ATTACH request from a remote system (that is, originated by TPS01000 or TPS02000). This routine receives the shipped logical message and issues BMS ROUTE, TEXTBLD, NOEDIT, and PAGEOUT requests to re-create the logical message on the terminal-owning region.

DFHTPS contains the following subroutine:

- TPSSHIPM—ships a complete logical message.

DFHTRAP

Entry points

DFHTRANA

Called by

DFHTRPT

Description

The FE global trap/trace exit is provided for diagnostic use only under the guidance of service personnel.

DFHTR660 and AMDUSREF

Entry points

DFHTRPRG

Called by

IPCS

Description

The CICS GTF trace formatting routine is invoked by IPCS processing of the GTFTRACE keyword when a CICS entry (USR F6C, format ID X'EF') is encountered. For each entry, it writes a line containing the job name and then formats the entry in the same form as DFHTU660 does for an auxiliary trace print. AMDUSREF is defined as an alias for DFHTR660 because IPCS looks for a program called AMDUSRxx to format entries with format ID xx.

DFHTRP

Entry points

DFHTRPNA

Called by

Many AP domain modules

Description

The trace control program translates DFHTR, DFHTRACE, and DFHLFM macro requests to write trace entries into TR domain TRACE_PUT requests. DFHTRP collects the data required in the trace for the specified trace ID into a standard layout and issues the TRACE_PUT call. For requests to change the various trace flags that control tracing, DFHTRP issues KEDD format calls to the kernel domain.

DFHTRZCP

Entry points

DFHTRZCP

Called by

CEDA transaction, DFHTCRP, DFHTOR

Description

DFHTRZCP builds a terminal builder parameter set.

DFHTRZIP

Entry points

DFHTRZIP

Called by

CEDA transaction, DFHTCRP, DFHTOR

Description

DFHTRZIP builds a chain of builder parameter sets for sessions.

DFHTRZPP

Entry points

DFHTRZPP

Called by

CEDA transaction, DFHTCRP, DFHTOR

Description

DFHTRZPP builds a pool builder parameter set.

DFHTRZXP

Entry points

DFHTRZXP

Called by

CEDA transaction, DFHTCRP, DFHTOR

Description

DFHTRZXP builds a connection builder parameter set.

DFHTRZYP

Entry points

DFHTRZYP

Called by

CEDA transaction, DFHTCRP, DFHTOR

Description

DFHTRZYP builds a TYPETERM builder parameter set.

DFHTRZZP

Entry points

DFHTRZZP

Called by

CEDA transaction, DFHTCRP, DFHTOR

Description

DFHTRZZP merges a TYPETERM builder parameter set into a terminal builder parameter set.

DFHTSP

Entry points

DFHTSPNA

Called by

DFHACP, DFHAKP, DFHALP, DFHCRQ, DFHDBP, DFHDIP, DFHEDFP, DFHESE, DFHETS, DFHICP, DFHMCP, DFHMSP, DFHRTE, DFHSII1, DFHSTP, DFHTCBP, DFHTPP, DFHTPQ, DFHTPR, DFHTPS, DFHTSBP, DFHTSP, DFHTSRP, DFHZISP, DFHZRAQ, DFHZRAR, DFHZRSP

Description

The temporary-storage program services DFHTS requests. It maintains the tables, directories, and maps necessary to keep track of every temporary-storage record and of available space on the VSAM auxiliary storage or in main storage. The main subroutine of DFHTSP is DFHTSPAM, which manages auxiliary storage (including multiple buffers and strings).

DFHTU660

Entry points

DFHTRPRA

Called by

MVS

Description

The trace utility program formats and prints trace records stored on the auxiliary trace data set. This utility program is run as a separate job, and extracts selected trace entries as specified on parameter statements supplied as part of the input to the program.

DFHUCNV

Entry points

DFHUCNV

Called by

DFHCCNV

Description

DFHUCNV is a sample program for CICS OS/2 user data conversion. Users can write their own version of DFHUCNV to apply any conversion. If specified, a user-supplied conversion is applied before the standard conversion. DFHUCNV is invoked for each EXEC CICS request and reply that has resulted from a CICS OS/2 function shipping request and may require conversion of user data from ASCII to EBCDIC (inbound from CICS OS/2) or from EBCDIC to ASCII (outbound). DFHCCNV issues an EXEC CICS LINK to DFHUCNV before attempting any standard conversions. This allows a user program to convert data of type USERDATA, as defined in the CICS OS/2 conversion macros (DFHCNV).

The sample program obtains addressability to the COMMAREA passed to it, and checks that the request is a temporary-storage (TS) request. Then it checks that DFHCCNV managed to locate a conversion template for the resource (a TS queue) with this name, and scans and checks the template using the supplied template pointer and length. If the check is successful, the program translates the user data field as appropriate.

DFHUEH

Entry points

DFHUEHNA

Called by

CICS management modules containing exit points

Description

The user exit handler is the link between an exit point in a CICS management module in the AP domain, and the user code. DFHUEH invokes in turn each started exit program for that exit point, passing a parameter list defined in the CICS management module.

DFHUEM

Entry points

DFHUEMNA

Called by

DFHEIP

Description

The EXEC interface processor for the ENABLE, DISABLE, and EXTRACT user exit commands.

DFHUSBP

Entry points

DFHUSBNA

Called by

DFHRCRP

Description

The user backout program sends records, journaled by the user to the system log, to a user exit during emergency restart. The records are extracted by DFHRUP from the restart data set. They may exist for any logical unit of work, whether in flight or not, depending on the JCRSTRID value specified when the record was written.

DFHWCCS

Entry points

DFHWCCS

Called by

Many CAVM modules

Description

DFHWCCS provides common services for the CAVM:
- MVS FREEMAIN
- MVS GETMAIN
- MVS POST
- Message or MVS ABEND
- Create CAVM process block.

Returns to

MVS abend, caller

DFHWCGNT

Entry points

DFHWCGNA

Description

DFHWCGNT is the entry point list for CAVM modules above the 16 MB line.

DFHWDATT

Entry points

DFHWDATT

Called by

DFHWDINA, DFHWMG1, DFHWMP1, DFHWSXPI

Description

DFHWDATT creates the CAVM process.

DFHWDINA

Entry points

DFHWDINA

Called by

DFHWSRTR

Description

DFHWDINA attaches the initial CAVM process. It sets up lock tables, the dispatcher control area, the LIFO control area, and the dispatcher ESPIE and ESTAE exits.

Returns to

DFHWDISP

DFHWDISP

Entry points

DFHWDISP, DFHWDIND

Called by

DFHWDWAT, DFHWDINA

Description

DFHWDISP is the CAVM process dispatcher. It dispatches the next ready CAVM process, or waits for an external event. It dispatches the initial CAVM process.

Returns to

Dispatched process, caller of DFHWDINA

DFHWDSRP

Entry points

DFHWDSRP

Called by

DFHWDINA, CAVM program check/abend

Description

DFHWDSRP establishes the ESPIE/ESTAE CAVM process. It performs CAVM process error handling for processes with ESPIE or ESTAE routines.

DFHWDWAT

Entry points

DFHWDWAT

Called by

Many CAVM modules

Description

DFHWDWAT causes the current CAVM process to wait for specific events.

Returns to

DFHWDISP

DFHWKP

Entry points

DFHWKPNA

Called by

DFHSTP

Description

DFHWKP takes a warm keypoint at the normal termination of CICS. This program is part of the restart component.

DFHWLFRE

Entry points

DFHWLFRE

Called by

Many CAVM modules

Description

DFHWLFRE frees the LIFO stack entry for CAVM modules running above the 16 MB line.

DFHWLGET

Entry points

DFHWLGET

Called by

Many CAVM modules

Description

DFHWLGET gets the LIFO stack entry for CAVM modules running above the 16 MB line.

DFHWMG1

Entry points

DFHWMG1

Called by

DFHWMI, DFHWDISP, DFHWDSRP

Description

DFHWMG1 is the main module of the CAVM message manager GET MESSAGE service. It is called by DFHWMI to initialize service, and attach itself as a message-reader CAVM process; by DFHWDISP to run as a message-reader CAVM process that reads messages and stores them; and by DFHWDSRP to handle ESPIE/ESTAE exits for the message reader.

DFHWMI

Entry points

DFHWMI

Called by

DFHWSXPI

Description

DFHWMI allocates the CAVM message-manager communication area. It calls each of the main message-manager modules, which then initialize themselves.

DFHWMMT

Entry points

DFHWMMT

Called by

DFHWMRD, DFHWMWR

Description

DFHWMMT provides VSAM GET and PUT services for the CAVM message data set.

DFHWMPG

Entry points

DFHWMPG

Called by

DFHWMP1, DFHWMWR

Description

DFHWMPG copies message data into the buffer provided by the user of PUTMSG, PUTREQ, PUTRSP, and CAVM message-manager services. It provides an ESPIE routine to handle program checks occurring during the copying.

