

CICS Transaction Server for z/OS
Version 4 Release 1



Upgrading from CICS TS Version 3.2

CICS Transaction Server for z/OS
Version 4 Release 1



Upgrading from CICS TS Version 3.2

Note

Before using this information and the product it supports, read the information in "Notices" on page 219.

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.

© **Copyright IBM Corporation 2001, 2012.**

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

Preface	vii
--------------------------	------------

Part 1. Changes to CICS externals 1

Chapter 1. Changes to installation procedures	3
--	----------

Release levels on INQUIRE SYSTEM command.	3
---	---

Chapter 2. Changes to system initialization parameters	5
---	----------

Changed system initialization parameters.	5
---	---

New system initialization parameters	6
--	---

Chapter 3. Changes to the EXEC CICS application programming interface	9
--	----------

Changed API commands	10
--------------------------------	----

New API commands	14
----------------------------	----

API commands that have been made threadsafe	15
---	----

Changes to rounding for ASKTIME, CONVERTTIME, and FORMATTIME commands	15
---	----

Chapter 4. Changes to the JCICS application programming interface.	17
---	-----------

Chapter 5. Changes to resource definitions	19
---	-----------

Changed resource definition attributes	19
--	----

New resource definitions and new attributes	22
---	----

New CICS-supplied resource definitions.	24
---	----

DFHEP	24
-----------------	----

DFHRL	24
-----------------	----

DFHRS	24
-----------------	----

DFHWEB2.	24
------------------	----

DFHWU	25
-----------------	----

Changes to control tables (macro resource definition).	25
--	----

Chapter 6. Changes to the system programming interface.	27
--	-----------

New options or values on SPI commands	27
---	----

Resource signature options added to INQUIRE SPI command.	41
--	----

New SPI commands	44
----------------------------	----

SPI commands that have been made threadsafe	48
---	----

Chapter 7. Changes to CEMT	49
---	-----------

Obsolete options on CEMT commands	49
---	----

Changed CEMT commands	49
---------------------------------	----

Resource signature options added to CEMT INQUIRE command	57
--	----

New CEMT commands	60
-----------------------------	----

Chapter 8. Changes to the CICS-supplied transactions	63
---	-----------

Changes to CEMN	63
---------------------------	----

Changes to CKQC	63
---------------------------	----

Changes to CRTE	64
---------------------------	----

New transaction CEPH	64
--------------------------------	----

New transaction CEPQ	65
--------------------------------	----

New transaction CEPT	65
--------------------------------	----

New transaction CWWU	65
--------------------------------	----

New transaction CW2A	65
--------------------------------	----

Chapter 9. Additions to CICS RACF category 1 transactions	67
--	-----------

Chapter 10. Changes to global user exits, task-related user exits, and the exit programming interface	69
--	-----------

Changes to the DFHUEPAR standard parameter list	69
---	----

Changes to global user exits.	69
---------------------------------------	----

New global user exit points	73
---------------------------------------	----

Changes to the exit programming interface (XPI)	74
---	----

Chapter 11. Changes to user-replaceable programs	77
---	-----------

Changed user-replaceable programs	77
---	----

Chapter 12. Changes to CICS utilities	79
--	-----------

Chapter 13. Changes to monitoring	83
--	-----------

New and changed monitoring data fields	83
--	----

Changes to the monitoring sample program DFH\$MOLS	91
--	----

Chapter 14. Changes to statistics	93
--	-----------

Chapter 15. Changes to sample programs	97
---	-----------

Chapter 16. Changes to problem determination.	99
--	-----------

Part 2. Upgrading CICS Transaction Server 101

Chapter 17. Upgrade procedures for all CICS regions	103
--	------------

Redefining and initializing the local and global catalogs	103
---	-----

Enabling z/OS conversion services	103
---	-----

Upgrading the CSD for CICS-supplied and other IBM-supplied resource definitions	104
---	-----

Upgrading user-modified CICS-supplied resource definitions	105	Chapter 28. Upgrading DB2 security support	147
Upgrading copies of CICS-supplied resource definitions	106	Chapter 29. Upgrading file definitions	149
CSD compatibility between different CICS releases	106		
Chapter 18. Upgrading application programs	109		
Chapter 19. Security updates to monitor RACF Event Notifications (ENF)	111	Part 3. Changes to CICSplex SM externals.	151
Chapter 20. Upgrading Business Transaction Services (BTS)	113	Chapter 30. Changes to CICSplex SM installation and definition	153
Chapter 21. Migrating to IPv6 addressing	115	New and changed CICSplex SM WUI server initialization parameters	153
Chapter 22. Upgrading IP interconnectivity (IPIC)	117	Change to Common Work Area size for a CMAS	153
Communicating over IPIC with different levels of CICS	117	Change to EYUJXBTP JCL procedure	153
Chapter 23. Upgrading multiregion operation (MRO)	119	Removal of SEYUMLIB, SEYUPLIB and SEYUTLIB libraries	153
Chapter 24. Upgrading the Java environment	121	Change to generic alert structures used by CICSplex SM	153
Key changes to CICS support for Java applications	122	Chapter 31. Changes to CICSplex SM views and resource tables.	155
Changes to options in JVM profiles	123	Changed CICSplex SM views and resource tables	155
Changes to class paths in JVM profiles	123	New CICSplex SM views and resource tables.	161
Changes to class paths in JVM profiles: shareable application class path	124	New Business Application Services definition objects.	163
Upgrading from IBM SDK for z/OS, Java Technology Edition, Version 1.4.2 to Version 6	124	Chapter 32. Changes to CICSplex SM transactions	165
Upgrading from IBM SDK for z/OS, Java Technology Edition, Version 5 to Version 6	128	New CICSplex SM transactions	165
Upgrading from IBM SDK for z/OS, Java Technology Edition, Version 6.0.0 to Version 6.0.1	132	Changed Web User Interface control transaction (COVC)	165
Chapter 25. Upgrading the CICS-WebSphere MQ connection	135	Chapter 33. Programs that connect to a previous release of CICSplex SM	167
Possible application behavior changes for CICS-WebSphere MQ connection	138		
Upgrading your application for CICS-WebSphere MQ connection	139	Part 4. Upgrading CICSplex SM	169
Chapter 26. Upgrading CICS Web support applications	141	Chapter 34. Conditions for running CICSplex SM Version 4.1 and earlier releases concurrently.	171
Upgrading Atom feeds from SupportPac CA8K	141	Chapter 35. Upgrading a CMAS.	173
Chapter 27. Upgrading CICS Web services.	145	Chapter 36. Upgrading a Web User Interface server	175
Migrating from the SOAP for CICS feature	145	Phased upgrade scenario for Web User Interface servers	175
		Upgrading the contents of the Web User Interface server repository (EYUWREP).	176
		Chapter 37. Upgrading a MAS	179
		Chapter 38. Upgrading CICSplex SM workload management	181

**Chapter 39. Upgrading CICSplex SM
API programs 183**

**Part 5. Changes to CICS
messages and codes 185**

Chapter 40. Deleted messages 187

Chapter 41. Changed messages 189

Chapter 42. New messages 193

Chapter 43. New abend codes 213

Chapter 44. Deleted abend codes. 215

Part 6. Appendixes 217

Notices 219
Trademarks 220

Bibliography. 221
CICS books for CICS Transaction Server for z/OS 221
CICSplex SM books for CICS Transaction Server
for z/OS 222
Other CICS publications. 222

Accessibility. 223

Index 225

Preface

This information is about upgrading to CICS® Transaction Server for z/OS®, Version 4 Release 1. This information set provides the relevant information for users who are upgrading from CICS Transaction Server for z/OS, Version 3 Release 2.

If you are upgrading from an older release, select the information set for the release from which you are upgrading. The information sets for older releases include additional information about changes that took place in the intervening releases.

Note: The oldest release for which information about upgrading is provided with CICS Transaction Server for z/OS, Version 4 Release 1 is CICS Transaction Server for z/OS, Version 2 Release 3. If you are upgrading from a release of CICS earlier than this, you are recommended to read the information about upgrading and about changes to functions that was provided in the documentation for any additional intervening releases.

In releases before CICS Transaction Server for z/OS, Version 4 Release 1, the information about upgrading from previous releases to the current release of CICS Transaction Server was called the Migration Guide. Although the term “migrate” was used in the CICS documentation to refer to the process of replacing an older release of CICS with a newer release, the industry-standard term for this process is “upgrade”, so the CICS documentation has been changed to use this term. “Migrate” is now used only to refer to the processes of moving data or applications to a different program or environment, or of moving from the use of one function or interface in CICS to the use of a different function or interface.

The information about upgrading is designed to tell you about:

- Any changes to the installation process for the product.
- New, changed and obsolete externals of the product, such as commands and messages.
- Tasks that you perform to upgrade from your previous release of the product, to the new release, so that the applications that ran under your previous release can continue to run under the new release at an equivalent level of function. Some tasks apply to all users, and some apply only if your applications use a particular function, such as support for Java.
- Tasks that you perform if you want to enable new functions that are available in this release, or change your existing system settings or applications to use the new functions.

This information assumes that you are familiar with CICS and CICSplex® System Manager, either as a systems administrator, or as a system or application programmer. You should also have read about the new function in this release of CICS Transaction Server as described in the *CICS Transaction Server for z/OS What's New*.

Notes on terminology

CICS refers to the CICS element of CICS Transaction Server for z/OS.

CICS TS, unless stated otherwise, refers to the release of CICS Transaction Server for z/OS to which you are upgrading.

CICSplex SM refers to the CICSplex System Manager element of CICS Transaction Server for z/OS.

MVS™ is sometimes used for the operating system, the Base Control Program (BCP) element of z/OS.

Part 1. Changes to CICS externals

CICS externals, such as resource definitions and programming interfaces, have changed to support the changes in function for this CICS release. Read these topics to check which changes might affect your system.

Chapter 1. Changes to installation procedures

When you upgrade to CICS Transaction Server for z/OS, Version 4 Release 1, note these changes to the installation process and important new requirements.

You can install this release of CICS Transaction Server using the SMP/E RECEIVE, APPLY, and ACCEPT commands. Use the SMP/E dialogs to accomplish the SMP/E installation steps. The process meets IBM® Corporate Standards and might be familiar to you if you have installed other z/OS products.

The DFHISTAR process for installing CICS Transaction Server is still available if you prefer it.

The *CICS Transaction Server for z/OS Installation Guide* has information about all the processes for installing CICS Transaction Server.

To fully support the extended z/Architecture MVS linkage improvements, the following APARs are required:

PK71900 is a Language Environment APAR for z/OS 1.9 and z/OS 1.10

PK85446 is a Communications Server APAR for z/OS 1.9 and z/OS 1.10

Authorization routines

In z/OS, do not install SVCs or PC routines that return control to their caller in any authorized mode: that is, in supervisor state, system PSW key, or APF-authorized. Doing so is contrary to the z/OS Statement of Integrity (http://www.ibm.com/systems/z/os/zos/features/racf/zos_integrity_statement.html).

If you invoke such services from CICS, you might compromise your system integrity, and any resultant problems will not be resolved by IBM Service.

Release levels on INQUIRE SYSTEM command

You use the **EXEC CICS INQUIRE SYSTEM CICSTSLEVEL** command to determine the version and release number of CICS. Use the **EXEC CICS INQUIRE SYSTEM OSLEVEL** command to determine the level of z/OS.

To ensure compatibility with previous releases, the CICS base element maintains its own level (identification) number. Each time new function is added to CICS and shipped with the CICS Transaction Server product, the CICS level number is incremented.

The CICS level number in CICS TS 4.1 is 0660. This number is returned in the RELEASE parameter of the INQUIRE SYSTEM command.

The level number also appears in the alternative decimal form 6.6 in output from offline utilities such as statistics and dump formatters to identify the level of utility being used, and as the suffix in module names such as DFHPD660.

Chapter 2. Changes to system initialization parameters

In CICS Transaction Server for z/OS, Version 4 Release 1, new system initialization parameters are available, and you might find that some system initialization parameters that you used previously are now obsolete. Also, the scope, default, or range of possible values for some existing system initialization parameters has changed. You might need to make changes to your system initialization table or your CICS startup JCL because of these changes.

To upgrade with the changes to CICS system initialization parameters described in this section, follow these instructions.

Use the default system initialization table

The unsuffixed default system initialization table (DFHSIT) is supplied in the CICS SDFHAUTH library. You can use the default table to start a CICS region using the default values. CICS loads DFHSIT by default if your JCL does not contain a SIT parameter.

Override defaults using the SYSIN data set

To override default values, specify system initialization parameters in a permanent member of a SYSIN data set. You can vary these during testing by changing the data set member, avoiding the need to reassemble suffixed system initialization tables. Nearly all system initialization parameters entered at run time are used even on a warm start. The main exceptions are the FCT and CSD parameters.

Defining and installing the global catalog record key

Global catalogue keys have increased in length by 24 bytes. Define a 52-byte global catalog record key in the CLUSTER definition in DD statement for the global catalog.