DFHWMP1

Entry points

DFHWMP1

Called by

DFHWMI, DFHWDISP, DFHWDSRP

Description

DFHWMP1 is the main module of the CAVM message-manager PUT MESSAGE service. It is called by DFHWMI to initialize service, and attach itself as a message-writer CAVM process; by DFHWDISP to run as a message-writer CAVM process that writes messages to the CAVM message data set; and by DFHWDSRP to handle ESPIE and ESTAE exits for the message writer.

DFHWMQG

Entry points

DFHWMQG

Called by

DFHWMS20

Description

DFHWMQG runs under the CICS TCB above the 16MB line. It processes GETMSG CAVM message-manager requests. It waits for a message to arrive, then copies from the main-memory message queue created by the CAVM message-reader process.

DFHWMQH

Entry points

DFHWMQH

Called by

DFHWMG1, DFHWMQG

Description

The CAVM message-manager message input queue handler locates or creates message-queue anchor blocks, and adds copies of messages read by the CAVM reader process to the main-memory message queues.

DFHWMQP

Entry points

DFHWMQP

Called by

DFHWMS20

Description

DFHWMQP runs under the CICS TCB above the 16MB line. It processes CAVM message-manager PUTMSG, PUTREQ, and PUTRSP requests; places the request in the appropriate queue; and posts the queue to awaken CAVM process to handle request, waits for completion, and returns response to the caller.

DFHWMQS

Entry points

DFHWMQS

Called by

DFHWMP1, DFHWMWR

Description

The CAVM message-manager message output queue handler provides services to select the next work item to process, and posts items complete.

DFHWMRD

Entry points

DFHWMRD

Called by

DFHWMG1

Description

The CAVM message-manager message read routine reads messages from the CAVM message data set, taking account of the position of the active write cursor, and creates message blocks for copies of messages that have been read.

DFHWMS

Entry points

DFHWMSNA

Called by

Users of CAVM message services

Description

The CAVM message-manager service interface routine runs under the CICS TCB above the 16MB line. It builds a dummy CAVM process block, so that subsequent modules can run in an XRF LIFO environment, and calls DFHWMS20 to process a request passed by the caller.

DFHWMS20

Entry points

DFHWMS20

Description

The CAVM message manager services interface selects the request type and passes requests to DFHWMQP (PUTMSG, PUTREQ, PUTRSP) or DFHWMQG (GETMSG).

DFHWMWR

Entry points

DFHWMWR

Called by

DFHWMP1

Description

The CAVM message-manager message write routine takes data from PUTMSG requests and copies them into CI buffers to be written to the CAVM message data sets.

DFHWOS

Entry points

DFHWOSNA

Description

The overseer startup module loads DFHWOSA and passes control to it.

DFHWOSA

Entry points

DFHWOSNA

Called by

DFHWOS

Description

The overseer services initialization module processes control parameters, loads DFHWOSB, and sets up entry points for overseer services.

DFHWOSB

Entry points

DFHWOSNA

Called by

Overseer program

Description

The overseer service module processes requests from the overseer program which are issued by the DFHWOSM macro.

DFHWSRTR

Entry points

DFHWSMNA

Called by

DFHXRA, MVS after attach of new TCB

Description

The CAVM state-management request router and subtask entry point is the initial entry point for a CAVM task attached by DFHWSSN1 to process the CAVM SIGNON command. It calls DFHWSSN2 to continue the processing of the SIGNON request and, if it is accepted, calls DFHWDINA to attach the tick generator module DFHWSTI as the first and highest-priority CAVM process. It is called under the CICS TCB to queue the CAVM TAKEOVER command for processing by the CAVM task, and to initiate processing of the CAVM SIGNOFF command by detaching the CAVM task. DFHWSRTR is the initial entry point for MVS subtasks attached by the CAVM task to perform various functions, such as issuing requests for CSVC services, or formatting new CAVM data sets when they are used for the first time.

DFHWSSN1

Entry points

DFHWSSNA

Called by

DFHXRA

Description

DFHWSSN1 is the CAVM state management SIGNON initial entry point. The CICS task issues an MVS LINK, specifying load module DFHWSSON to perform a CAVM SIGNON request. DFHWSSN1 attaches the CAVM task to execute the request, waits to see if it is successful, detaches the task and, if it is not successful, reports the result to CICS.

DFHWSSN2

Entry points

DFHWSSN2

Called by

DFHWSRTR

Description

The CAVM state management SIGNON request handler is entered under the CAVM TCB to process a CAVM SIGNON request. It allocates storage for, and initializes, key CAVM control blocks, sets up DFHWSSOF as an ESTAE exit, calls DFHWSSN3 to OPEN the CAVM data sets, reads the state management record from the control data set, uses the JES inquire-job-status CSVC service provided by DFHWTI, and looks for surveillance signals from other CAVM users to check whether the environment is such that the requested SIGNON can be accepted. It prompts the operator for job status information if necessary. If SIGNON is accepted, it updates the state management record and status CIs to record that this job has signed on to the CAVM. When possible, it also cleans up out-of-date information in the CAVM data sets left behind by jobs that were unable to sign off properly before terminating.

DFHWSSN3

Entry points

DFHWSSN3

Called by

DFHWSSN2

Description

The CAVM state management data set initialization routine builds ACBs, and opens and validates the CAVM control and message data sets for CAVM SIGNON. It builds the reserve parameter list for serializing accesses to the control data set. If new CAVM data sets are being used for the first time, it attaches an MVS subtask to record relevant information in each data set's control interval, and to format the CIs needed by state management.

DFHWSSOF

Entry points

DFHWSSOF

Called by

MVS recovery/termination manager

Description

DFHWSSOF is the CAVM state management SIGNOFF request handler. During SIGNON processing, this module is established as an ESTAE exit for the CAVM task. It purges outstanding I/O requests, reads the state management record from the control data set, and searches it to see if this job has signed on to the CAVM. If so, it updates the status CI and state management record to indicate that the job has signed off. It makes the TAKEOVER message available to DFHWSRTR when an active system signs off after takeover has started.

DFHWSSR

Entry points

DFHWSSR

Called by

DFHWDISP

Description

The CAVM surveillance status reader runs as a process controlled by the XRF dispatcher, DFHWDISP. It reads the status CI of the partner system from the control data set or the message data set, generates internal CAVM events, and drives the NOTIFY exit when the partner’s status changes, or its surveillance signals cease. For an alternate system, it monitors and records the time-of-day clock difference when the active system is running in a different CEC.

DFHWSSW

Entry points

DFHWSSW

Called by

DFHWDISP

Description

The CAVM surveillance status writer runs as a CAVM process controlled by the CAVM dispatcher, DFHWDISP. It writes a system’s current status to its status CI in the control data set, or the message data set, to make it available to its partner and to provide a surveillance signal; generates an internal CAVM event when a status write completes; and puts the current time-of-day clock reading in the status CI to permit DFHWSSR to deduce the time-of-day clock difference when the active system and the alternate system are running in different CECs.

DFHWSTI

Entry points

DFHWSTI

Called by

DFHWDISP

Description

The CAVM surveillance tick generator and CICS status monitor runs as a CAVM process controlled by the CAVM dispatcher DFHWDISP. It issues an MVS STIMER for the surveillance interval and, when this expires, generates an internal CAVM clock-tick event, calls the inquire-CICS-status exit, and schedules the surveillance status writer processes, to cause a surveillance signal reporting this system’s current status to be written to the control data set or the message data set.

DFHWSTKV

Entry points

DFHWSTKV

Called by

DFHWDISP

Description

The CAVM state management TAKEOVER request handler runs as a CAVM process controlled by the CAVM dispatcher DFHWDISP. When a new active SIGNON has been detected, it reads the state management record from the control data set and attaches an MVS subtask to invoke DFHWTI's validate-CLT CSVC service. When a TAKEOVER command has been issued, it reads the state management record, validates the TAKEOVER request, and attaches an MVS subtask to use DFHWTI's JES inquire-job-status service to determine the current state of the active system.

If the active system is still signed on to CAVM, it updates the state management record to indicate that a takeover is in progress, places the TAKEOVER message for the active system in the alternate system's status, and attaches an MVS subtask to invoke DFHWTI's TAKEOVER-initiate service.

After the active system has signed off (or terminated), it requests DFHWSSR to read the active system's final status, quiesces surveillance processing, and updates the state management record and status CIs to indicate the stage reached by takeover. It then arranges for surveillance processing to be resumed in active mode. It attaches an MVS subtask to invoke DFHWTI's process-CLT CSVC service if necessary.

When the active system has finally terminated, it updates the state management record to take its place as the new active system, generates internal CAVM events, and calls the NOTIFY exit to report the progress of the TAKEOVER request, including acceptability of the time-of-day clock reading. It terminates by returning to DFHWDISP.