Changed system initialization parameters

For some system initialization parameters, the default has changed, or the values that you can specify have changed, or the scope of the system initialization parameter has changed. You might need to modify your system initialization table or CICS startup JCL because of these changes.

INITPARM=(DFHMQPRM='SN=*queue manager name*,IQ=*initiation queue name*')

You can no longer use the INITPARM system initialization parameter with a DFHMQPRM operand to specify a default WebSphere® MQ queue manager name and initiation queue name for the CICS-MQ connection. Instead, set up an MQCONN resource definition for the CICS region to provide these defaults. CICS issues a warning message if the DFHMQPRM operand is present on INITPARM when you start the CICS-MQ connection, and the settings are ignored. The INITPARM system initialization parameter itself is still valid with other operands.

JVMPROFILEDIR={/usr/lpp/cicsts/cicsts41/JVMProfiles|*directory*}

The default value for the JVMPROFILEDIR system initialization parameter now consists of the value of the new CICS_HOME system initialization parameter, followed by the subdirectory JVMProfiles. The default value for the CICS_HOME system initialization parameter is /usr/lpp/cicsts/cicsts41, so if that default value is used, the default value of JVMPROFILEDIR is /usr/lpp/cicsts/cicsts41/JVMProfiles.

MQCONN={NO|YES}

Specifying **MQCONN=YES** makes CICS start a connection to WebSphere MQ automatically during initialization. CICS no longer uses the **INITPARM** system initialization parameter to provide information for this process.

When you specify **MQCONN=YES**, the information that CICS needs to start the connection to WebSphere MQ, such as the name of a WebSphere MQ queue manager or queue-sharing group, is taken from the **MQCONN** resource definition for the CICS region.

An **MQCONN** resource definition must be installed before CICS can start the connection to WebSphere MQ. When you start the connection automatically at CICS initialization, for an initial or cold start, the **MQCONN** resource definition must be present in one of the groups named in the list or lists named by the **GRPLIST** system initialization parameter. For a warm or emergency start of CICS, the **MQCONN** resource definition must have been installed by the end of the previous CICS run.

PSTYPE={SNPS|MNPS|NOPS}

NOPS is a new option for this system initialization parameter.

If you do not require persistent sessions support, specify **NOPS**. A CICS region that is used only for development or testing might not require this support. Removing persistent sessions support where it is not required reduces resource consumption, and can enable you to increase the number of CICS regions in an LPAR. If you specify **NOPS**, a zero value is required for the **PSDINT** system initialization parameter.

USRDELAY={30|number}

If you specify a low value for the **USRDELAY** system initialization parameter to ensure that CICS quickly detects changes to RACF profiles, you might want to increase this value if your z/OS system is z/OS 1.11 or above, because from z/OS 1.11, CICS is notified immediately if RACF® profile changes occur. The primary impact of a high **USRDELAY** value is that the amount of storage used for RACF control blocks is increased.

New system initialization parameters

The default values for these parameters have minimal impact when you are upgrading from an earlier release of CICS.

New system initialization parameters added in CICS Transaction Server for z/OS, Version 4 Release 1

- The **USSHOME** system initialization parameter specifies the name and path of the root directory for CICS TS 4.1 files on z/OS UNIX.

USSHOME={/usr/lpp/cicsts/cicsts41/ | directory | NONE}

The value for the **USSHOME** system initialization parameter must match the directory that you specified for CICS TS 4.1 files on z/OS UNIX when you installed CICS using the **DFHISTAR** installation job. The default value for the **USSHOME** system initialization parameter is **/usr/lpp/cicsts/cicsts41**, which matches the default values for the **DFHISTAR** installation job.

If you changed any of the **TINDEX**, **PATHPREFIX**, or **USSDIR** parameters in the **DFHISTAR** installation job, you must specify a value for the **USSHOME** system initialization parameter to match the name and path that you specified for the root directory using those **DFHISTAR** parameters.

If you specify **USSHOME=NONE** instead of specifying a directory name, CICS does not use any default root directory in the UNIX System Services file system. In this case, some CICS functions that request data from this directory might produce unpredictable results.

- The **MNIDN** system initialization parameter specifies whether the monitoring identity class is to be made active during CICS initialization.

MNIDN={OFF|ON}

The monitoring identity class status is recorded in the CICS global catalog for use during warm and emergency restarts.

OFF Set identity monitoring class to not active.

ON Set identity monitoring class to active.

Chapter 3. Changes to the EXEC CICS application programming interface

CICS Transaction Server for z/OS, Version 4 Release 1 includes some new API commands to support new CICS functions, and some existing commands have changes to options and error conditions.

Program compatibility

CICS provides API compatibility from release to release. However, functional changes to some CICS components can affect some CICS API commands.

Except for the specific cases described in these topics, CICS Transaction Server provides compatibility with future releases, at source and object level, for all CICS application programs that are written to the CICS application programming interface and which run correctly under the previous release.

For information about CICS support for application programming languages, see the *CICS Transaction Server for z/OS What's New*.

Client basic authentication on WEB SEND commands

EXEC CICS WEB SEND(CLIENT) commands that do not use the **AUTHENTICATE** option will send authentication information to an HTTP server if the following statements are both true:

- The **AUTHENTICATE(BASIC)** attribute has been set on the **URIMAP** resource.
- The **XWBAUTH** global user exit is enabled.

They will send authentication information because, if a Web Services client wants to communicate with an HTTP server that requires authentication, the Web Services client provides the basic authentication information required by the HTTP server, by means of the **URIMAP** resource and the **XWBAUTH** global user exit. If you specify an authentication value on an API command, for example, **WEB SEND**, this value is used instead of the **AUTHENTICATE** value specified in the **URIMAP** resource. If you also specify a user ID and password in the command, the **XWBAUTH** global user exit is not called.

IPIC override for default connections

When a **START** or **CANCEL** command is sent, an **IPIC** connection is used, if available. The following rules apply:

- The **IPIC** connection, which is defined in the **IPCONN** resource, overrides any default **APPC** or **MRO** connections with the same name, which are defined in the **CONNECTION** resource.
- If you have not configured an **IPCONN** resource or the **IPCONN** is not acquired but is in service, a **CONNECTION** resource with the same name is used.
- If an **APPC** or **MRO** connection is used and the **CONNECTION** resource is not configured, the command is not sent.

Changed API commands

Some API commands are extended with new options or RESP2 values. Also, the usage of certain options on existing API commands has changed; check the new descriptions to ensure that you are using these options in the best way.

ASKTIME ABSTIME

The ABSTIME value that is returned by the **EXEC CICS ASKTIME** command is no longer rounded to the nearest 1/100 second. For more information, see “Changes to rounding for ASKTIME, CONVERTTIME, and FORMATTIME commands” on page 15.

CONVERTTIME

A new time format RFC 3339 is available:

RFC 3339 format

The XML dateTime datatype, specified in RFC 3339, which is taken from the ISO 8601 standard. An example of a date and time stamp in this format is "2003-04-01T10:01:02.498Z". Date and time stamps in this format are in UTC (Coordinated Universal Time, which differs only slightly from GMT), with the time zone offset (-12:00 to +12:00) indicated at the end of the date and time stamp, or the letter Z for a zero offset (+00:00). The decimal fraction of a second that is shown in the example is optional.

The command now converts all the supported time formats (not just RFC 1123 format) to local time for the ABSTIME that is returned. Also, the ABSTIME is no longer rounded to the nearest 1/100 second.

For more information about the change to rounding, see “Changes to rounding for ASKTIME, CONVERTTIME, and FORMATTIME commands” on page 15.

EXTRACT TCPIP

New client options, CLNTADDR6NU and CLNTIPFAMILY, and server options, SRVRADDR6NU and SRVRIPFAMILY, return IPv6 address information. Existing options CADDRLENGTH, CLIENTADDR, SADDRLENGTH, and SERVERADDR are updated to return IPv6 information.

CADDRLENGTH(*data-area*)

Returns the length of the buffer supplied on the CLIENTADDR option, and is set to the length of the data returned to the application. If the CLIENTADDR is an IPv6 address, you must set the buffer length of CADDRLENGTH to at least 39 characters. If the data exceeds the buffer length, a LENGERR condition is raised and the data is truncated.

CLIENTADDR(*data-area*)

Returns a buffer containing the IP address of the client. The IP address can be in IPv4 or IPv6 format. IPv4 addresses are returned as native IPv4 dotted decimal addresses; for example, 1.2.3.4 IPv6 addresses are returned as native IPv6 colon hexadecimal addresses; for example, ::a:b:c:d

For information on IP addresses, see the *CICS Internet Guide*.

CLNTADDR6NU(*data-area*)

Returns a 16-byte field containing the IPv6 address of the client in binary form. This option is returned only if the option CLNTIPFAMILY has a value of IPV6.

If the address is in IPv4 format, the address is returned in the CLNTADDRNU option and zeros are returned to CLNTADDR6NU.

CLNTIPFAMILY(*cvda*)

Returns the format of the IP address of the client. Here are the values:

IPV4 CLIENTADDR returns a dotted decimal IPv4 address and CLIENTADDRNU returns the IPv4 address in binary form.

IPV6 CLIENTADDR returns a colon hexadecimal IPv6 address and CLIENTADDR6NU returns the IPv6 address in binary form.

NOTAPPLIC

The source of the input has not been determined. 0.0.0.0 is returned.

SADDRLENGTH(*data-area*)

Returns the length of the buffer supplied on the SERVERADDR option, and is set to the length of the data returned to the application. If SERVERADDR is an IPv6 address, you must set the buffer length of SADDRLENGTH to at least 39 characters. If the data exceeds the buffer length, a LENGERR condition is raised and the data is truncated.

SERVERADDR(*data-area*)

Returns a buffer containing the IP address of the server. The IP address can be in IPv4 or IPv6 format. IPv4 addresses are returned as native IPv4 dotted decimal addresses, for example; 1.2.3.4. IPv6 addresses are returned as native IPv6 colon hexadecimal addresses; for example, ::a:b:c:d. If an error occurs, 0.0.0.0 is returned and the data is truncated.

SRVRADDR6NU(*data-area*)

Returns a 16-byte field containing the IPv6 address of the server in binary form. This option is returned only if the option SRVIPFAMILY has a value of IPV6. If the address is in IPv4 format, the address is returned in the SERVERADDRNU option and zeros are returned in SRVRADDR6NU.

SRVRIPFAMILY(*cvda*)

Returns the format of the IP address of the server. Here are the values:

IPV4 SERVERADDR returns a dotted decimal IPv4 address and SERVERADDRNU returns the IPv4 address in binary form.

IPV6 SERVERADDR returns a colon hexadecimal IPv6 address and SERVERADDR6NU returns the IPv6 address in binary form.

NOTAPPLIC

The source of the input has not been determined. 0.0.0.0 is returned.

FORMATTIME

A new time format RFC 3339 and a new MILLISECONDS option are available:

MILLISECONDS(*data-area*)

Returns the number of milliseconds in the current second specified by ABSTIME, as a binary integer in the range 0 - 999.

STRINGFORMAT(*cvda*)

Specifies the format for the architected date and time stamp string returned in DATESTRING.

RFC3339

Specifies the RFC 3339 format, also known as the XML dateTime datatype. This format is an implementation of the ISO 8601 standard, and it is suitable for Atom feeds. An example of a date and time stamp

| in this format is "2003-04-01T10:01:02.498Z". Date and time stamps in
| this format are in UTC (Coordinated Universal Time, which differs
| only slightly from GMT). This date and time stamp string contains the
| date and the 24-hour clock time, including a decimal fraction of the
| second. The decimal fraction of a second is optional in the
| specification, but the EXEC CICS FORMATTIME command always
| includes it. The time zone offset (-12:00 to +12:00) is indicated at the
| end of the date and time stamp, with the letter Z used for a zero offset
| (+00:00). The EXEC CICS FORMATTIME command always returns the
| time with a zero offset from UTC.

A formatted time that is returned by the **EXEC CICS FORMATTIME** command is no longer rounded up if the number of milliseconds is greater than 500. The time is now truncated, and the milliseconds value is available separately. For more information, see "Changes to rounding for ASKTIME, CONVERTTIME, and FORMATTIME commands" on page 15.

INVOKE WEBSERVICE

This command is deprecated. For all new Web service requester applications, use the **INVOKE SERVICE** command. The **INVOKE WEBSERVICE** command continues to work for all existing requester applications.

WEB EXTRACT and EXTRACT WEB

The **HOST** option is extended to support IPv6 addresses. A new option, **HOSTTYPE**, returns the format of the **HOST** option.

HOST (*data-area*)

For CICS as an HTTP server, **HOST** specifies a buffer to contain the host component of the URL, as specified either in the Host header field for the request or in the request line (if an absolute URI was used for the request). The port number is presented separately using the **PORTNUMBER** option.