DFHWSXPI

Entry points

DFHWSXPI

Called by

DFHWSTI

Description

The CAVM state management CAVM process initialization runs under the tick generator CAVM process towards the end of SIGNON. It attaches the TAKEOVER CAVM process (alternate systems only), two status writer CAVM processes, and two status reader CAVM processes, and then calls the CAVM message management initialization module.

DFHWTI

Entry points

DFHWTINA

Called by

DFHCSVC from: DFHWSSN2, DFHWSTKV, DFHZXSTS

Description

Takeover initiation is the primary function of this module, and is requested by CAVM state management at takeover to terminate the CICS active system issue commands in the CLT, and wait until the CICS active system terminates. Other XRF services provided by this module are to determine whether a job is running, to issue the operator commands for the overseer program, to issue MODIFY USERVAR to VTAM, to validate the CLT, and to process the CLT.

DFHWTRP

Entry points

DFHWTRP

Called by

Many CAVM modules

Description

DFHWTRP makes a trace entry in the CAVM main-memory trace table.

DFHXCP

Entry points

DFHXCPNA

Called by

DFHKCP

Description

DFHXCP processes DFHKC CANCEL, CHAP, RESUME, SUSPEND, and WAIT macro calls to the transaction manager.

DFHXCPC

Entry points

DFHXCPC

Called by

DFHKCP

Description

DFHXCPC processes DFHKC ATTACH, CHANGE, DEQ, DEQALL, ENQ, and SRB macro calls to the transaction manager. It receives DFHKC INITIALIZE, REPLACE, and WAITINIT macro calls to the transaction manager and passes them on to DFHKCQ.

DFHXCP1

Entry points

DFHXCP1

Called by

DFHXCPC

Description

DFHXCP1 finds a new range of free transaction numbers when the current range has been used up.

DFHXFP

Entry points

DFHXFPNA

Called by

DFHISP, DFHMIRS

Description

The online data transformation program takes data addressed from a parameter list (command-level or DL/I), and constructs an FMH suitable for transmission to a remote ISC or MRO system; DFHXFP also performs the reverse transformation.

DFHXFQ

Entry points

DFHXFQNA

Called by

DFHXEPRH

Description

The batch data transformation program executes in an EXCI region. DFHXFQ takes data addressed from a DPL parameter list and constructs an FMH suitable for passing to the online region; DFHXFQ also performs the reverse transformation.

DFHXFX

Entry points

DFHXFXNA

Called by

DFHISP, DFHMIRS

Description

DFHXFX performs the same logical transformations of function shipping requests as DFHXFP but in a manner that is optimized for the MRO environment. It is not used for the transformation of DL/I requests; these are processed by DFHXFP.

DFHXRA

Entry points

DFHXRANA

Called by

DFHAPDM, DFHCSSC, DFHCXCU, DFHDBCR, DFHDBCT, DFHSIC1, DFHSII1, DFHSTP, DFHTCRP, DFHTDRP, DFHXRCP, DFHXRSP, DFHZNAC, DFHZOPN, DFHZSLS

Description

DFHXRA is the program that executes the DFHXR macro. It runs under the CICS TCB in AMODE(24). In general, it uses CICS macros to invoke other services. Exceptions are MVS LINK to DFHWSSON to sign on to the CAVM, and MVS LOAD and DELETE for DFHWSMS to sign off from the CAVM, and to initiate takeover. It invokes global user exit XXRSTAT, which can lead to the abend 208.

DFHXRB

Entry points

DFHXRBNA

Called by

DFHWDSRP, DFHWMQH, DFHWMRD, DFHWSSR, DFHWSTKV

Description

DFHXRB is the XRF notify exit program. Its address is passed to the CAVM when CICS signs on to the CAVM. It runs under the CAVM TCB in AMODE(31); reacts to events detected by various CAVM modules; and creates a queue of work elements (chained from XRWECHN) to be processed by DFHXRSP.

DFHXRC

Entry points

DFHXRCNA

Called by

DFHWSSN2, DFHWSTI

Description

DFHXRC is the CICS-status exit program. Its address is passed to the CAVM when CICS signs on to the CAVM. It runs under the CAVM TCB in AMODE(31), and returns the latest CICS-status data to be written to the state management data set.

DFHXRCP

Entry points

DFHXRCNA

Description

The XRF console communication task runs under the CICS TCB in AMODE(24). It processes MODIFY commands received by CICS during initialization of the alternate system. It initiates takeover, shuts down the active system, and manages trace and dump as required.

DFHXRE

Entry points

DFHXRENA

Called by

DFHPCP

Description

The XRF startup program is the entry point for the system task attached by DFHXRA. It links to DFHXRE, whichever module was indicated by DFHXRA.

DFHXRP

Entry points

DFHXRANA

Called by

Not applicable

Description

DFHXRP consists of six object modules link-edited together:

```
DFHXRA - XRF request processor
DFHXRB - XRF NOTIFY exit program
DFHXRC - XRF inquire status exit program
DFHXRE - XRF startup program
DFHXRF - XRF CAVM sign-off interface
DFHWMS - CAVM message manager service interface.
```

It is loaded by DFHSIB1.

DFHXRSP

Entry points

DFHXRSNA

Called by

DFHXRA

Description

DFHXRSP is the XRF surveillance program, which runs as a program under a CICS transaction. It runs under the CICS TCB in AMODE(31); processes the queue of work elements created by DFHXRB; attaches the catch-up transaction CXCU, initiates takeover, and shuts down CICS as required; and can issue abends 206 and 207.

DFHXSMN

Entry points

DFHXSMNA

Called by

DFHBSTS, DFHCRNP, DFHDLIDP, DFHDLIRP, DFHEDFP, DFHEIPSE, DFHSII1, DFHSUSN, DFHSUXS, DFHTACP, DFHZSUP

Description

The security manager is invoked by the DFHSEC macro, and provides an interface to the external security manager (ESM). DFHXSMN validates the parameters passed, then calls DFHXSMX as a general-purpose subroutine to invoke the ESM.

DFHXSMX

Entry points

DFHXSMNA

Called by

DFHXSMN

Description

DFHXSMX is the subroutine used by the security manager to invoke the external security manager (ESM). For resource checking, this routine first issues the MVS RACROUTE REQUEST=FASTAUTH macro, which calls the ESM in problem state. All other security functions require the caller to be in supervisor state. For these functions, and for a failed FASTAUTH call that requires logging, the CICS SVC is issued under a general purpose subtask, entered by the DFHSK macro, to shield the main CICS task from any imbedded waits that may occur in the ESM.

DFHXSS

Entry points

DFHXSSNA

Called by

DFHCSVC

Description

DFHXSS invokes the external security manager (ESM) for all functions that need to be invoked while authorized, except for the EXTRACT functions for which it passes control to DFHXSSB.

DFHXSSB

Entry points

DFHXSSB

Called by

DFHXSS

Description

This module extracts data from the ESM's database. DFHXSSB extracts userid-related data at signon time, and session key information at LU6.2 session bind time. It uses the MVS RACROUTE REQUEST=EXTRACT macro.

DFHXSWM

Entry points

DFHXSWM

Called by

DFHXSMN

Description

DFHXSWM passes and retrieves messages to and from the XRF alternate system to see if security initialization is required in the XRF environment.

DFHXTCI

Entry points

DFHXTCI

Description

DFHXTCI is the transaction invoked when the alternate system begins a takeover. It examines the TCT to locate the terminals with XRF backup sessions, and queues these TCTTEs to DFHZSES for the SESSIONC CONTROL=SWITCH command.

DFHXTP

Entry points

DFHXTPNA

Called by

DFHTPS, DFHZTSP, DFHZXRL, DFHZXRT

Description

The terminal sharing transformation program comprises four logical modules (known as transformers 1 through 4). DFHXTP transforms routing requests into the LU type 6 format for shipping to a remote CICS address space.

DFHZABD

Entry points

DFHZABD1

Called by

TC CTYPE= requests

Description

If a TC CTYPE request is issued when ZCP has been generated without VTAM support, DFHZABD is invoked to abend the transaction.

DFHZACT

Entry points

DFHZACT1

Called by

DFHZDSP

Description

The activate scan routine scans the four TCTTE activity queues: activate, log, wait, and NACP. DFHZACT scans the activate queue for request bits that may be set in the TCTTEs; for each request, DFHZACT calls the appropriate module. If no requests are outstanding, the TCTTE is removed from the queue. If the NACP queue is not empty, DFHZACT attaches DFHZNAC (if not already attached). Similarly, if the log queue is not empty, DFHZACT attaches DFHZRLG. DFHZACT scans the wait queue. If automatic resource definition is in the system, DFHZACT looks for any corresponding work elements. For each work element, DFHZATA is attached.

DFHZAIT

Entry points

DFHZAIT1

Called by

DFHSIF1

Description

The attach initialization tables routine initializes local tables used by the mainline task-attach routine, DFHZATT. DFHZAIT generates the page command table from information supplied by the system initialization table, modifying it for use by DFHZATT. DFHZAIT also initializes the transaction code delimiter table.