For CICS as an HTTP client, with the **SESSTOKEN** option, **HOST** specifies a buffer to contain the host name of the server in the connection identified by the **SESSTOKEN** option. The port number is presented separately using the **PORTNUMBER** option.

| An IPv4 or IPv6 address can represent the host name. IPv4 addresses are
| returned as native IPv4 dotted decimal addresses; for example, 1.2.3.4. IPv6
| addresses are returned as native IPv6 colon hexadecimal addresses; for
| example, ::a:b:c:d

| For information on IP addresses, see the *CICS Internet Guide*.

HOSTTYPE (*cvda*)

Returns the address format of the **HOST** option. Here are the values:

HOSTNAME

The **HOST** option contains a character host name. The IP address that corresponds to the host name is looked up in the domain name server.

| **IPV4** The address is a dotted decimal IPv4 address.

| **IPV6** The address is a colon hexadecimal IPv6 address.

NOTAPPLIC

| An incorrect host address was returned (**HOST**=0.0.0.0).

WEB OPEN

The HOST option is extended to support IPv6 addresses.

HOST(*data-value*)

Specifies the host name on the server to which you want to connect. You can extract this information from a known URL using the WEB PARSE URL command, or from an existing URIMAP definition using the WEB EXTRACT URIMAP command. You can specify the URIMAP option to use this information directly from an existing URIMAP definition, in which case the HOST option is not required.

A character host name, IPv4 address, or IPv6 address can represent the host name. If you specify an IPv6 address (or a host name that resolves to an IPv6 address), ensure that you are operating in a dual-mode (IPv4 and IPv6) environment and that the client or server that you are communicating with is also operating in a dual-mode (IPv4 and IPv6) environment.

For more information on IPv6, see the *CICS Internet Guide*.

You can specify IPv4 and IPv6 addresses in a number of formats. For information on IP addresses, see the *CICS Internet Guide*.

If you require a port number, you must not include the port number as part of the HOST option. Use the PORTNUMBER option instead.

WEB PARSE URL

The HOST option is extended to support IPv6 addresses. A new option, HOSTTYPE, returns the format of the HOST option.

HOST(*data-area*)

Returns the host component of the URL. This value can be either a character host name or a numeric IP address. If a port number is specified explicitly in the URL, the port number is returned separately as the PORTNUMBER option.

An IPv4 or IPv6 address can represent the host name. IPv6 addresses are returned as native IPv6 colon hexadecimal addresses, for example, ::a:b:c:d. If you specify an IPv6 address in a URL, for example, http://[::a:b:c:d]:80, HOST returns the address without brackets.

Use the characters X'BA' and X'BB' (code page 37) to represent square brackets when you specify IPv6 addresses.

For information on IP addresses, see the *CICS Internet Guide*.

HOSTTYPE(*cvda*)

Returns the address format of the HOST option. Here are the values:

HOSTNAME

The HOST option contains a character host name. The IP address that corresponds to the host name is looked up in the domain name server.

IPV4 The address is a dotted decimal IPv4 address.

IPV6 The address is a colon hexadecimal IPv6 address.

WSACONTEXT BUILD and WSACONTEXT GET

The CICS translator now verifies that you have specified all of the required EPR options on the WSACONTEXT BUILD or WSACONTEXT GET command. If an application program specifies the EPRFROM, EPRSET, or EPRINTO option on a

| WSACONTEXT command but omits the EPRTYPE option, an empty
| WS-Addressing container is created. Alter, re-translate, and recompile any
| application programs that contain EXEC CICS WSACONTEXT commands with
| some, but not all, of the EPR options specified.

New API commands

CICS Transaction Server for z/OS, Version 4 Release 1 includes some new API commands that you can use to create application programs that use new CICS functions.

EXEC CICS BIF DIGEST

Calculate the SHA-1 digest of a string of data.

EXEC CICS INVOKE SERVICE

This command calls a service from a CICS application. The command specifies the name of a service or the CICS resource, such as a WEBSERVICE resource, that contains information about the service to be called.

EXEC CICS SIGNAL EVENT

Identify a place in an application program where one or more events could be emitted.

EXEC CICS TRANSFORM DATATOXML

Use the **TRANSFORM DATATOXML** command to convert application data to XML.

EXEC CICS TRANSFORM XMLTODATA

Use the **TRANSFORM XMLTODATA** command to convert XML to application data.

EXEC CICS WEB READ QUERYPARM

Read name and value pairs from a query string in a URL.

EXEC CICS WEB STARTBROWSE QUERYPARM

Start browsing query string data in a URL.

EXEC CICS WEB READNEXT QUERYPARM

Retrieve next name and value pair in query string data in a URL.

EXEC CICS WEB ENDBROWSE QUERYPARM

Finish browsing query string data in a URL.

EXEC CICS WSACONTEXT BUILD

Use the **WSACONTEXT BUILD** command to insert or replace WS-Addressing message addressing properties (MAPs) in the addressing context.

EXEC CICS WSACONTEXT DELETE

Use the **WSACONTEXT DELETE** command to delete the addressing context.

EXEC CICS WSACONTEXT GET

Use the **WSACONTEXT GET** command in a service provider to get the message addressing properties (MAPs) sent by the service requester. Use the **WSACONTEXT GET** command in a service requester to get the MAPs of the reply message.

EXEC CICS WSAEPR CREATE

Use the **WSAEPR CREATE** command to create an endpoint reference (EPR) to represent a Web service or Web service resource.

API commands that have been made threadsafe

These application programming interface commands were not threadsafe when they were first introduced in CICS, but they have now been made threadsafe.

API commands that were made threadsafe in CICS Transaction Server for z/OS, Version 4 Release 1

No existing API commands were made threadsafe in this release.

Changes to rounding for ASKTIME, CONVERTTIME, and FORMATTIME commands

Before CICS TS for z/OS, Version 4.1, ABSTIME values and formatted times returned by EXEC CICS commands were rounded up or down to the nearest hundredth of a second, but now they are always truncated, and the time is available in milliseconds. If you require the rounding behavior, you can code your application to perform rounding.

EXEC CICS ASKTIME ABSTIME

The ABSTIME value that is returned by the **EXEC CICS ASKTIME** command is no longer rounded to the nearest 1/100 second. The absolute time returned is the system time-of-day clock, adjusted for leap seconds and the local timezone offset, truncated to the millisecond, and returned as a packed decimal of length 8 bytes. It therefore represents the number of milliseconds since 00:00 on 1 January 1900 in the local timezone and adjusted for daylight saving time.

EXEC CICS CONVERTTIME

As for the **EXEC CICS ASKTIME** command, the ABSTIME value that is returned by the **EXEC CICS CONVERTTIME** command is no longer rounded to the nearest 1/100 second, but instead is truncated to the millisecond.

EXEC CICS FORMATTIME

Before CICS TS 4.1, the **EXEC CICS FORMATTIME** command rounded up a returned time if the number of milliseconds was greater than 500, except in the case where the ABSTIME argument contained a value representing the half-second before midnight, when no rounding was performed, and the TIME option returned 23:59:59. This rounding is no longer carried out, and the returned time (for example, with the TIME option) is given with the number of completed seconds. You can use the new MILLISECONDS option to obtain the number of milliseconds, and you can perform your own rounding if you need to replicate the former behavior of the command.

Chapter 4. Changes to the JCICS application programming interface

The JCICS application programming interface has new methods and other new elements to provide Java support for some of the new functions available through the EXEC CICS application programming interface.

The methods in the JCICS API do not map exactly to the functions available through the EXEC CICS API. For example, the function of a single EXEC CICS command might be provided by multiple JCICS methods, or some functions of an EXEC CICS command might not be supported by any JCICS method. This topic lists the changes to the JCICS API with the EXEC CICS commands that provide the same functions, but the JCICS method and EXEC CICS command do not necessarily provide equivalent functions.

To support functions that are provided by the EXEC CICS EXTRACT TCP/IP command, new JCICS methods are available in the `TcpipRequest` class, as follows:

```
com.ibm.cics.server.TcpipRequest.getClientHostAddress6()
com.ibm.cics.server.TcpipRequest.getServerHostAddress6()
com.ibm.cics.server.TcpipRequest.getClientIpFamily()
com.ibm.cics.server.TcpipRequest.getServerIpFamily()
```

To support functions that are provided by the EXEC CICS SIGNAL EVENT command, a new JCICS method is available in the `Event` and `EventErrorException` classes, as follows:

```
com.ibm.cics.server.Event
EventErrorException
```

To support functions that are provided by the EXEC CICS WEB EXTRACT command, a new JCICS method is available in the `HttpRequest` and `HttpSession` classes, as follows:

```
com.ibm.cics.server.HttpRequest.getHostType()
com.ibm.cics.server.HttpSession.getHostType()
```

To support functions that are provided by the EXEC CICS WEB READ QUERY/PARM command and the associated browsing commands, new JCICS methods are available in the `HttpRequest` class to read and browse query parameters, as follows:

```
com.ibm.cics.server.HttpRequest.getQueryParam()
com.ibm.cics.server.HttpRequest.startBrowseQueryParam()
com.ibm.cics.server.HttpRequest.getNextQueryParam()
com.ibm.cics.server.HttpRequest.endBrowseQueryParam()
```

Chapter 5. Changes to resource definitions

Changes to the resource definitions available in CICS relate to new, changed, or obsolete CICS functions. The changes might involve complete resource definitions or individual attributes. The resource definitions supplied by CICS have corresponding changes, which you can implement by running the UPGRADE function of the CSD utility program (DFHCSDUP).

IPIC override for default connections

If both an APPC or MRO connection (a CONNECTION resource definition) and an IPIC connection (an IPCONN resource definition) exist between two CICS regions, and both have the same name, the IPIC connection takes precedence. The following rules apply:

- The IPIC connection, which is defined in the IPCONN resource, overrides any default APPC or MRO connections with the same name, which are defined in the CONNECTION resource.
- If you have not configured an IPCONN resource or the IPCONN is not acquired but is in service, a CONNECTION resource with the same name is used.
- If an APPC or MRO connection is used and the CONNECTION resource is not configured, the command is not sent.

For more information about routing transactions between different levels of CICS using IPIC connections, see “Communicating over IPIC with different levels of CICS” on page 117.

For more information about all the new and changed resource definitions, see the *CICS Resource Definition Guide*.

Changed resource definition attributes

For some individual attributes of existing resource definitions, the values that you can specify have changed, or the scope of the attribute has changed. If you have resource definitions that use these attributes, check that the value you are using is still the best for your situation.

Resource definition attributes changed in CICS Transaction Server for z/OS, Version 4 Release 1

TERMINAL and TRANSACTION resource definitions: changed REMOTESYSTEM attribute The REMOTESYSTEM option of the TERMINAL and TRANSACTION resources now allows you to specify information about IP connections.

CORBASERVER resource definition: changed HOST attribute CORBASERVER has been extended to allow IPv6 addresses.

HOST (*hostname*)

Specifies the TCP/IP host name, or a string containing the dotted decimal IPv4 or colon hexadecimal IPv6 address, of this logical EJB/CORBA server.

Acceptable characters:

A-Z a-z 0-9 . -

The host name is included in Interoperable Object References (IORs) exported for objects in this logical server. Clients must use this host name to access the CICS listener regions.

If you are using connection optimization by means of Domain Name System (DNS) registration, to balance client connections across the listener regions of your logical IIOP or EJB server, specify the generic host name to be quoted by client connection requests. The generic host name is the DNSGROUP value defined in the TCPIPSERVICE resource definition, suffixed by the name of the domain or subdomain managed by the MVS system name server. This is established by your MVS TCP/IP system administrator. See *Java Applications in CICS* for more information about using DNS with IIOP and enterprise beans.

The HOST attribute must contain only alphanumeric characters, hyphens (-), colons (:), or periods (.), although you cannot use colons when specifying a character host name instead of an IP address. There are a number of acceptable formats when you specify IP addresses. See the *CICS Internet Guide* for more information on address formats.

If you specify an IPv6 address (or a host name that resolves to an IPv6 address), ensure that you are operating in a dual-mode (IPv4 and IPv6) environment and that the client or server that you are communicating with is also operating in a dual-mode (IPv4 and IPv6) environment. For more information on IPv6, see the *CICS Internet Guide*.

CICS validates the *hostname* at define time.

IPCONN resource definition: changed HOST attribute IPCONN has been extended to allow IPv6 addresses.

HOST (*hostname*)

Specifies the host name of the remote system or its IPv4 or IPv6 address. The name can be up to 116 characters long. You can specify IPv4 and IPv6 addresses in a number of acceptable formats. See the *CICS Internet Guide* for more information about address formats.

If you specify an IPv6 address (or a host name that resolves to an IPv6 address), ensure that you are operating in a dual-mode (IPv4 and IPv6) environment and that the client or server that you are communicating with is also operating in a dual-mode (IPv4 and IPv6) environment. For more information about IPv6, see the *CICS Internet Guide*.

The HOST attribute must contain only alphanumeric characters, hyphens (-), colons (:), or periods (.), although you cannot use colons when specifying a character host name instead of an IP address. CICS validates the host name at define time. The host name can be entered in upper, lower, or mixed case characters, but if a character host name is specified instead of an IP address, the host name is converted to lowercase in the IPCONN definition.

HOST is optional when the SENDCOUNT attribute is zero. HOST is a required attribute when SENDCOUNT is greater than zero.

URIMAP resource definition: changed HOST and PATH attributes URIMAP has been extended to allow IPv6 addresses to be specified on the HOST attribute. The HOST and PATH attributes of URIMAP definitions also now support IRIs (Internationalized Resource Identifiers), which permits the use of characters and formats that are suitable for national languages other than English.

- To accommodate the requirements of domain name servers, Web clients convert the host name in an IRI into a format called Punycode. If you want to use an IRI as the link for a Web resource or Atom feed that is served by CICS, in the URIMAP resource that defines the Web client's request to CICS, you must specify the host name in Punycode. CICS does not provide a tool to carry out this conversion, but free applications are available on the Internet to support the conversion of Unicode to Punycode. If you use an asterisk (*) instead of a specific host name, to make the URIMAP resource match any host name, you do not need to use Punycode.
- Web clients do not convert the path component of an IRI into Punycode, but they do escape, or percent-encode, Unicode characters in the path. If you are using an IRI for a Web resource that is served by CICS, in the URIMAP resource definition, you must percent-encode any Unicode characters in the path that you specify. If you do not have an application that can convert Unicode characters to percent-encoded representations, free applications are available on the Internet to perform this task.

HOST(*hostname* | *)

This attribute is for all USAGE options. Specifies the host name of the URI to which the URIMAP definition applies or its IPv4 or IPv6 address. The name can be up to 116 characters long. The components of a URL explains each of the components and how they are delimited.

The HOST attribute must be present. The HOST attribute must contain only alphanumeric characters, hyphens (-), colons (:), or periods (.), although you cannot use colons when specifying a character host name instead of an IP address. CICS validates the host name at define time. A host name can be entered in any case, but if a character host name is specified instead of an IP address, the host name is converted to lowercase in the URIMAP definition.

When you specify USAGE(SERVER), USAGE(PIPELINE), or USAGE(ATOM), a single asterisk can be used as the HOST attribute, making the URIMAP definition match any host name. An asterisk cannot be used as a wildcard in the HOST attribute along with any other characters.

URIMAP resources support Internationalized Resource Identifiers (IRIs), which can contain Unicode characters. If you specify a host name that contains Unicode characters, you must convert the host name to Punycode format, which is described by RFC 3492. CICS does not provide a tool to carry out this conversion, but free applications are available on the Internet to support the conversion of Unicode to Punycode. If you use an asterisk as the host name, you do not need to use Punycode. For more information about IRIs, see the *CICS Internet Guide*.

You can specify IPv4 and IPv6 addresses in a number of acceptable formats. See the *CICS Internet Guide* for more information about address formats.

If you are using a URIMAP definition relating to CICS as an HTTP client, USAGE(CLIENT), and you need to specify a port number in the request to the server, follow these guidelines:

- Use the PORT attribute to specify the port number. PORT replaces the use of the HOST attribute for specifying a port number.
- For compatibility purposes in existing programs using native IPv4 addresses and host names, you can use the HOST attribute when you specify the port number. Native IPv4 addresses and host names are the only formats in which you can specify the port number, together with a preceding colon; for example, 1.2.3.4:80 or hostname.com:443.

- If you specify an IPv6 address (or a host name that resolves to an IPv6 address), ensure that you are operating in a dual-mode (IPv4 and IPv6) environment and that the client or server that you are communicating with is also operating in a dual-mode (IPv4 and IPv6) environment. For more information on IPv6, see the *CICS Internet Guide*.
- For native IPv6 addresses, you must use the PORT attribute to specify the port number. IPv6 addresses require square brackets to separate the address from the port number, and, because square brackets are not fixed values in all EBCDIC character sets, square brackets are not supported in the HOST attribute.
- Specify the port number only if it is different from the default for the scheme; 80 for HTTP without SSL or 443 for HTTPS and HTTP with SSL.
- If you specify a port number in the HOST attribute and a different port number in the PORT attribute, an error is returned. If you do not specify a port number in either the HOST or the PORT attribute, the default port number for the scheme is used.

CICS validates the *hostname* at define time.

URIMAP resource definition: additional use for USAGE(CLIENT) Delivery of the HTTP EP adapter for event processing in CICS is supported by an additional use for the URIMAP resource definition. When using the HTTP EP adapter, you must specify a URIMAP with USAGE(CLIENT) in your URIMAP definition.

New resource definitions and new attributes

Some new resource definitions are available in CICS Transaction Server for z/OS, Version 4 Release 1, and some new individual attributes are added to existing resource definitions. You can use these new resource definitions and attributes to define support for new CICS functions.

New ATOMSERVICE resource definition

The new ATOMSERVICE resource defines an Atom service, feed, collection, or category document, and identifies the Atom configuration file, CICS resource or application program, and XML binding that are used to supply the data for the feed. For more information, see the *CICS Resource Definition Guide*.

New BUNDLE resource definition

The new BUNDLE resource defines the resources and artifacts associated with a bundle, which is a unit of deployment for an application. For more information, see the *CICS Resource Definition Guide*.

IPCONN resource definition: new IDPROP attribute

A new attribute, IDPROP, specifies whether the distributed identity is transmitted to the connected system by the sender. For more information, see the *CICS Resource Definition Guide*.

New JVMSERVER resource definition

The new JVMSERVER resource defines the runtime environment for a JVM server. For more information, see the *CICS Resource Definition Guide*.

New MQCONN resource definition

The new MQCONN resource definition defines the attributes of the connection between CICS and WebSphere MQ. Only one MQCONN resource definition can be installed at a time in a CICS region. You must install an MQCONN resource definition before you start the connection between CICS and WebSphere MQ. When you install an MQCONN resource definition that includes a setting for the INITQNAME attribute, CICS also installs an implicit MQINI resource definition. For more information, see the *CICS Resource Definition Guide*.

URIMAP resource definition: new ATOMSERVICE, AUTHENTICATE, and USAGE attributes

ATOMSERVICE (*name*)

This attribute is for USAGE(ATOM). When a client makes a request to CICS for an Atom feed using the URI specified by this URIMAP definition, ATOMSERVICE specifies the 1- to 8-character name of the ATOMSERVICE resource definition for the Atom feed. The ATOMSERVICE resource definition defines an Atom service, feed, collection, or category document, and identifies the Atom configuration file, CICS resource or application program, and XML binding that are used to supply the data for the feed.

Acceptable characters:

A-Z 0-9 \$ @ #

Unless you are using the CREATE command, any lowercase characters that you enter are converted to uppercase.

AUTHENTICATE ({**NO** | **BASIC**})

This attribute is for USAGE(CLIENT). Specifies whether to send HTTP basic authentication information from a Web Services requester to a Web Services provider using the global user exit, XWBAUTH. AUTHENTICATE(BASIC) is the only option that you can use to request that the XWBAUTH global user exit is run. If you specify an authentication value on an API command, for example, **WEB SEND**, this value is used instead of the AUTHENTICATE value specified in the URIMAP resource. If you also specify a user ID and password in the command, the XWBAUTH global user exit is not called.

USAGE ({**SERVER** | **CLIENT** | **PIPELINE** | **ATOM**})

Specifies whether this URIMAP definition is for CICS as an HTTP server (SERVER), CICS as an HTTP client (CLIENT), a Web service (PIPELINE), or an Atom feed (ATOM). The USAGE attribute governs which other attributes in the URIMAP definition can be used.

When you specify ATOM, you create a URIMAP definition for an Atom feed. This type of URIMAP definition is used for an incoming request for data that CICS makes available as an Atom feed. The URIMAP definition maps the request URI to an ATOMSERVICE resource definition, which defines an Atom document.

The attributes in the URIMAP resource definition that can be used for USAGE(ATOM) are ATOMSERVICE, GROUP, DESCRIPTION, STATUS, HOST (which can be specified as an asterisk), PATH, SCHEME, TCPIService, TRANSACTION, USERID, REDIRECTTYPE, and LOCATION. For the TRANSACTION attribute, the default alias transaction for USAGE(ATOM) is CW2A, which runs the Web 2.0 alias program DFHW2A.

New CICS-supplied resource definitions

New groups of CICS-supplied resource definitions are added to your CSD when you run the UPGRADE command.

DFHEP

The CICS-supplied group DFHEP, introduced in APAR PK94205 for CICS Transaction Server for z/OS, Version 4 Release 1, contains PROFILE definitions for event processing.

The group contains the following definitions:

PROGRAM definitions

DFHECEAH

TRANSACTION definition

CEPH

DFHRL

The CICS-supplied group DFHRL, introduced in CICS Transaction Server for z/OS, Version 4 Release 1, contains the resource definitions for application bundles support.

The group contains the following definitions:

PROGRAM definitions

DFHRLMF, DFHRLR, DFHRLSC, and DFHRLVC.

TRANSACTION definition

CRLR

DFHRS

The CICS-supplied group DFHRS, introduced in CICS Transaction Server for z/OS, Version 4 Release 1, contains the resource definitions for region status.

The group contains the following definition:

PROGRAM definition

DFHRSFDL

DFHWEB2

The CICS-supplied group DFHWEB2, introduced in CICS Transaction Server for z/OS, Version 4 Release 1, contains the resource definitions for Atom feed support.

The group contains:

PROGRAM definitions

DFHW2A

DFHW2ER

DFHW2FI

DFHW2FR

DFHW2TS

TRANSACTION definition

CW2A

DFHWU

The CICS-supplied group DFHWU, introduced in CICS Transaction Server for z/OS, Version 4 Release 1, contains the resource definitions for CMCI.

The group contains the following definitions:

PROGRAM definitions

DFHWUIPG, DFHWUIPI, DFHWUIP1, DFHWUIP2, DFHWUIP3, DFHWUIP4, DFHWUIP5, and DFHWUIP6

TRANSACTION definition

CWWU

DOCTEMPLATE definitions

DFHWUIPI, DFHWUIP1, DFHWUIP2, DFHWUIP3, DFHWUIP4, DFHWUIP5 and DFHWUIP6

Changes to control tables (macro resource definition)

When upgrading to CICS Transaction Server for z/OS, Version 4 Release 1, reassemble all CICS control tables using the CICS TS 4.1 macro libraries, even if the macro externals have no changes. You must also reassemble any DFHCNV data conversion tables that you use, because CICS initialization fails if you try to load DFHCNV tables assembled using macros from an earlier release.

DFHMCT monitoring control table

The performance class data fields added for CICS Transaction Server for z/OS, Version 4 Release 1, have corresponding new values, which can be defined on the INCLUDE and EXCLUDE operands of the DFHMCT TYPE=RECORD macro. You can use these values to include or exclude specific fields from performance class monitoring records. Control data recording-DFHMCT TYPE=RECORD in the *CICS Resource Definition Guide* lists all the fields that can now be included or excluded using the macro.

The default for the COMPRESS option has changed from NO to YES. If monitoring is active the monitor records are compressed automatically.

A new distributed program link option, DPLLIMIT, is available on the DFHMCT TYPE=INITIAL macro. This option specifies the maximum number of DPL requests for which CICS performs transaction resource monitoring.

DFHDCT, DFHRCT, DFHTCT, and DFHTST control tables

Support for the DFHCSDUP MIGRATE command is withdrawn in CICS TS for z/OS, Version 4.1.

In previous versions of CICS, the DFHCSDUP MIGRATE command migrated the eligible DFHDCT, DFHRCT, DFHTCT, and DFHTST macro resource definitions to the CICS system definition data set (CSD).

If you still have eligible but unmigrated definitions, you must migrate them to the CSD before you upgrade to CICS TS for z/OS, Version 4.1. To do so, you can use the DFHCSDUP MIGRATE command on any supported release up to CICS TS for z/OS, Version 3.2.

Chapter 6. Changes to the system programming interface

CICS Transaction Server for z/OS, Version 4 Release 1 has some new SPI commands to control new system resources, and some existing commands have new options or new values for existing options. Some system programming commands, options or values are now obsolete because they relate to obsolete CICS functions.

Program compatibility

The system programming commands operate on CICS system resources, such as control blocks and tables of resource definitions, and not on user resources, such as data, on which the API operates.

The SPI is also sensitive to the underlying environment in which it is implemented and, as a consequence, compatibility with future releases of CICS cannot be guaranteed.

This section describes the effect on the SPI of the functional changes in CICS, explaining where incompatibilities exist, to enable you to make programming changes where necessary.

Except for the instances given in this section, CICS continues to provide compatibility with future releases, at source and object level, for application programs that use the unaffected SPI commands.

New options or values on SPI commands

These system programming interface commands have new options or new values for options.