DFHZAND

Entry points

DFHZAND1

Called by

DFHZARQ

Description

The abend control block builder is used to assist in building the transaction abend block when an abend has occurred in an interconnected system. Its function is to extract the error sense bytes, and the diagnostic message sent by the other system, and to copy these into the block. As an initial step in its processing, DFHZAND acquires storage for the block itself.

DFHZARER

Entry points

DFHZARER

Called by

DFHZARL, DFHZARR, DFHZARRA

Description

DFHZARER tidies up after an LU6.2 protocol error or session failure has been detected. For some errors, it calls DFHZNAC.

DFHZARL

Entry points

DFHZARL1

Called by

DFHACP, DFHCPCBA, DFHCPCLC, DFHCRS, DFHEGL, DFHETL, DFHLUP, DFHXFP, DFHXTP, DFHZARL, DFHZARM, DFHZERH, DFHZISP, DFHZLUS, DFHZSUP, DFHZTSP, DFHZXRL, DFHZXRT

Description

DFHZARL is called via the DFHLUC macro, which passes the LU6.2 request in a parameter list mapped by the DFHLUCDS DSECT. If the request is for a remote APPC device, DFHZARL passes the parameter list to DFHZXRL for processing. (APPC is advanced program-to-program communication.) Otherwise, it examines the parameter list to determine the function required. Most functions are processed by DFHZARL. However, it calls the following modules as indicated:

```
DFHZARER - Protocol errors and exceptions
DFHZARR  - RECEIVE requests
DFHZARRA - FREE-STORE requests
DFHZERH  - Handling FMH7s and negative responses
DFHZISP  - ALLOCATE and FREE requests
DFHZRVL  - Receiving SNA indicators from VTAM
DFHZSDL  - Sending data to VTAM.
```

It also manages the logical receive buffer pointers TCTERBLA and TCTERBLL in a consistent manner with the physical receive buffer pointers TCTERBA and TCTERBDL, as (address, length) pairs.

DFHZARM

Entry points

DFHZARM1

Called by

DFHZARQ, DFHETL, DFHZISP

Description

DFHZARM handles DFHTC macros for LU6.2 sessions.

DFHZARQ

Entry points

DFHZARQ1

Called by

DFHETC, DFHTC macro

Description

The application request interface module analyzes the terminal control request from the application. For a VTAM terminal, it sets the appropriate flags and calls the required module or adds the TCTTE to the activate chain.

DFHZARR

Entry points

DFHZARR

Called by

DFHZARL

Description

DFHZARR controls the receive function for LU6.2 application requests. It calls DFHZARRC to decide what to process next, or whether it is necessary to call its inline subroutine DFHZARR1 to receive more data. Then it processes the returned item, and decides whether the receive is complete. If the receive is not complete, DFHZARR loops, calling DFHZARRC and processing the returned item, until enough data has been received. DFHZARR uses the inline subroutine DFHZARR0 and the DFHZARRA module to control various receive buffers. It also uses DFHZARRF to receive FMH7s and negative responses, DFHZUSR to control the conversation state, and the inline subroutine DFHZARR1 to handle the type of receive and how much data is to be received.

DFHZARR0 is responsible for updating the logical buffer pointers TCTERBLA and TCTERBLL, shifting up data in the LU6.2 receive buffer, and resetting associated indicators, for example, TCTECCDR in the TCTTE LUC extension.

DFHZARR1 is responsible for setting fields TCTEMINL and TCTEMAXL in the TCTTE LUC extension to inform DFHZRVL how much data to receive and whether the request is a receive immediate or a receive and wait. DFHZARR1 calls DFHZARR0 to shift up data in the LU6.2 receive buffer, and then calls DFHZRVL to receive RUs from VTAM by placing requests on the active chain.

DFHZARRA

Entry points

DFHZARRA

Called by

DFHZARL, DFHZARR

Description

DFHZARRA controls all functions concerned with the LU6.2 application receive buffer. These include GETMAIN and FREEMAIN of buffers, copying data into a buffer, and updating the pointer to the next free slot.

DFHZARRC

Entry points

DFHZARRC

Called by

DFHZARR

Description

DFHZARRC is responsible for examining what has been received from VTAM on a particular session (for example, data, PS headers, FMH7s, and indicators), and for deciding what should be processed next on behalf of the application. The result is returned to DFHZARR.

DFHZARRF

Entry points

DFHZARRF

Called by

DFHZARR

Description

DFHZARRF receives LU6.2 FMH7s and negative responses. It calls the DFHZARR0 subroutine to shift up data in the LU6.2 receive buffer, and then calls DFHZERH.

DFHZASX

Entry points

DFHZASX1

Called by

VTAM

Description

The asynchronous command exit module is called by VTAM if an asynchronous command is received. The only such commands are request shutdown, quiesce at end of chain, release quiesce, and signal. DFHZASX sets up the TCTTE appropriately and returns control to VTAM.

DFHZATA

Entry points

DFHZATA

Called by

DFHZACT

Description

The autoinstall program runs as the CATA transaction and performs operations necessary to INSTALL autoinstallable terminals. It requests information from a user program where appropriate.

DFHZATD

Entry points

DFHZATD

Called by

DFHZACT, DFHZNAC

Description

The autoinstall delete program runs as the CATD transaction and performs operations necessary to DELETE autoinstalled terminals. It requests information from a user program where appropriate.

DFHZATDX

Entry points

DFHZATDX

Called by

DFHZATA, DFHZATD

Description

DFHZATDX is the user program for autoinstall. It is called when:
- An autoinstall INSTALL is in progress
- An autoinstall DELETE has just completed
- An autoinstall INSTALL has failed.

For INSTALL, DFHZATDX selects a model name and the corresponding TRMIDNT to be used by the terminal control builder program (DFHTBSxx). This program can be used as a model for a user program.

DFHZATI

Entry points

DFHZATI1

Called by

DFHZACT

Description

The automatic task initiation module checks for stress conditions, calls DFHZSIM if the node is not in session, acquires an RPL if necessary, and issues a conditional DFHKC TYPE=AVAIL macro. DFHZATI initiates bid protocols to decide whether the LU is available.

DFHZATMD

Entry points

DFHZATMD

Called by

DFHZATMF

Description

This program deletes all remote terminal definitions that are flagged (by DFHZATMF) for deletion.

DFHZATMF

Entry points

DFHZATMF

Called by

Description

This program flags remote terminals for Mass-deletion (by DFHZATMD). It is a part of the transaction routing component, and is started to flag all skeletons that have been unused for more than the terminal latency period for deletion.

DFHZATR

Entry points

DFHZATR

Called by

DFHZATR, DFHZXRE0

Description

The autoinstall restart program runs as the CATR transaction at CICS startup after the time period specified in the AIRDELAY parameter. DFHZATR scans all autoinstalled terminals, and causes the CATD transaction to be called to delete any autoinstalled terminals that have not been used during the AIRDELAY interval.

DFHZATS

Entry points

DFHZATS

Called by

DFHZTSP, DFHCRS

Description

The remote autoinstall program runs as the following four transactions:

CITS The remote autoinstall function that is attached by DFHZTSP.

CDTS The remote delete function that is attached by DFHZTSP or DFHCRS.

CFTS The remote reset function that flags terminals for mass deletion after a CICS restart and is attached by DFHZTSP or DFHCRS.

CMTS The mass delete function of remote terminals that is attached by DFHZATS transaction CFTS if it finds any terminals for deletion.

DFHZATT

Entry points

DFHZATT1

Called by

DFHZACT

Description

The task attach module checks for stress conditions, allocates an RPL if necessary, and determines the task to be attached either from the data, or from the TCTTE (if the previous transaction specified TRANID), or from the AID (for a 3270). DFHZATT also checks for paging commands (having been modified by DFHZAIT). Finally a conditional ATTACH is issued. The module is applicable for VTAM, SRL, and MVS console support.

DFHZBAN

Entry points

DFHZBAN

Called by

DFHZOPN

Description

The terminal control bind analysis program checks that a bind is valid and supportable and, if requested, sets the TCTTE information that supports the session parameters.

DFHZBKT

Entry points

DFHZBKT1

Called by

DFHZSDL, DFHZSLX, DFHZRLX, DFHZLUS

Description

DFHZBKT maintains the bracket state for LU6.2.

DFHZBLX

Entry points

DFHZBLX

Called by

DFHZSCX

Description

DFHZBLX is the part of of SCIP exit which processes LU6.2 binds. It matches a TCTTE to the BIND and schedules DFHZOPN to complete the BIND process. This module returns to VTAM.