CREATE TCPIP SERVICE

A new option, HOST, replaces IPADDRESS for new programs:

HOST ({**ANY**|**DEFAULT**|*hostname*})

Specifies the 116-character IPv4 or IPv6 address or host name on which this TCPIP SERVICE will listen for incoming connections. Use HOST instead of IPADDRESS when you define new resources. Do not specify both HOST and IPADDRESS, because HOST always takes precedence over IPADDRESS. IPADDRESS is supported for existing programs that specify IPv4 function.

Possible values are as follows:

ANY The ANY option has the same function as the ANY and INADDR_ANY options of IPADDRESS. The ANY option specifies that the TCPIP SERVICE listens on any of the addresses known to TCP/IP for the host system. You can have multiple IP addresses defined for a host. By specifying ANY, you also allow for the TCPIP SERVICE definition to be shared among CICS servers. If you specify ANY, CICS attempts to bind to the port on every stack where it is defined. If, in addition, you want more than one CICS region to bind to the port, you must specify the SHAREPORT option in every stack where the port is defined. If you do not do so, only one CICS region can bind to the port

number in those stacks that do not have the SHAREPORT option. Subsequent attempts by other regions to bind to every stack fail, and CICS issues a message indicating that the port is in use.

If you specify the ANY option in a dual-mode (IPv4 and IPv6) environment, CICS attempts to reuse the most recent IPv4 or IPv6 address. If this is the first connection, and CICS cannot retrieve an address, 0.0.0.0 is returned and no affinity is assigned.

DEFAULT

The DEFAULT option assigns affinity to the TCP/IP stack that has been defined as the default in a multistack CINET environment.

If the DEFAULT option is used in a dual-mode (IPv4 and IPv6) environment, affinity is assigned to the IPv4 environment, because the DEFAULT option is applied to the IPv4 environment.

If DEFAULT is used in a non-CINET environment or no default TCP/IP stack exists, an exception trace is written, 0.0.0.0 is returned, and no affinity is assigned.

If you are operating in a dual-mode (IPv4 and IPv6) environment, specifying HOST(DEFAULT) forces all traffic to pass across the IPv4 network connection.

hostname

hostname can be a character host name, an IPv4 address, or an IPv6 address.

You can specify an address as a character name that can be looked up on the domain name server. The host name can be entered in uppercase, lowercase, or mixed case, but if a host name is specified instead of an IP address, the host name is converted to lowercase in the TCPIP SERVICE definition.

Do not use a character host name if you have a list of addresses at the domain name server, because *hostname* resolves against the first IP address only in the list (that is, the server does not listen on any of the IP addresses in the list for this host name). If you require a particular IP address in a list at the domain name server, define the IP address explicitly in *hostname*.

If you specify an IPv6 address (or a host name that resolves to an IPv6 address), ensure that you are operating in a dual-mode (IPv4 and IPv6) environment and that the client or server that you are communicating with is also operating in a dual-mode (IPv4 and IPv6) environment. For more information on IPv6, see the *CICS Internet Guide*.

You can specify IPv4 and IPv6 addresses in a number of acceptable formats. See the *CICS Internet Guide* for more information about address formats.

INQUIRE ASSOCIATION

A new option, CLIENTLOC, returns information about z/OS Communication Server socket options. A new option, SRVRIPFAMILY, replaces the IPFAMILY option for new programs. A new option, CLNTIPFAMILY, is also available. The ODIPFAMILY option now includes IPv6 values. The CLIENTIPADDR, ODCLNTIPADDR, and SERVERIPADDR options now return IPv6 addresses. New options, DNAME and REALM, display the distinguished name and realm name returned for the specified task.

CLIENTIPADDR(*data-area*)

Returns, into a 39-character area, the IP address of the TCP/IP client that requested this task to start. When the CLNTIPFAMILY option returns IPV4, the returned address is a 15-character dotted decimal IPv4 address, padded with blanks. When CLNTIPFAMILY returns IPV6, the address returned is a 3- to 39-character colon hexadecimal IPv6 address, padded with blanks. If this task was not started from a TCP/IP client, CLIENTIPADDR returns 0.0.0.0 and CLNTIPFAMILY returns NOTAPPLIC. If the source of this task has not yet been determined, CLIENTIPADDR returns 0.0.0.0 and CLNTIPFAMILY returns UNKNOWN.

You can specify IPv4 and IPv6 addresses in a number of acceptable formats. See the *CICS Internet Guide* for more information on address formats.

CLIENTLOC(*data-area*)

Returns a 32-character area that represents the SO_CLUSTERCONNTYPE socket option returned by z/OS Communications Server for the facility in the FACILNAME option. The binary format of SO_CLUSTERCONNTYPE is converted to characters in CLIENTLOC and displayed as either zeros or ones. The CLIENTLOC option represents the current socket, unless the value in the FACILTYPE option is IPIC, in which case CLIENTLOC is taken from the CLIENTLOC value for the IPCONN. For details, see INQUIRE IPCONN. See the z/OS 1.9 Communications Server IP Sockets Application Programming Interface Guide, http://publib.boulder.ibm.com/infocenter/zos/v1r9/index.jsp?searchWord=SO_CLUSTERCONNTYPE&tab=search, in the z/OS 1.9 information center for a description of SO_CLUSTERCONNTYPE and an explanation of the bit settings.

CLNTIPFAMILY(*cvda*)

Returns a value indicating the form of TCP/IP addressing used by this task. Here are the values:

IPV4 The address is specified in IPv4 dotted decimal address format.

IPV6 The address is specified in IPv6 colon hexadecimal address format.

NOTAPPLIC

0.0.0.0 is specified in the CLIENTIPADDR option and the task was not started from a TCP/IP client.

UNKNOWN

0.0.0.0 is specified in the CLIENTIPADDR option and the source of this task has not yet been determined.

DNAME(*data-area*)

Returns the 1- to 246-character distinguished name. Distinguished names are represented in UTF-8 encoding. If a distinguished name is not available for the task, DNAME returns ASCII blanks. If you require additional information from the z/OS security context, also known as the Accessor Environment Element (ACEE), you can use the CICS API command, **ADDRESS ACEE**. For more information, see ADDRESS and the ACEE topics in *z/OS Security Server RACF Data Areas*.

ODCLNTIPADDR(*data-area*)

Returns, into a 39-character area, the IP address of the TCP/IP client that requested the originating task to start. When ODIPFAMILY returns IPV6, the address returned is a 3- to 39-character colon hexadecimal IPv6 address, padded with blanks. If the originating task was not started from a TCP/IP client, ODCLNTIPADDR returns 0.0.0.0 and ODIPFAMILY returns NOTAPPLIC. If this task was not started from a TCP/IP client, ODCLNTIPADDR returns

0.0.0.0. If the source of this task has not yet been determined,
ODCLNTIPADDR returns 0.0.0.0 and ODIPFAMILY returns UNKNOWN.

ODIPFAMILY(*cvda*)

Returns a value indicating the form of TCP/IP addressing used by the originating task. Here are the values:

IPV4 The address is specified in IPv4 dotted decimal address format.

IPV6 The address is specified in IPv6 colon hexadecimal address format.

NOTAPPLIC

0.0.0.0 is specified in the ODCLNTIPADDR option and the task was not started from a TCP/IP client.

UNKNOWN

0.0.0.0 is specified in the ODCLNTIPADDR option and the source of the task has not been determined.

REALM(*data-area*)

Returns the 1- to 252-character realm name in UTF-8 encoding, padded with ASCII blanks. The realm is a component of a distributed identity and defines the region where a security ID applies. If you require additional information from the z/OS security context, also known as the Accessor Environment Element (ACEE), you can use the CICS API command, **ADDRESS ACEE**. For more information, see ADDRESS and the ACEE topics in *z/OS Security Server RACF Data Areas*.

SERVERIPADDR(*data-area*)

Returns, into a 39-character area, the IP address of the TCP/IP server that scheduled this task. When the IPFAMILY option returns IPV4, the returned address is a 15-character dotted decimal IPv4 address, padded with blanks. When SRVRIPFAMILY returns IPV6, it is a 3- to 39-character colon hexadecimal IPv6 address, padded with blanks. If this task was not started from a TCP/IP server, SERVERIPADDR returns 0.0.0.0 and SRVRIPFAMILY returns NOTAPPLIC. If the source of this task has not yet been determined, SERVERIPADDR returns 0.0.0.0 and SRVRIPFAMILY returns UNKNOWN.

You can specify IPv4 and IPv6 addresses in a number of acceptable formats. See the *CICS Internet Guide* for more information on address formats.

SRVRIPFAMILY(*cvda*)

Replaces the IPFAMILY option. SRVRIPFAMILY returns a value indicating the form of IP addressing used by this task. Here are the values:

IPV4 The address is specified in IPv4 dotted decimal address format.

IPV6 The address is specified in IPv6 colon hexadecimal address format.

NOTAPPLIC

0.0.0.0 is specified in the SERVERIPADDR option and the task was not started from a TCP/IP client.

UNKNOWN

0.0.0.0 is specified in the SERVERIPADDR option and the source of the task has not been determined.

INQUIRE ASSOCIATION LIST

New options, DNAME and REALM, display the distinguished name search filter and realm name returned for the specified list of tasks. New filtering options apply

to the DNAME and REALM options. New options, DNAMELEN and REALMLEN, display the length of the distinguished name search filter and realm name fields.

DNAME (*data-value*)

Specifies a UTF-8 character field, up to a maximum of 246 characters, including 2 characters for opening and closing parentheses. You must specify parentheses in the DNAME option. DNAME is a filter to return a list of distinguished names for the realm specified in the REALM option. Distinguished names are represented in UTF-8 encoding; therefore, null values are represented with ASCII blanks. An empty list is returned if you specify this option and you do not have the correct z/OS release.

The following search forms are accepted:

(attr=value)
(attr=value*)

where:

- attr is the first attribute in the distinguished name for the realm, specified in the REALM option. This attribute is case-sensitive.
- value is the first value in the distinguished name, which can be a generic name if value* is specified. * represents zero or more characters. This attribute is case-sensitive.

For example, if a distinguished name is in the following format:

CN=John Smith

the search argument can be in this format:

(CN=John Smith)

or a generic form can be in this format:

(CN=John S*)

If a generic filter, for example, (CN=*), is specified, only the tasks that have distinguished names with the first attribute specified are included.

If you are filtering on a name that is greater than 244 characters in length, you must use a generic filter. If value is not specified, or DNAME is not set, all distinguished names for the specified realm are included.

| **DNAMELEN** (*data-value*)

| Specifies the length of the DNAME option. DNAMELEN is a numeric value,
| up to a maximum of 246.

| **REALM** (*data-value*)

| Specifies the realm name in UTF-8 encoding; therefore, null values are
| represented with ASCII blanks. The realm is a component of a distributed
| identity and defines the region where a security ID applies. If you are using
| WebSphere Application Server, the realm name can be the service that provides
| access to the registry where the user is defined. The LDAP server configuration
| listen statement provides the realm name in URL format.

| An empty list is returned if you specify this option and you do not have the
| correct z/OS release.

| If a value is not specified, or REALM is not set, all realms are included.

| **REALMLEN** (*data-value*)

| Specifies the length of the REALM option. REALMLEN is a numeric value, up
| to a maximum of 255.

INQUIRE CORBASERVER

The HOST option now allows IPv6 addresses and a new option, HOSTTYPE, returns the format of the contents of the HOST option. A new option, IPRESOLVED, returns the IP address of the host and a new option, IPFAMILY, returns the format of the IPRESOLVED option.

HOST(*data-area*)

Returns a 255-character area, containing the IP host name or a string containing the dotted decimal or colon hexadecimal IP address, which is included in Interoperable Object References (IORs) exported from the CorbaServer. HOST displays all IPv4 addresses as native IPv4 dotted decimal addresses; for example, 1.2.3.4, regardless of the type of address format used. You can specify IPv4 and IPv6 addresses in a number of acceptable formats. See the *CICS Internet Guide* for more information on address formats.

HOST displays the defined host name, IPv4, or IPv6 address.

HOST is specified in the resource definition.

HOSTTYPE(*cvda*)

Returns the address format of the HOST option. HOSTTYPE is set by the domain when the CorbaServer is installed. Here are the values:

HOSTNAME

The HOST option contains a character host name. The IP address that corresponds to the host name is looked up in the domain name server.

IPV4 The address is specified in IPv4 dotted decimal address format.

IPV6 The address is specified in IPv6 colon hexadecimal address format.

NOTAPPLIC

An incorrect host address was returned (HOST=0.0.0.0).

IPFAMILY(*cvda*)

Returns the address format of the IPRESOLVED option. Here are the values:

IPV4 The address is specified in IPv4 dotted decimal address format.

IPV6 The address is specified in IPv6 colon hexadecimal address format.

UNKNOWN

IPRESOLVED is not yet in use or the address cannot be resolved.