DFHZCA

Entry points

DFHZCANA

Called by

See component submodules

Description

DFHZCA is the name of the load module created when the following modules are link-edited together:

```
DFHZACT  - Activate scan
DFHZFRE  - FREEMAIN request
DFHZGET  - GETMAIN request
DFHZQUE  - Chaining
DFHZRST  - RESETSR.
```

DFHZCB

Entry points

DFHZCBNA

Called by

See component submodules

Description

DFHZCB is the name of the load module created when the following modules are link-edited together:

DFHZATI
: Automatic task initiation

DFHZDET
: Task detach

DFHZHPSR
: HPO send/receive

DFHZLRP
: Logical record presentation

DFHZRAC
: Receive-any completion

DFHZRAS
: Receive-any slowdown processing

DFHZRVS
: Receive specific

DFHZRVX
: Receive specific exit

DFHZSDR
: Send response

DFHZSDS
: Send DFSYN

DFHZSDX
: Send DFSYN data exit

DFHZSSX
: Send DFSYN exit

DFHZUIX
: User input exit

DFHZCC

Entry points

DFHZCCNA

Called by

See component submodules

Description

DFHZCC is the name of the load module created when the following modules are link-edited together:

DFHZARER
: LU6.2 protocol error and exception handler

DFHZARL
: LU6.2 application request logic

DFHZARM
: LU6.2 migration logic

DFHZARR
: LU6.2 application receive request logic

DFHZARRA
: LU6.2 application receive buffer support

DFHZARRC
: LU6.2 classify what next to receive

DFHZARRF
: LU6.2 receive FMH7 and ER1

DFHZBKT
: LU6.2 bracket state machine

DFHZCHS
: LU6.2 chain state machine

DFHZCNT
: LU6.2 contention state machine

DFHZCRT
: LU6.2 RPL_B state machine

DFHZRLP
: LU6.2 post-VTAM receive logic

DFHZRLX
: LU6.2 receive exit program

DFHZRVL
: LU6.2 pre-VTAM receive logic

DFHZSDL
: LU6.2 send logic

DFHZSLX
: LU6.2 send exit program

DFHZSTAP
: MRO or LU6.2 conversation state determination

DFHZUSR
: LU6.2 conversation state machine

DFHZCHS

Entry points

DFHZCHS1

Called by

DFHZRLX, DFHZSDL, DFHZSLX

Description

DFHZCHS maintains the chain state for LU6.2.

DFHZCLS

Entry points

DFHZCLS1

Called by

DFHZACT

Description

The close destination module obtains an RPL if necessary, issues CLSDST to VTAM, and checks if it was accepted. The CLSDST exit handles the completion of the request. DFHZCLS performs a normal closedown procedure according to the LU type (for example, LU6 sends SBI and BIS). In the case of an abnormal closedown, DFHZCLS performs immediate termination, using CLSDST or TERMSESS commands. If the terminal was automatically defined, it is put out of service.

DFHZCLX

Entry points

DFHZCLX1

Called by

VTAM

Description

The close destination exit module receives control from VTAM when a CLSDST or TERMSESS request completes. If the CLSDST or TERMSESS was successful, DFHZCLX cleans up TCTTE and returns to VTAM; otherwise it enqueues the TCTTE to DFHZNAC and then returns to VTAM.

DFHZCNA

Entry points

DFHZCNA1

Called by

DFHZDSP

Description

The system console activity control program is responsible for CICS system requests. It performs the following functions:

- Shutdown—when all other access method terminals have been quiesced, quiesces console support, allowing CICS to terminate.
- Resume—resumes tasks waiting on read request when they are completed.
- Detach—releases all TIOAs associated with a completed task.

- Attach—passes the data associated with a MODIFY command (in a TIOA attached to a console TCTTE) to DFHZATT to create a task.
- ATI—determines whether a console TCTTE is available for automatic task initiation.

DFHZCNR

Entry points

DFHZCNR1

Called by

DFHZARQ

Description

The system console application request program performs READ, WRITE, and CONVERSE operations to an MVS system console that is used as a terminal.

DFHZCNT

Entry points

DFHZCNT1

Called by

DFHZLUS, DFHZRLX

Description

DFHZCNT maintains the contention state for LU6.2.

DFHZCP

Entry points

DFHZCPNA

Called by

See component submodules

Description

DFHZCP is the name of the load module created when the following modules are link-edited together:

```
DFHZARQ  - Application request handler
DFHZATT  - Attach routine
DFHZCNA  - System console activity control
DFHZDSP  - Dispatcher
DFHZISP  - Allocate/free/point routine
DFHZSUP  - Startup task
DFHZUCT  - 3270 uppercase translation.
```

DFHZCQ

Entry points

DFHZCQ

Called by

DFHAMTP, DFHCRS, DFHQRY, DFHTCRP, DFHWKP, DFHZATA, DFHZATD, DFHZTSP, DFHZXCU

Description

DFHZCQ is the control program for all requests for the dynamic add and delete of terminal control table entries. It is called by resource definition online (RDO) to:

- Cold start group lists
- Cold or warm start nonmigrated VTAM resources
- Dynamically install using the CEDA transaction.

The main subroutines of DFHZCQ are:

```
DFHZCQCH - Catalog a TCT element
DFHZCQDL - Delete
DFHZCQIN - Initialize DFHZCQ
DFHZCQIQ - Inquire about TCTTE
DFHZCQIS - Install TCTTE
DFHZCQIT - Add macro-generated TCTTE
DFHZCQRS - Restore ZC resource.
```

DFHZCQDL

Entry points

DFHZCQDL

Called by

DFHZCQ00, DFHZNAC, RDO

Description

DFHZCQDL dynamically deletes a TCT entry when the entry is quiesced. This module is part of DFHZCQ.

DFHZCQIN

Entry points

DFHZCQIN

Called by

DFHTCRP

Description

DFHZCQIN initializes DFHZCQ for all its operations. This module is part of DFHZCQ.

DFHZCQIQ

Entry points

DFHZCQIQ

Called by

DFHZTSP

Description

DFHZCQIQ obtains the parameters for a TCT resource and is called by DFHZTSP in the terminal-owning node as part of the process of shipping a TCT definition to a remote system. This module is part of DFHZCQ.

DFHZCQIS

Entry points

DFHZCQIS

Description

DFHZCQIS installs a TCTTE. If the resource already exists, the old resource is deleted.

DFHZCQIT

Entry points

DFHZCQIT

Description

DFHZCQIT adds a macro-generated TCTTE to a CICS system.

DFHZCQRS

Entry points

DFHZCQRS

Description

During emergency restart or warm start, DFHTCRP restores terminal control resources to the state they were in before the last shutdown of CICS, using the restart data set.

DFHZCRQ

Entry points

DFHZCRQ1

Called by

TC CTYPE requests

Description

The CTYPE request module analyzes DFHTC CTYPE commands, and calls or links to the appropriate send module.

DFHZCRT

Entry points

DFHZCRT1

Called by

DFHZACT, DFHZARL, DFHZFRE, DFHZNAC, DFHZRAC, DFHZRLP, DFHZRVL, DFHZSDL, DFHZSHU, DFHZSTU, DFHZTPX

Description

DFHZCRT maintains the RPL_B state for LU6.2.

DFHZCUT

Entry points

DFHZCUT

Called by

DFHCSSC, DFHLUP, DFHSNAT, DFHTCPLR

Description

DFHZCUT manages the persistent verification signed-on-from list, also known as the local userid table (LUIT). There is one LUIT per connection supporting persistent verification.

DFHZCW

Entry points

DFHZCWNA

Called by

See component submodules

Description

DFHZCW is the name of the load module created when the following modules are link-edited together:

```
DFHZERH  - LU6.2 error program
DFHZEV1  - LU6.2 BIND security
DFHZEV2  - LU6.2 BIND security
DFHZLUS  - LU6.2 session management program.
```

DFHZCX

Entry points

DFHZCXNA

Called by

See component submodules

Description

DFHZCX is the name of the load module created when the following modules are link-edited together:

```
DFHZABD  - Abend routine for incorrect requests
DFHZAND  - Build TACB before issuing PC abends
DFHZCNR  - System console application request
DFHZIS1  - ISC or IRC syncpoint
DFHZIS2  - IRC internal requests
DFHZLOC  - Locate TCTTE and ATI requests
DFHZSTU  - Terminal control status change.
```

DFHZCXR

Entry points

DFHZCXRA

Called by

See component submodules

Description

DFHZCXR is the generic name allocated to a composite module that is not called by any other code. It includes the following transaction-routing related modules:

```
DFHZTSP  - Terminal-sharing program
DFHZXRL  - Routes LU6.2 commands to TOR
DFHZXRT  - Receives LU6.2 commands from AOR.
```

DFHZCY

Entry points

DFHZCYNA

Called by

See component submodules

Description

DFHZCY is the name of the load module created when the following modules are link-edited together:

DFHZASX
DFASY exit

DFHZDST
SNA-ASCII translation

DFHZLEX
LERAD exit

DFHZLGX
LOGON exit

DFHZLTX
LOSTERM exit

DFHZNSP
Network services exit

DFHZOPA
Open VTAM ACB

DFHZRRX
Release request exit

DFHZRSY
Resynchronization

DFHZSAX
Send synchronous command exit

DFHZSCX
SESSION control input exit

DFHZSDA
Send synchronous command

DFHZSES
SESSIONC

DFHZSEX
SESSIONC exit

DFHZSHU
Shutdown VTAM

DFHZSIM
SIMLOGON

DFHZSIX
SIMLOGON exit

DFHZSKR
Send response to command

DFHZSLS
Set logon start

DFHZSYN
Handle CTYPE=SYNC or CTYPE=RECOVER request

DFHZSYX
SYNAD exit

DFHZTPX
TPEND exit

DFHZTRA
Create ZCP or VIO trace requests

DFHZXRC
XRF session state data analysis

DFHZCZ

Entry points

DFHZCZNA

Called by

See component submodules

Description

DFHZCZ is the name of the load module created when the following modules are link-edited together:

```
DFHZCLS  - CLSDST
DFHZCLX  - CLSDST exit
DFHZCRQ  - Command request
DFHZEMW  - Error message writer
DFHZOPN  - OPNDST
DFHZOPX  - OPNDST exit
DFHZRAQ  - Read-ahead queuing
DFHZRAR  - Read-ahead retrieval
DFHZTAX  - Turnaround exit.
```

DFHZDET

Entry points

DFHZDET1

Called by

DFHZACT, DFHZISP

Description

The task detach module receives control when a detach request is issued by DFHZISP. If a WRITE is pending (deferred write or any write), the SEND routine is called. If the SEND cannot complete, the DETACH request is left on the activate queue. If requests are queued then DFHZACT drives DFHZDET when the operation is complete. If the node is in between bracket state, an end bracket is sent.

DFHZDSP

Entry points

DFHZDSP1

Called by

DFHSII1

Description

The dispatcher module handles the dispatching of modules for execution, and gives control to VTAM modules of ZCP using DFHZACT.

DFHZDST

Entry points

DFHZDST1

Called by

DFHZRVX, DFHZSDS

Description

The data stream translator module translates data between EBCDIC and ASCII code while that data is being sent and received on VTAM sessions.

DFHZEMW

Entry points

DFHZEMW1

Called by

DFHACP, DFHZDET, DFHZNAC, DFHZRAC

Description

The error message writer module handles all requests for error messages on VTAM supported terminals/LUs. According to the request flags, it:

- Sends a negative response
- Purges unprocessed inbound data until EOC or CANCEL is received
- Sends an error message.

DFHZERH

Entry points

DFHZERH1

Called by

DFHZARL, DFHZARRF

Description

DFHZERH handles the sending and receiving of LU6.2 FMH7s and negative responses. It also manages the logical receive buffer pointers TCTERBLA and TCTERBLL in a consistent manner with the physical receive buffer pointers TCTERBA and TCTERBDL, as (address, length) pairs.

DFHZEV1

Entry points

DFHZEV11

Description

DFHZEV1 is the LU6.2 bind-time security encryption validation program, part 1.

DFHZEV2

Entry points

DFHZEV21

Description

DFHZEV2 is the LU6.2 bind-time security encryption validation program, part 2.

DFHZFRE

Entry points

DFHZFRE1

Called by

DFHZACT, DFHZEMW, DFHZCLS, DFHZCLX

Description

The FREEMAIN module is used to free storage (RPLs, NIBs, bind areas, TIOAs, buffer lists, LUC send/receive buffers, and extract logon data) acquired by ZC modules. Some storage is also freed by other ZC modules.

DFHZGET

Entry points

DFHZGET1

Called by

DFHZACT, DFHZARL, DFHZATI, DFHZATT, DFHZCLS, DFHZISP, DFHZOPN, DFHZRAC, DFHZRST, DFHZRSY, DFHZRVL, DFHZRVS, DFHZSDA, DFHZSDL, DFHZSDR, DFHZSDS, DFHZSES, DFHZSKR

Description

The GETMAIN module is used to acquire an RPL, NIB, bind area, TIOA, buffer list, or LUC send/receive buffer. DFHZGET also sets up the dynamic NIB using the information in the NIB descriptor block. Normally, when a ZC module requires some of the above storage, it invokes DFHZGET to obtain the storage; if this is unsuccessful, it may queue the request, and then DFHZACT calls DFHZGET on behalf of the caller.

DFHZHPRX

Entry points

DFHZHPNA

Called by

DFHKCSP (via DFHZHPSR and DFHKCP)

Description

In authorized path SRB mode, DFHZHPRX issues VTAM EXECRPL.

DFHZHPSR

Entry points

DFHZHPS1

Called by

DFHZRVS, DFHZSDS

Description

DFHZHPSR is the SEND and RECEIVE module for the HPO environment.

DFHZISP

Entry points

DFHZISP1

Called by

DFHISP, DFHKCP

Description

The intersystem program services ISC requests to free, or point to, a particular TCTTE within a specified system, or to allocate a TCTTE within a specified system. DFHZISP also handles ATI requests, and checks for a terminal time-out.

DFHZIS1

Entry points

DFHZIS11

Description

DFHZIS1 handles the transmissions control CTYPE requests of Prepare, Syncpoint Request (SPR), Commit, and Abort. Each request is translated into the appropriate ISC/IRC action and is transmitted to the connected system.

DFHZIS2

Entry points

DFHZIS21

Called by

DFHZARQ, DFHZIS1

Description

The intersystem program provides services for CICS system code that wants to use intersystem or interregion (IRC) function requests:

RECEIVE
: Is invoked when DFHCRNP gets input data as a result of a 'switch first' SVC request.

IOR
: The IRC input/output routine. This interfaces with the IRC SVC in order to send data to the other end of the connection, or await data from there.

GETDATA
: Is used to fetch input data into a TIOA.

DISCONNECT
: Disconnects a given IRC link.

STOP
: Quiesces interregion activity, either for connections to a given system, or for the whole of IRC.

LOGOFF
: Issues a logoff request to the IRC SVC. This completes IRC activity for this CICS system.

OPERATIVE
: Allows connections to be made to a given system.

RECABRT
: processes input abend FMHs (FMH07).

DFHZLEX

Entry points

DFHZLEX1

Called by

VTAM

Description

The logical error address (LERAD) exit module receives control from VTAM when a logical error is detected. Logical errors are usually the result of an incorrectly defined terminal table.

DFHZLGX

Entry points

DFHZLGX1

Called by

VTAM

Description

The logon exit module receives control from VTAM when a terminal logs on to the network. DFHZLGX scans the CICS NIBs and, if a match is found, sets an OPNDST request in the corresponding TCTTE and places it on the activate queue. If no match is found, DFHZLGX defines a terminal automatically, if possible, by allocating an autodefine work element which holds the CINIT_RU. The work element is then queued for activate scan processing. Otherwise, a dummy TCTTE is placed on the NACP queue to write an error message.

DFHZLOC

Entry points

DFHZLOC1

Called by

DFHTC CTYPE=LOCATE

Description

The locate module provides two functions:
- Locates specific TCTTEs, TCTSEs, and SESSIONs in the TCT
- Locates LDC information.

DFHZLRP

Entry points

DFHZLRP1

Called by

DFHZARQ, DFHZSUP

Description

The logical record presentation module handles deblocking of input data. The delimiters that are recognized are new line (NL), interchange record separator (IRS), and transparent (TRN). One logical record is returned for each DFHTC TYPE=READ request.

DFHZLTX

Entry points

DFHZLTX1

Called by

VTAM

Description

The lost terminal (LOSTERM) exit module receives control when VTAM detects a loss of contact with a node. There are three possible return codes set by VTAM on entry to this routine:

node lost, recovery in progress
: The terminal is placed out of service with no further action taken.

node lost, recovery successful
: The TCTTE is queued to the NACP queue with a 'successful' error code set; NACP issues a CLSDST, schedules a SIMLOGON, and issues an information message.

node lost, no recovery or unsuccessful recovery
: The TCTTE is queued to the NACP queue with an 'unsuccessful' error code set; NACP issues a CLSDST and also the appropriate message.

DFHZLUS

Entry points

DFHZLUS1

Description

DFHZLUS handles session management for LU6.2 sessions.

DFHZNAC

Entry points

DFHZNANA

Called by

DFHZACT

Description

The node abnormal condition program is attached by DFHZACT when an error in communication with a logical unit occurs. DFHZNAC performs the following functions:

- Analyzes abnormal conditions
- Sends appropriate messages to the CSNE transient data destination
- Invokes the user-supplied (or sample) node error program
- Takes the appropriate actions resulting from the defaults which may have been modified by the node error program.