UNKNOWN is the default when IPRESOLVED is 0.0.0.0

IPRESOLVED(*data-area*)

Returns a 39-character field that specifies the IPv4 or IPv6 address of the HOST option. If the CorbaServer is installed but not enabled, or the address cannot be resolved, a default value of 0.0.0.0 is returned. After the CorbaServer is enabled, IPRESOLVED displays the last resolved IP address that was used by the CorbaServer resource. IPRESOLVED is reset to 0.0.0.0 when the resource is disabled. The content of IPRESOLVED is not recoverable after a warm or emergency restart.

INQUIRE DISPATCHER

Two new options are added:

ACTTHRDTCBS(*data-area*)

Returns a fullword binary field giving the total number of T8 mode open TCBS that are currently allocated to the enabled JVM servers to process work.

The T8 mode TCBS are allocated from a pool of open TCBS. One pool is used by one JVM server. CICS dispatcher maintains the pools of T8 mode TCBS for use in the JVM server runtime environment.

MAXTHRDTCBS (*data-area*)

Returns a fullword binary field giving the maximum number of T8 mode open TCBS that CICS can attach and maintain for all enabled JVM servers. CICS calculates the maximum number by adding one TCB for each JVM server to the value of the THREADLIMIT attribute from all the enabled JVMSERVER resources. The value of MAXTHRDTCBS cannot exceed 1024.

The difference between MAXTHRDTCBS and ACTTHRDTCBS represents the number of TCBS that are free. Note that if you initialize another JVM server, one TCB is reserved for the JVM server.

INQUIRE IPCONN

The HOST option is updated and new options, HOSTTYPE, IPRESOLVED, IPFAMILY, return IPv6 information. A new option, CLIENTLOC, returns information about z/OS Communications Server socket options, and a new option, PARTNER, returns information about the product token of a partner system. A new option, IDPROP, displays whether the sender includes the distributed identity in attach requests over the IPIC connection.

CLIENTLOC (*data-area*)

Returns a 32-character area that represents an evaluation of the SO_CLUSTERCONNTYPE options returned by z/OS Communications Server, for all the sockets used by the IPIC connection. See the z/OS 1.9 Communications Server IP Sockets Application Programming Interface Guide, http://publib.boulder.ibm.com/infocenter/zos/v1r9/index.jsp?searchWord=SO_CLUSTERCONNTYPE&tab=search, in the z/OS 1.9 information center for a description of SO_CLUSTERCONNTYPE and an explanation of the bit settings. Multiple sockets might provide the IPIC connection with a number of different paths to the partner system. Each character in CLIENTLOC is displayed as either zero or one. CLIENTLOC represents the most diverse route between the CICS region and its partner system.

HOST (*data-area*)

Returns the 116-character host name of the remote system or its IPv4 or IPv6 address. The HOST option can be a character host name, an IPv4 address, or an IPv6 address. HOST is specified in the resource definition. HOST displays all IPv4 addresses as native IPv4 dotted decimal addresses, for example, 1.2.3.4, irrespective of which type of address format is used. You can specify IPv4 and IPv6 addresses in a number of acceptable formats. See the *CICS Internet Guide* for more information on address formats.

HOSTTYPE (*cvda*)

Returns the address format of the HOST option. HOSTTYPE is set by the domain when the IPIC connection is installed. Here are the values:

HOSTNAME

The HOST option contains a character host name. The IP address that corresponds to the host name is looked up in the domain name server.

IPV4 The address is an IPv4 address.

IPV6 The address is an IPv6 address.

|
| **NOTAPPLIC**

| An incorrect host address was returned (HOST=0.0.0.0).
|

| **IDPROP**(*cvda*)

| Indicates whether the sender includes the distributed identity in requests over
| the IPIC connection. The IDPROP option is meaningful only if a connection
| extends outside a sysplex and is used primarily to prevent distributed
| identities being transmitted between enterprises. If the connection is between
| systems in the same sysplex, the value returned by this option is ignored, and
| the connection operates as if IDPROP(OPTIONAL) is specified.
|

| Here are the values:

| **NOTALLOWED**

| A user ID associated with the sending transaction is sent for requests
| using this connection. NOTALLOWED is the default value.
|

| **OPTIONAL**

| A distributed identity is sent, if available. The user ID associated with
| the sending transaction is also sent.
|

| **REQUIRED**

| A distributed identity is required for requests using this connection. If
| REQUIRED is specified, the receiving system must support distributed
| identities. The user ID associated with the sending transaction is not
| sent.
|

| **IPFAMILY**(*cvda*)

| Returns the address format of the IPRESOLVED option. IPFAMILY is set only
| when the IPIC connection is acquired. Here are the values:

| **IPV4** The address is specified in IPv4 dotted decimal address format.

| **IPV6** The address is specified in IPv6 colon hexadecimal address format.
|

| **UNKNOWN**

| The IPRESOLVED option is not yet in use or the address cannot be
| resolved. UNKNOWN is the default when IPRESOLVED is 0.0.0.0
|

| **IPRESOLVED**(*data-area*)

| Returns a 39-character field that specifies the IPv4 or IPv6 address of the HOST
| option. If the IPCONN resource has not yet been acquired or has been
| released, or the address cannot be resolved, a default value of 0.0.0.0 is
| returned. After the IPIC connection is acquired, IPRESOLVED displays the last
| resolved IP address that was used by the IPCONN resource. IPRESOLVED is
| reset to 0.0.0.0 when the resource is out of service and released. The content
| of IPRESOLVED is not recoverable after a warm or emergency restart.
|

| **PARTNER**(*data-area*)

| Returns a 64-character field indicating the product token of the partner system.
| The field is blank when the connection is not acquired or if the partner system
| does not indicate a product type when the connection is established. For
| example, the partner system is IBM_CICS_Transaction_Server/4.1.0(zOS) for a
| CICS TS 4.1 partner.
|

| **INQUIRE JVMPOOL**

| A new PROFILEDIR option is added:
|

| **PROFILEDIR**(*data-area*)

| Returns a 240-character data value of the directory on z/OS UNIX that
| contains the JVM profiles for CICS. This value is taken from the **JVMPROFILEDIR**
| system initialization parameter.

INQUIRE MONITOR

The default setting for the COMPRESSST option has changed. Data compression is now the default option. A new option, DPLLIMIT, returns the maximum number of DPL requests allowed for transaction resource monitoring. A new option, IDNTYCLASS, specifies whether identity class monitoring is enabled.

| **COMPRESSST**(*cvda*)

| Returns a CVDA value indicating whether data compression is active for the
| CICS SMF 110 monitoring records produced by the CICS monitoring facility.
| CVDA values are as follows:

| **COMPRESS**

| Data compression is being performed for the monitoring records. Data
| compression is the default.

| **NOCOMPRESS**

| Data compression is not being performed for the monitoring records.

| **DPLLIMIT**(*data-area*)

| Returns the maximum number of distributed program link requests for which
| CICS is to perform transaction resource monitoring.

| **IDNTYCLASS**(*cvda*)

| Returns a CVDA value indicating whether the identity class of monitoring data
| is recorded when monitoring is active. CVDA values are as follows:

| **IDNTY**

| Identity data is recorded.

| **NOIDNTY**

| Identity data is not recorded.

INQUIRE SYSTEM

A new MQCONN option is added:

| **MQCONN**(*data-area*)

| Returns the 1- to 8-character name of the MQCONN resource definition that is
| currently installed for the CICS region or blanks if no MQCONN definition is
| currently installed. Only one MQCONN definition can be installed at a time.
| The MQCONN resource definition specifies the attributes of the connection
| between CICS and WebSphere MQ.

INQUIRE TCPIP SERVICE

A new option, HOST, returns the host name, IPv4, or IPv6 address of the remote system, which replaces the IPADDRESS option for new programs. A new option, HOSTTYPE, returns the format of the contents of the HOST option or of the IPADDRESS option, if HOST is not specified. A new option, IPRESOLVED, returns the IP address of the host and a new option, IPFAMILY, returns the format of the IPRESOLVED option.

| **HOST**(*data-area*)

| Returns the 116-character host name of the remote system or its IP address.

HOST displays character host name, an IPv4 address, an IPv6 address, ANY, or DEFAULT. The HOST option provides the same function as IPADDRESS for defined hostnames and defined IPv4 addresses, but also supports defined IPv6 format addresses. However, it differs from IPADDRESS in that DEFAULT and ANY are returned instead of an IP address, because this information is available in IPRESOLVED. If you are using IPv6 connections, use the HOST option for your queries, instead of IPADDRESS. HOST displays all IPv4 addresses as native IPv4 dotted decimal addresses; for example, 1.2.3.4, regardless of the type of address format used.

You can specify IPv4 and IPv6 addresses in a number of acceptable formats. See the *CICS Internet Guide* for more information on address formats.

HOST is specified in the resource definition.

HOSTTYPE(*cvda*)

Returns the address format of HOST or if HOST is not specified, the IPADDRESS option. HOSTTYPE is set by the domain when the TCPIP SERVICE is installed. Here are the values:

ANY The ANY option is specified for the HOST option.

DEFAULT

The DEFAULT option is specified for the HOST option.

HOSTNAME

The HOST option contains a character host name. The IP address that corresponds to the host name is looked up in the domain name server.

IPV4 The HOST option contains a dotted decimal IPv4 address.

IPV6 The HOST option contains a colon hexadecimal IPv6 address.

NOTAPPLIC

0.0.0.0 is specified in the HOST option.

IPFAMILY(*cvda*)

Returns the address format of the IPRESOLVED option. Here are the values:

IPV4 The IPRESOLVED option contains a dotted decimal IPv4 address.

IPV6 The IPRESOLVED option contains a colon hexadecimal IPv6 address.

UNKNOWN

IPRESOLVED is not yet used or the address cannot be resolved.
UNKNOWN is the default when IPRESOLVED is 0.0.0.0.

IPRESOLVED(*data-area*)

Returns, in a 39-character area, the IPv4 or IPv6 address of the HOST option. If the OPENSTATUS option is not set to OPEN, or the address cannot be resolved, a value of 0.0.0.0 is returned. If the HOST option is set to ANY, IPRESOLVED always returns the IPv4 address for the system on which CICS is running, even if other IPv4 or IPv6 addresses are available.

The content of IPRESOLVED is not recoverable after a warm or emergency restart.

INQUIRE TERMINAL

The REMOTESYSTEM option now provides information about IP connections.

REMOTESYSTEM(*data-area*)

Returns the first four characters of a connection, if the subject of the inquiry is

a remote terminal. The named connection can be either a connection entry that links towards the TOR or an indirect connection that provides the netname of the TOR.

Otherwise this field is blank.

INQUIRE TRACETYPE

A new option FLAGSET is added:

FLAGSET(*cvda*)

Indicates whether the standard or special flags for the specified component are to be returned. CVDA values are as follows:

SPECIAL

Indicates that CICS returns the trace levels for special tracing.

STANDARD

Indicates that CICS returns the trace levels for standard tracing.

INQUIRE TRANSACTION

The REMOTESYSTEM option now provides information about IP connections.

REMOTESYSTEM(*data-area*)

Returns the first four characters of the remote system on which this transaction is defined, if it is defined as a remote transaction.

If the remote transaction is defined as DYNAMIC=YES, and the REMOTESYSTEM option is omitted, CICS returns the name of the local region.

Blanks are returned if the transaction is not remote.

INQUIRE URIMAP

A new option, AUTHENTICATE, provides information about whether the host specified in the USAGE(CLIENT) URIMAP resource requires authentication.

AUTHENTICATE(*cvda*)

Returns a CVDA value indicating whether to provide authentication information to a Web Services provider. Here are the CVDA values:

BASICAUTH

The Web Services provider requires HTTP basic authentication. You can supply credentials to the Web Services requester (a user ID and password) to the global user exit, XWBAUTH, which, if enabled, sends the credentials to the Web Services provider.

NOAUTHENTIC

The Web Services provider does not require authentication.

If you specify an authentication value on an API command, for example, **WEB SEND**, this value is used instead of the AUTHENTICATE value specified in the URIMAP resource. If you also specify a user ID and password in the command, the XWBAUTH global user exit is not called.

A new option, ATOMSERVICE, returns the resource definition name for an Atom feed. The USAGE option has a new value, ATOM.

ATOMSERVICE(*data-area*)

Returns the 1- to 8-character name of an ATOMSERVICE resource definition for

| an Atom feed. The ATOMSERVICE resource definition defines an Atom
| service, feed, collection, or category document, and identifies the Atom
| configuration file, CICS resource or application program, and XML binding
| that are used to supply the data for the feed. This attribute is for
| USAGE(ATOM).

USAGE (*cvda*)

Returns a CVDA value indicating the purpose of this URIMAP definition.

ATOM

A URIMAP definition for an Atom feed. This type of URIMAP definition is used for an incoming request for data that CICS makes available as an Atom feed. The URIMAP definition maps the request URI to an ATOMSERVICE resource definition, which defines an Atom document.