DFHZNAC consists of the following copybooks:

```
DFHZNCA  - Primary error action table and exits
DFHZNCE  - Take action routine
DFHZNCS  - Sense decode routine
DFHZNCV  - VTAM return code routine.
```

DFHZNEP

Entry points

DFHZNENA

Called by

DFHZNAC

Description

The user-replaceable node error program provides:

- A general environment within which it is easy for users to add their own error processors
- Fundamental error recovery actions for a VTAM 3270 network
- The default NEP where the user selects a NEP at system initialization.

DFHZNSP

Entry points

DFHZNSP1

Called by

VTAM

Description

The network service program is invoked when VTAM detects a network service error; for example, when attempting to connect two nodes together, or when the link between two nodes is broken unexpectedly. This module receives control from the VTAM NSEXIT.

DFHZOPA

Entry points

DFHZOPA1

Called by

DFHEIQVT

Description

The open VTAM ACB module is invoked by DFHEIQVT when the master terminal command VTAM OPEN is issued. The ACB is opened and DFHZSLS is called to accept logon requests.

DFHZOPN

Entry points

DFHZOPN1

Called by

DFHZACT

Description

The open destination module acquires storage for an RPL and NIB and BIND areas if the TCTTE does not have these resources already, and sets up the BIND image if required. DFHZOPN then issues a VTAM OPNDST macro (or OPNSEC macro if secondary, to respond to an incoming BIND) to establish a session between CICS and the remote LU.

DFHZOPX

Entry points

DFHZOPX1

Called by

VTAM

Description

The open destination exit module receives control from VTAM on completion of the OPNDST macro in DFHZOPN. If the OPNDST was successful, it indicates in the TCTTE that SDT (start data transfer) is to be sent and checks whether a “good morning” message should be triggered. It then returns to VTAM.

DFHZQUE

Entry points

DFHZQUE1

Called by

All ZCP exits called by VTAM, DFHTCQUE macro

Description

The queue manipulation module processes all requests to add or remove a TCTTE to or from a ZCP activate queue. Additions to the activate queue made by mainline modules use compare-and-swap (CS), because an exit routine may also be adding to the queue asynchronously.

DFHZRAC

Entry points

DFHZRAC1

Called by

DFHZDSP

Description

The receive-any completion module processes the completion of receive-any requests, sets up the TIOA to be passed to attach, and reissues the RECEIVE_ANY macro.

DFHZRAQ

Entry points

DFHZRAQ1

Called by

DFHZARQ, DFHZSYN

Description

The read-ahead queuing module is used to save the inbound data stream in temporary storage when an interlock is caused by both the host and the terminal wanting to send data at the same time.

DFHZRAR

Entry points

DFHZRAR1

Called by

DFHZARQ

Description

The read-ahead retrieval module is called to retrieve data previously saved in temporary storage by DFHZRAQ.

DFHZRAS

Entry points

DFHZRAS1

Called by

DFHZRAC

Description

The receive-any slowdown processing module issues RECEIVE SPEC NQs on LU6.2 sessions for connections and modegroups for which there are ALLOCATE requests queued. This is only done on sessions considered most likely to lead to freeing a "flooding" situation that occurred when LU6.2 connections were reestablished after a failure.

DFHZRLG

Entry points

DFHZRLNA

Called by

DFHZACT

Description

The response logger program logs responses received for protected data sent to an APB. DFHZRLG processes TCTTEs on the log queue when attached by DFHZACT.

DFHZRLP

Entry points

DFHZRLP1

Called by

DFHZDSP

Description

DFHZRLP handles the completion of LU6.2 RECEIVE requests, using the receive RPL addressed by field TCTERPLB in the TCTTE LUC extension. It also manages the logical receive buffer pointers TCTERBLA and TCTERBLL in a consistent manner with the physical receive buffer pointers TCTERBA and TCTERBDL, as (address, length) pairs.

DFHZRLX

Entry points

DFHZRLX1

Called by

VTAM

Description

DFHZRLX is a VTAM exit routine that queues the completed RPL for (post-VTAM) processing by DFHZRLP.

DFHZRRX

Entry points

DFHZRRX1

Called by

VTAM

Description

The release request exit module receives control from VTAM when another application program has requested connection to a terminal currently connected to CICS. If the terminal is not busy, a CLSDST request is queued to the activate chain. Otherwise the release request indicator is set and the request is processed later by module DFHZDET.

DFHZRSP

Entry points

DFHZRSNA

Description

The resynchronization send program performs 3614-dependent actions and is also used to retransmit committed output messages. The message is retrieved from temporary storage if necessary.

DFHZRST

Entry points

DFHZRST1

Called by

DFHZACT, DFHZATI, DFHZCRQ, DFHZDET, DFHZEMW, DFHZERH, DFHZNAC, DFHZRAC, DFHZRSY, DFHZSTU

Description

The RESETSR module changes the mode of a session with a terminal and cancels unsatisfied RECEIVE requests. The mode that is set can be Continue Any (CA) or Continue Specific (CS) and RTYPE=DFSYN, DFASY, or RESP.

DFHZRSY

Entry points

DFHZRSY1

Called by

DFHZACT

Description

The resynchronize module resynchronizes CICS and other nodes of the network. DFHZRSY checks whether inbound and outbound sequence numbers are valid.

DFHZRVL

Entry points

DFHZRVL1

Called by

DFHZARL, DFHZARRL

Description

DFHZRVL processes RECEIVE commands for LU6.2 sessions, using the receive RPL (RPL_B) addressed by field TCTERPLB in the TCTTE LUC extension. The processing state of the receive RPL is held in the RPL_B state machine field TCTERPBS, also in the TCTTE LUC extension.

DFHZRVS

Entry points

DFHZRVS1

Called by

DFHZACT

Description

The receive specific module initiates a DFSYN receive specific to obtain the next logical record from a node when a user application issues a RECEIVE command.

DFHZRVX

Entry points

DFHZRVX1

Called by

VTAM

Description

The receive specific exit module receives control from VTAM when a receive specific is completed. If the data received is too long for the TIOA provided, the overlength data flag is turned on in the TCTTE and the TCTTE is put back on the activate chain. Otherwise, the response is checked and marked in the TCTTE. The data length is set in the TIOA and the FMH is removed.

DFHZSAX

Entry points

DFHZSAX1

Called by

VTAM

Description

The send DFASY exit module receives control from VTAM when an asynchronous command has completed. It places the TCTTE on the NACP queue if recovery is needed.

DFHZSCX

Entry points

DFHZSCX1

Called by

VTAM

Description

The SCIP exit module is entered whenever the following asynchronous commands are received:

- Non-LU6.2 BIND (as secondary)
- UNBIND (as secondary)
- STSN (as secondary)
- Clear (as secondary)
- SDT (as secondary)
- Request recovery (as primary).

The module correlates BINDs to a TCTTE and schedules DFHZOPN to complete the BIND process. For the other commands, it takes appropriate action and then schedules DFHZNAC using the NACP queue. This module calls DFHZBLX to process LU6.2 binds.

DFHZSDA

Entry points

DFHZSDA1

Called by

DFHZACT, DFHZSDS

Description

The send data flow asynchronous module handles asynchronous command requests. It ensures that an RPL is allocated, primes the RPL for the requested command, and issues the VTAM asynchronous send macro.

DFHZSDL

Entry points

DFHZSDL1

Called by

DFHZARL

Description

DFHZSDL processes SEND commands for LU6.2 sessions, using the RPL addressed by field TCTERPLA in the TCTTE.

DFHZSDR

Entry points

DFHZSDR1

Called by

DFHZACT, DFHZCRQ, DFHZDET, DFHZRVS, DFHZSDA, DFHZSDS

Description

The send response module sends responses to nodes when a synchronization request for a terminal is made and a response is outstanding from a previous operation. If errors occur during task initiation, this module is responsible for the negative response.

DFHZSDS

Entry points

DFHZSDS1

Called by

DFHZACT, DFHZARQ, DFHZATI, DFHZATT, DFHZDET

Description

The send data synchronous module sets up and issues the appropriate VTAM send macro for requests of “send data” or an SNA synchronous command.

DFHZSDX

Entry points

DFHZSDX1

Called by

VTAM

Description

The send data synchronous exit module receives control from VTAM when a SEND request is complete. It checks the RPL for successful completion of the message sent and takes appropriate action.

DFHZSES

Entry points

DFHZSES1

Called by

DFHZACT, DFHZRSY

Description

The session control module is entered whenever a session control command is requested by CICS. It sets up and issues the VTAM SESSIONC command.

DFHZSEX

Entry points

DFHZSEX1

Called by

VTAM

Description

The SESSIONC exit module receives control from VTAM when a SESSIONC command has completed. If the command was successful, it turns off the corresponding flags and enqueues the TCTTE on the activate chain. If the completion was not successful, the TCTTE is placed on the NACP queue for recovery processing.