The HOST option now allows IPv6 addresses and a new option, HOSTTYPE, returns the format of the contents of the HOST option. A new option, IPRESOLVED, returns the IP address of the host and a new option, IPFAMILY, returns the format of the IPRESOLVED option. A new option, PORT, returns the port number used for the connection.

HOST (*data-area*)

Returns the 116-character host name or its IPv4 or IPv6 address. The HOST option can be a character host name, an IPv4 address, or an IPv6 address. HOST is specified in the resource definition. HOST displays all IPv4 addresses as native IPv4 dotted decimal addresses, for example, 1.2.3.4, regardless of the type of address format used. You can specify IPv4 and IPv6 addresses in a number of acceptable formats. See the *CICS Internet Guide* for more information about address formats.

The port number is also displayed in the HOST option if HOST contains a native IPv4 address or a host name; however, if you specify a hostname that is greater than 110 characters in length, port information is not displayed in the HOST option. This rule also applies if you specify an IPv4 address in IPv6 format. Use the PORT option to view the port number.

HOSTTYPE (*cvda*)

Returns the address format of the HOST option. HOSTTYPE is set by CICS when the URIMAP is installed. Here are the values:

HOSTNAME

The HOST option contains a character host name. The IP address that corresponds to the host name is looked up in the domain name server.

IPV4 The address is specified in IPv4 dotted decimal address format.

IPV6 The address is specified in IPv6 colon hexadecimal address format.

NOTAPPLIC

An incorrect host address was returned (HOST=0.0.0.0 or HOST=*), or the HOSTTYPE option is used with URIMAP(ATOM), URIMAP(PIPELINE), or URIMAP(SERVER).

IPFAMILY (*cvda*)

Returns the address format of the IPRESOLVED option. Here are the values:

IPV4 The address is specified in IPv4 dotted decimal address format.

IPV6 The address is specified in IPv6 colon hexadecimal address format.

UNKNOWN

IPRESOLVED is not yet in use or the address cannot be resolved. UNKNOWN is the default when IPRESOLVED is 0.0.0.0, or if the IPFAMILY option is used with URIMAP(ATOM), URIMAP(PIPELINE), or URIMAP(SERVER).

IPRESOLVED(*data-area*)

Returns a 39-character field that specifies the IPv4 or IPv6 address of the HOST option. If the URIMAP is installed but has not yet been used to establish a connection, or the address cannot be resolved, a default value of 0.0.0.0 is returned. When the URIMAP establishes a connection, IPRESOLVED displays the resolved IP address that was used by the resource to connect. IPRESOLVED is reset to 0.0.0.0 when the resource is disabled. The content of IPRESOLVED is not recoverable after a warm or emergency restart.

PORT(*value*)

Displays the numeric port number value used by USAGE(CLIENT) for the connection to the server, in the range 1 - 65535. The port number is also displayed in the HOST option if HOST contains a native IPv4 address or a host name. For USAGE(CLIENT), the PORT attribute always contains the port number that is being used for the communication, even if PORT(NO) is specified on the URIMAP at define time. For USAGE(ATOM), USAGE(SERVER), or USAGE(PIPELINE), the PORT option displays ().

INQUIRE VTAM

A new option PSTYPE is added:

PSTYPE(*cvda*)

Returns a CVDA value indicating the type of VTAM persistent sessions support for the CICS region. CVDA values are as follows:

SNPS Single-node persistent sessions. VTAM sessions can be recovered after a CICS failure and restart.

MNPS

Multinode persistent sessions. VTAM sessions can also be recovered after a VTAM or z/OS failure in a sysplex.

NOPS VTAM persistent sessions support is not used for this CICS region.

INQUIRE WORKREQUEST

A new option, CLNTIP6ADDR, replaces the CLIENTIPADDR option for new programs. A new option, CLNTIPFAMILY, indicates the address type returned in CLNTIP6ADDR and CLIENTIPADDR. A new option, TARGETSYS, returns the applid of the target CICS system, replacing the TSYSTEM option. A new option, TSYSTYPE, returns the format of the IP address returned in TSYSTEM or TARGETSYS.

CLNTIPFAMILY(*cvda*)

Returns a value indicating the form of TCP/IP addressing used by this task. Here are the values:

IPV4 The CLIENTIPADDR and CLNTIP6ADDR options contain a dotted decimal IPv4 address.

IPV6 The CLNTIP6ADDR option contains a colon hexadecimal IPv6 address.

|
| **NOTAPPLIC**
|

No entry is specified in the CLIENTIPADDR or CLNTIP6ADDR option.

| **CLNTIP6ADDR**(*data-area*)

Returns, into a 39-character area, the colon hexadecimal IPv6 address of the TCP/IP client that originated the request. If the client address is in IPv4 format, it is also returned to CLIENTIPADDR.

| **TARGETSYS**(*data-area*)

Returns the applid of the target CICS system as a 50-byte field. This field can contain one of the following values:

- The colon hexadecimal TCP/IP address and port number of the target system, in the format [::a:b:c:d]:port where [] are X'BA' & X'BB' (code page 37).
- The dotted decimal TCP/IP address and port number of the target system.
- The VTAM applid of the target system. The applid can be up to 8 characters followed by blanks.
- A string of blank characters indicating that the target system is not CICS over MRO or that the target system is not CICS over TCP/IP, or that an error has occurred.
- A different value, which CICS captures but does not translate.

The TARGETSYS option returns the same information as TSYSTEM, but can also return an IPv6 format address. If TARGETSYS returns an IPv4 address, this address is also returned in TSYSTEM; otherwise, TSYSTEM returns 0.0.0.0:0.

If you are using IPv6 connections, you must use the TARGETSYS option for your queries, instead of TSYSTEM.

| **TSYSTYPE**(*cvda*)

Returns a value indicating the form of TCP/IP addressing used by this task. Here are the values:

| **IPV4** The TSYSTEM and TARGETSYS options contain a dotted decimal IPv4
| address and a port.

| **IPV6** The TARGETSYS option contains a colon hexadecimal IPv6 address
| and a port. This value is returned only if an IPv6 address is returned
| in the TARGETSYS option.

| **APPLID**

The TSYSTEM and TARGETSYS options contain an applid.

| **NOTAPPLIC**

No entry is specified in the TSYSTEM or TARGETSYS option. Blanks or a different value are returned.

| **SET MONITOR**

New options DPLLIMIT, FILELIMIT, IDNTYCLASS and TSQUEUELIMIT are added.

| **DPLLIMIT**(*data-value*)

| Specifies the maximum number of distributed program link requests for which
| CICS is to perform transaction resource monitoring, as a halfword binary
| value. The value specified must be in the range 0 - 64.

| **FILELIMIT**(*data-value*)

| Specifies the maximum number of files for which CICS is to perform
| transaction resource monitoring, as a halfword binary value. The value
| specified must be in the range 0 - 64.

| **IDNTYCLASS**(*cvda*)

| Specifies whether the identity class of monitoring data is to be recorded when
| monitoring is active. CVDA values are as follows:

| **IDNTY**

| Identity data is to be recorded.

| **NOIDNTY**

| Identity data is not to be recorded.

| **TSQUEUELIMIT**(*data-value*)

| Specifies the maximum number of temporary storage queues for which CICS is
| to perform transaction resource monitoring, as a halfword binary value. The
| value specified must be in the range 0 - 64.

SET TRACETYPE

A new option FLAGSET is added:

| **FLAGSET**(*cvda*)

| Indicates whether the standard or special flags, for the specified component,
| are to be set. CVDA values are as follows:

| **SPECIAL**

| Specifies that you want to set levels for special tracing, for the
| components listed.

| **STANDARD**

| Specifies that you want to set levels for standard tracing, for the
| components listed.

SET VTAM

This command does not allow you to change PSDINTERVAL, PSDINTHRS,
PSDINTMINS, or PSDINTSECS to a nonzero value when the system initialization
parameter PSTYPE=NOPS is in effect.

Resource signature options added to INQUIRE SPI command

The **INQUIRE** command has new options to support the resource signature.

Changed command, INQUIRE

The definition and installation signature options are added to the **INQUIRE**
command for the following resource types:

ATOMSERVICE
BUNDLE
CONNECTION
CORBASERVER
DB2CONN
DB2ENTRY
DB2TRAN
DJAR

|
| **DREPAPI**
|

The resource definition was last changed by a CICSplex SM BAS API command.

| **DYNAMIC**
|

The resource definition was last changed by a PIPELINE scan.

| **DYNAMIC**
|

The resource was defined as a result of the installation of a DB2ENTRY with TRANSID specified.

| **DYNAMIC**
|

The resource was defined by the CICS scanning mechanism.

| **DYNAMIC**
|

The resource was defined by the CICS system for a template being used through the CICS template manager, DFHWBTL.

| **DYNAMIC**
|

The resource was defined by an ATOMSERVICE resource.

| **DYNAMIC**
|

The resource was defined as a result of a MQCONN resource definition with INITQNAME specified.

| **SYSTEM**
|

The resource definition was last changed by the CICS or CICSplex system.

| **TABLE**
|

The resource definition was last changed by a table definition.

| **CHANGEAGREL** (*data-area*)
|

Returns a 4-digit number of the CICS release that was running when the resource definition was last changed.

| **CHANGETIME** (*data-area*)
|

Returns an ABSTIME value that represents the time stamp when the resource definition was last changed.

| **CHANGEUSRID** (*data-area*)
|

Returns the 8-character user ID that ran the change agent.

| **DEFINETIME** (*data-area*)
|

Returns an ABSTIME value that represents the time stamp when the resource definition was created.

| **DEFINESOURCE** (*data-area*)
|

Returns the source of the resource definition. The DEFINESOURCE value depends on the CHANGEAGENT. For details, see the *CICS Resource Definition Guide*.

| **INSTALLAGENT** (*cvda*)
|

Returns a CVDA value identifying the agent that installed the resource. The possible values are as follows:

| **AUTOINSTALL**
|

The resource was autoinstalled.

| **AUTOINSTALL**
|

The resource was autoinstalled as a result of specifying an initiation queue name on a CKQC START command, and the previously installed MQCONN definition did not specify a value for INITQNAME.

| **BUNDLE**
 | The resource was installed by a bundle deployment.

| **CREATESPI**
 | The resource was installed by an **EXEC CICS CREATE** command.

| **CSDAPI**
 | The resource was installed by a CEDA transaction or the
 | programmable interface to DFHEDAP.

| **DYNAMIC**
 | The resource was installed using a PIPELINE scan.

| **DYNAMIC**
 | The resource was installed as a result of the installation of a
 | DB2ENTRY with TRANSID specified.

| **DYNAMIC**
 | The resource was installed by the CICS scanning mechanism.

| **DYNAMIC**
 | The resource was installed by the CICS system for a template being
 | used through the CICS template manager, DFHWBTL.

| **DYNAMIC**
 | The resource was installed as a result of the installation of a MQCONN
 | with INITQNAME specified.

| **DYNAMIC**
 | The resource was installed by an ATOMSERVICE resource.

| **GRPLIST**
 | The resource was installed by **GRPLIST INSTALL**.

| **SYSTEM**
 | The resource was installed by the CICS or CICSplex SM system.

| **TABLE**
 | The resource was installed using a table definition.

| **INSTALLTIME** (*data-area*)
 | Returns an ABSTIME value that represents the time stamp when the resource
 | was installed.

| **INSTALLUSRID** (*data-area*)
 | Returns the 8-character user ID that installed the resource.

New SPI commands

CICS Transaction Server for z/OS, Version 4 Release 1 includes some new SPI commands that you can use to control new system resources or to work in new ways with existing resources.

CREATE ATOMSERVICE

Define an ATOMSERVICE resource definition in the local CICS region.

CREATE BUNDLE

Define a BUNDLE resource definition in the local CICS region.

CREATE JVMSERVER

Define a JVMSERVER resource definition in the local CICS region.

CREATE MQCONN

Define an MQCONN resource in the local CICS region.

CSD ADD

Add a group to a list on the CSD.

CSD ALTER

Change the attributes of an existing resource definition on the CSD.

CSD APPEND

Append the groups in one list on the CSD to the end of another list.

CSD COPY

Copy a resource definition in a group to a different group, or copy an entire group.

CSD DEFINE

Create a new resource definition on the CSD.

CSD DELETE

Delete a list, a group, or a single resource definition in a group from the CSD.

CSD DISCONNECT

Disconnect the current task from the CSD.

CSD ENDBRGROUP

End the current browse of the groups in the CSD or of the groups in a list.

CSD ENDBRLIST

End the current browse of the lists in the CSD.

CSD ENDBRRSRCE

End the current browse of the resources in a specified group.

CSD GETNEXTGROUP

Get the next group in a group browse.

CSD GETNEXTLIST

Get the next list in a list browse.

CSD GETNEXTRSRCE

Get the details of next resource in a resource browse.

CSD INQUIREGROUP

Inquire on a group in the CSD, or on a group in a specified list in the CSD.

CSD INQUIRELIST

Inquire on a list in the CSD.

CSD INQUIRERSRCE

Inquire on the attributes of a resource in a specified group in the CSD.