DFHZSHU

Entry points

DFHZSHU1

Called by

DFHZDSP

Description

The close VTAM ACB module is invoked whenever CICS and VTAM are being uncoupled. This may be as a result of DFHZTPX being driven as the result of a VTAM halt command or the issue of the master terminal command SET VTAM,CLOSE|IMMCLOSE. The status of all sessions is checked and, when all are inactive, the ACB is closed.

DFHZSIM

Entry points

DFHZSIM1

Called by

DFHZACT

Description

The simulate logon module is entered to issue a VTAM SIMLOGON or REQSESS (if secondary) request to place a node in session without the operator having to logon. LU6.2 can be selected by mode name.

DFHZSIX

Entry points

DFHZSIX1

Called by

VTAM

Description

Whenever a SIMLOGON or REQSESS command has been completed, this exit routine is scheduled by VTAM. On successful completion, it turns off the SIMLOGON requested flag and enqueues the TCTTE or TCTME on the activate chain or, if NACP is required, for NACP processing.

DFHZSKR

Entry points

DFHZSKR1

Called by

DFHZACT

Description

The send command response module sends responses to VTAM commands including response to BIND, STSN, and SDT. A positive or negative response can be sent. The module is for secondary LU support only.

DFHZSLS

Entry points

DFHZSLS1

Called by

DFHZDSP, DFHZOPA

Description

The SETLOGON start module issues SETLOGON to cause VTAM to accept automatic logon requests, and issues the initial RECEIVE ANYs for RPLs in the receive-any pool. DFHZSLS also examines the SIT to determine whether autodefine is used. If it is, the appropriate system initialization parameters are copied to the TCT prefix.

DFHZSLX

Entry points

DFHZSLX1

Called by

VTAM

Description

DFHZSLX is a VTAM exit routine that handles the completion of LU6.2 SEND requests.

DFHZSSX

Entry points

DFHZSSX1

Called by

VTAM

Description

The send data flow synchronous exit module receives control when the send of a DFSYN command has been completed.

DFHZSTAP

Entry points

DFHZSTA1

Called by

DFHEGL, DFHETC, DFHETL

Description

DFHZSTAP determines the state of an MRO or LU6.2 conversation from an application viewpoint.

DFHZSTU

Entry points

DFHZSTU1

Called by

DFHTC CTYPE=STATUS, DFHEIQMT, DFHEIQSC, DFHEIQST

Description

DFHZSTU changes the status of TCTTEs and TCTSEs. It can change the following statuses:
- Inservice
- Outservice
- Intlog | No intlog
- Page | Autopage
- ATI | NATI.

DFHZSUP

Entry points

DFHZSUP1

Called by

DFHKCP

Description

The startup task module is the entry point for all terminal-related tasks. DFHZSUP performs the following functions:
- Sets up the TCTTE status
- Performs security checking
- Performs logging of the TCTTE status and input TIOA
- Performs PCT option checking

- Passes control to transaction program, for example, user application, DFHACP, DFHAPRT.

DFHZSYN

Entry points

DFHZSYN1

Called by

DFHDBP

Description

DFHZSYN handles CTYPE=SYNC and RECOVER requests. For protected message support, DFHSPP issues CTYPE=SYNC to clear protected messages. For RECOVER requests, DFHZSYN ensures that no further I/O is issued to that session, and that UNBIND flows.

DFHZSYX

Entry points

DFHZSYX1

Called by

VTAM

Description

The SYNAD exit module receives control from VTAM when a catastrophic error is encountered. DFHZSYX determines the type of error and the appropriate action to be taken, and schedules NACP using the NACP queue to complete the recovery processing.

DFHZTAX

Entry points

DFHZTAX1

Called by

VTAM

Description

The turnaround exit module is called by VTAM on completion of the SEND operation initiated by DFHZRVS in order to perform a turnaround in flip-flop protocol.

DFHZTPX

Entry points

DFHZTPX1

Called by

VTAM

Description

The TPEND exit module receives control when VTAM is terminating. It schedules a CLSDST for each active session if quick shutdown is required, and sets bits in the TCT prefix so that DFHZSHU is invoked.

DFHZTRA

Entry points

DFHZTRA1

Called by

DFHZACT, DFHZDET, DFHZRAC, DFHZRLP, DFHZRVS, DFHZSDL, DFHZSDR, DFHZSDS

Description

DFHZTRA creates VIO trace entries.

DFHZTSP

Entry points

DFHZTSP1

Called by

DFHAPRT, DFHISP, DFHRTE, DFHTPS, DFHZARQ, DFHZCQ, DFHZSUP

Description

The terminal sharing program acquires a TCTTE for a link to a remote CICS address space, and transfers request data to that space. DFHZTSP also receives requests from the remote address space.

DFHZUCT

Entry points

DFHZUCT1

Called by

DFHAPRT, DFHZARQ, DFHZCNA, DFHZRAC, DFHZRVX, DFHZSUP

Description

The uppercase translate module converts a VTAM 3270 data stream into uppercase.

DFHZUIX

Entry points

DFHZUIX1

Called by

DFHZACT, DFHZRAC, DFHZRVX

Description

The user input exit module is called directly (by DFHZRAC) or indirectly (by DFHZRVX via DFHZACT) to link to the user's XZCIN exit.

DFHZUSR

Entry points

DFHZUSR1

Called by

DFHACP, DFHETL, DFHZARER, DFHZARL, DFHZARM, DFHZARR, DFHZARRF, DFHZERH, DFHZOPX, DFHZSTAP, DFHZSUP, DFHZUSR, DFHZXRL, DFHZXRT

Description

DFHZUSR maintains the conversation state for LU6.2.

DFHZXCU

Entry points

DFHZXCU

Description

The VTAM XRF catch-up program is used to send messages that allow a new alternate system to catch up with the current state of the active system for:
- TCT contents
- Bound/unbound state of sessions.

The program is invoked when a new alternate system signs on.

DFHZXQO

Entry points

DFHZXQO

Called by

DFHTCRP, DFHZXST

Description

The XRF ZCP tracking queue organizer allows pending XRF tracking activity to be stored in a way that honors interdependencies, while allowing such requests to be met as soon as all their prerequisites are fulfilled. This component consists of a data structure and accessing program that uses the CICS catalog key structure to identify all the actions for a single resource and the dependencies between them. Actions are put into the structure on receipt in DFHTCRP, and removed by DFHTCRP and at the end of DFHZNAC processing for standby BIND and CLSDST completion. The structure is freed at the end of DFHTCRP tracking.

DFHZXRC

Entry points

DFHZXRC1

Called by

DFHZACT

Description

DFHZXRC analyzes the data received in response to the SESSIONC CONTROL=SWITCH command. It determines the state of the session at the point when it was switched, and initiates the necessary action to clean up and recover the session.

DFHZXRE0

Entry points

DFHZXRE0

Called by

System

Description

DFHZXRE0 runs the CXRE transaction to perform autoconnect and XRF reconnect processing. It also starts the acquire process for terminals with flag TCTEXRE set.

DFHZXRL

Entry points

DFHZXRL1

Called by

DFHZARL, DFHZISP

Description

DFHZXRL is executed in an application-owning region. It routes LU6.2 commands to the terminal-owning region.

DFHZXRT

Entry points

DFHZXRT1

Called by

DFHZTSP

Description

DFHZXRT executes in a terminal-owning region. It receives LU6.2 commands from the application-owning region, and issues them to an APPC device.

DFHZXST

Entry points

DFHZXST

Called by

DFHETC, DFHSIJ1, DFHTCRP, DFHTCRPS, DFHZNAC, DFHZOPA, DFHZXCU

Description

XRF ZCP session-state tracking is called by:

- DFHZNAC for BIND/UNBIND completion in the active system, and for standby-BIND and UNBIND in the alternate system
- DFHETC for logon data freed in the active system
- DFHTCRPS to handle a tracking message
- DFHTCRP to terminate session tracking
- DFHZXCU for BIND/UNBIND catch-up in the active system
- DFHSIJ1 and DFHZOPA to issue a SETLOGON START command.

Part 5. Appendixes

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Other CICS publications

The following publications contain further information about CICS, but are not provided as part of CICS Transaction Server for z/OS, Version 4 Release 1.

Designing and Programming CICS Applications, SR23-9692

CICS Application Migration Aid Guide, SC33-0768

CICS Family: API Structure, SC33-1007

CICS Family: Client/Server Programming, SC33-1435

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CICS Family: General Information, GC33-0155

CICS 4.1 Sample Applications Guide, SC33-1173

CICS/ESA 3.3 XRF Guide , SC33-0661

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Accessibility features help a user who has a physical disability, such as restricted mobility or limited vision, to use software products successfully.

You can perform most tasks required to set up, run, and maintain your CICS system in one of these ways:
- using a 3270 emulator logged on to CICS
- using a 3270 emulator logged on to TSO
- using a 3270 emulator as an MVS system console

IBM Personal Communications provides 3270 emulation with accessibility features for people with disabilities. You can use this product to provide the accessibility features you need in your CICS system.

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