CSD INSTALL

Install in the CSD a list, a group, or a single resource definition in a group.

CSD LOCK

Restrict update and delete access for a group or list to a single operator identifier.

CSD REMOVE

Remove a group from a list on the CSD.

CSD RENAME

Rename a resource definition on the CSD.

CSD STARTBRGROUP

Start a browse of the groups in the CSD or of the groups in a list.

CSD STARTBRLIST

Start a browse of the lists in the CSD.

CSD STARTBRRSRCE

Start a browse of the resources in a specified group.

CSD UNLOCK

Remove the lock from a group or list of definitions.

CSD USERDEFINE

Create a new resource definition with user-specified default values on the CSD .

DISCARD ATOMSERVICE

Remove an ATOMSERVICE resource definition from the system.

DISCARD BUNDLE

Remove a BUNDLE resource definition from the system.

DISCARD EVENTBINDING

Remove an EVENTBINDING resource definition from the system.

DISCARD JVMSERVER

Remove a JVMSERVER resource definition from the system.

DISCARD MQCONN

Remove and MQCONN resource definition. Any implicit MQINI resource definition is also discarded.

INQUIRE ATOMSERVICE

Retrieve information about ATOMSERVICE resources.

INQUIRE BUNDLE

Retrieve information about installed BUNDLE resources.

INQUIRE BUNDLEPART

Retrieve information about the resources that are contained in an installed BUNDLE resource.

INQUIRE CAPTURESPEC

Retrieve information about a capture specification.

INQUIRE EVENTBINDING

Retrieve information about an EVENTBINDING resource.

INQUIRE EVENTPROCESS

Retrieve the status of event processing in the CICS region.

INQUIRE JVMSERVER

Retrieve information about a JVM server in the CICS region.

INQUIRE MQCONN

Retrieve information about the connection between CICS and WebSphere MQ.

INQUIRE MQINI

Retrieve information about the default initiation queue that is used for the connection between CICS and WebSphere MQ.

INQUIRE XMLTRANSFORM

Retrieve information about an installed XMLTRANSFORM resource.

SET ATOMSERVICE

Enables or disables an ATOMSERVICE resource.

SET BUNDLE

Enables or disables a BUNDLE resource.

SET EVENTBINDING

Enables or disables an EVENTBINDING resource.

SET EVENTPROCESS

Enables or disables event processing in the CICS region.

SET JVMSERVER

Enables or disables a JVMSERVER resource.

SET MQCONN

Change the attributes of the connection between CICS and WebSphere MQ. You can also start or stop the connection.

SET XMLTRANSFORM

Enables or disables an XMLTRANSFORM resource.

SPI commands that have been made threadsafe

These system programming interface commands were not threadsafe when they were first introduced in CICS, but they have now been made threadsafe.

SPI commands that were made threadsafe in CICS Transaction Server for z/OS, Version 4 Release 1

No existing SPI commands were made threadsafe in this release.

Chapter 7. Changes to CEMT

The commands available in the CEMT transaction have been modified to reflect changes to resource definitions and new functions.

Obsolete options on CEMT commands

Obsolete options on CEMT commands in CICS Transaction Server for z/OS, Version 4 Release 1

INQUIRE CLASSCACHE The PROFILE option is obsolete and is no longer displayed. PROFILE used to specify the JVM profile for the master JVM, which is no longer required.

Changed CEMT commands

These CEMT commands have new options or new values for options.

INQUIRE CORBASERVER

The HOST option now displays IPv6 addresses. The values HOSTNAME, IPV4HOST, IPV6HOST, and NOTAPPLIC filter the contents of the new HOST option. A new option, IPRESOLVED, displays the IPv4 or IPv6 address of the host. The values IPV4FAMILY, IPV6FAMILY, and UNKNOWN filter the contents of the new IPRESOLVED option.

HOST (*value*)

Displays the host name, IPv4, or IPv6 address of the logical EJB/CORBA server. All IPv4 addresses are displayed as native IPv4 dotted decimal addresses, for example, 1.2.3.4, regardless of the type of address format used. For information on accepted IPv4 formats, see the *CICS Internet Guide*.

HOSTTYPE

Displays the address format of the HOST option. The HOSTTYPE option is available using an expanded query only. The possible values are as follows:

HOSTNAME

The HOST option contains a character host name.

IPV4HOST

The address is an IPv4 address.

IPV6HOST

The address is an IPv6 address.

IPFAMILY

Displays the address format of the IPRESOLVED option. The IPFAMILY option is available using an expanded query only. Filtering interacts with the IPFAMILY option when you filter using wildcard characters. For example, if the value in IPFAMILY is IPV6FAMILY, you must use the colon character to retrieve an IP address. The possible values are as follows:

IPV4FAMILY

The address is an IPv4 address.

IPV6FAMILY

The address is an IPv6 address.

UNKNOWN

The IPRESOLVED option is not yet in use, or the address cannot be resolved.

IPRESOLVED(*value*)

Displays the IPv4 or IPv6 address of the host. The IPRESOLVED option is available using an expanded query only.

INQUIRE DISPATCHER

Two new options are added:

ACTTHRDTCBS(*value*)

Displays the number of T8 mode open TCBS that are currently active; that is, allocated to a user task.

MAXTHRDTCBS(*value*)

Displays the maximum number of T8 mode open TCBS that CICS can attach and maintain for all enabled JVM servers. CICS calculates the maximum number by adding one TCB for each JVM server to the value of the THREADLIMIT attribute from all the enabled JVMSERVER resources. The value can be in the range 1 - 1024.

Note: You can reset this value by overtyping it with a different value.

INQUIRE IPCONN

The HOST option now displays IPv6 addresses. The values HOSTNAME, IPV4HOST, IPV6HOST, and NOTAPPLIC filter the contents of the new HOST option. A new option, IPRESOLVED, displays the IPv4 or IPv6 address of the host. The values IPV4FAMILY, IPV6FAMILY, and UNKNOWN filter the contents of the new IPRESOLVED option. A new option, PARTNER, displays the product token of a partner system. A new option, IDPROP, displays whether the sender will include the distributed identity in attach requests over the IPIC connection.

HOST(*value*)

Displays the host name, IPv4, or IPv6 address of the remote system. All IPv4 addresses are displayed as native IPv4 dotted decimal addresses, for example, 1.2.3.4, regardless of which type of address format is used. For information about accepted IPv4 formats, see the *CICS Internet Guide*.

HOSTTYPE

Displays the address format of the Host option. The Hosttype option is available using an expanded query only. The possible values are as follows:

HOSTNAME

The Host option contains a character host name.

IPV4HOST

The address is an IPv4 address.

IPV6HOST

The address is an IPv6 address.

IDPROP

Displays whether the sender includes the distributed identity in requests over the IPIC connection. The IDPROP option is meaningful only if a connection extends outside a sysplex and is used primarily to prevent distributed identities being transmitted between enterprises. If the connection is between

systems in the same sysplex, the value returned by this option is ignored, and the connection operates as if IDPROP(OPTIONAL) is specified.

Here are the values:

NOTALLOWED

A user ID associated with the sending transaction is sent for requests using this connection. NOTALLOWED is the default value.

OPTIONAL

A distributed identity is sent, if available. The user ID associated with the sending transaction is also sent.

REQUIRED

A distributed identity is required for requests using this connection. If REQUIRED is specified, the receiving system must support distributed identities. The user ID associated with the sending transaction is not sent.

IPFAMILY

Displays the address format of the Ipresolved option. The Ipfamily option is available using an expanded query only. Filtering interacts with the Ipfamily option when you filter using wildcard characters. For example, if the value in Ipfamily is IPv6family, you must use the colon character to retrieve an IP address. The possible values are as follows:

IPV4FAMILY

The address is an IPv4 address.

IPV6FAMILY

The address is an IPv6 address.

UNKNOWN

Ipresolved is not yet in use, or the address cannot be resolved.

IPRESOLVED(*value*)

Displays the IPv4 or IPv6 address of the host. The Ipresolved option is available using an expanded query only.

PARTNER(*value*)

Displays a 64-character string indicating the product token of the partner system. The field is blank when the connection is not acquired or if the partner system does not indicate a product type when the connection is established. For example, the partner system is IBM_CICS_Transaction_Server/4.1.0(zOS) for a CICS TS 4.1 partner.

INQUIRE JVMPOOL

A new option PROFILEDIR is added:

PROFILEDIR(*directory*)

Displays the directory in z/OS UNIX that contains the JVM profiles for CICS. This value is taken from the **JVMPROFILEDIR** system initialization parameter.

INQUIRE MONITOR

The default setting for the COMPRESSST option has changed. Data compression is now the default option. A new option, DPLLIMIT, returns the maximum number of DPL requests allowed for transaction resource monitoring. A new option, IDNTYCLASS, specifies whether identity class monitoring is enabled.

COMPRESSST

Displays whether data compression is performed for monitoring records. The values are as follows:

COMPRESS

Data compression is performed. The default is for monitoring records to be compressed.

NOCOMPRESS

Data compression is not performed.

You can reset this value by overtyping it with a different value.

DPLLIMIT (*value*)

Displays the maximum number of distributed program link requests for which transaction resource class monitoring data is being collected.

IDNTYCLASS

Displays whether the identity class of monitoring data is being collected. The values are as follows:

IDNTY

Identity class monitoring data is being collected.

NOIDNTY

Identity class monitoring data is not being collected.

INQUIRE SYSTEM

A new option MQCONN is added:

MQCONN(*value*)

Displays the name of the MQCONN resource definition that is currently installed for the CICS region. If no MQCONN resource definition is currently installed, the field is blank. Only one MQCONN resource definition can be installed at a time in a CICS region. The MQCONN resource definition specifies the attributes of the connection between CICS and WebSphere MQ.

INQUIRE TCPIP SERVICE

A new option, HOST, displays the host name, IPv4, or IPv6 address of the remote system. This option is an alternative to IPADDRESS. The values HOSTNAME, ANY, DEFAULT, IPV4HOST, IPV6HOST, and NOTAPPLIC filter the contents of the IPADDRESS option and the new HOST option. A new option, IPRESOLVED, displays the IPv4 or IPv6 address of the host. The values IPV4FAMILY, IPV6FAMILY, and UNKNOWN filter the contents of the new IPRESOLVED option.

HOST(*value*)

Displays the host name, IPv4, or IPv6 address of the remote system. All IPv4 addresses are displayed as native IPv4 dotted decimal addresses, for example, 1.2.3.4, regardless of the type of address format used. For information on accepted IPv4 formats, see the *CICS Internet Guide*.

HOSTTYPE

Displays the address format of the HOST option. The HOSTTYPE option is available using an expanded query only. The possible values are as follows:

HOSTNAME

The HOST option contains a character host name.

ANY The ANY option is specified for the HOST option.

|
| **DEFAULT**

| The DEFAULT option is specified for the HOST option.

| **IPV4HOST**

| The address is an IPv4 address.

| **IPV6HOST**

| The address is an IPv6 address.

| **IPFAMILY**

| Displays the address format of the IPRESOLVED option. The IPFAMILY option
| is available using an expanded query only. Filtering interacts with the
| IPFAMILY option when you filter using wildcard characters. For example, if
| the value in IPFAMILY is IPV6FAMILY, you must use the colon character to
| retrieve an IP address. The possible values are as follows:

| **IPV4FAMILY**

| The address is an IPv4 address.

| **IPV6FAMILY**

| The address is an IPv6 address.

| **UNKNOWN**

| The IPRESOLVED option is not yet in use, or the address cannot be
| resolved.

| **IPRESOLVED**(*value*)

| Displays the IPv4 or IPv6 address of the host. The IPRESOLVED option is
| available using an expanded query only.

| **INQUIRE TERMINAL**

The REMOTESYSTEM option now provides information about IP connections.

| **INQUIRE TRANSACTION**

The REMOTESYSTEM option now provides information about IP connections.

| **INQUIRE URIMAP**

A new option, AUTHENTICATE, displays information about whether the host
specified in the USAGE(CLIENT) URIMAP resource requires authentication.

| **AUTHENTICATE**

| Displays whether to provide authentication information to a Web Services
| provider. The possible values are as follows:

| **BASICAUTH**

| The Web Services provider requires HTTP basic authentication. You can
| supply credentials to the Web Services requester (a user ID and
| password) to the global user exit, XWBAUTH, which, if enabled, sends
| the credentials to the Web Services provider.

| **NOAUTHENTIC**

| The Web Services provider does not require authentication.

| If you specify an authentication value on an API command, for example, **WEB**
| **SEND**, this value is used instead of the AUTHENTICATE value specified in the
| URIMAP resource. If you also specify a user ID and password in the
| command, the XWBAUTH global user exit is not called.

A new option, ATOMSERVICE, displays the name of the ATOMSERVICE resource definition and the USAGE option has a new value, ATOM. The HOST option has been extended to display IPv4 addresses. The values HOSTNAME, IPV4HOST, IPV6HOST, and NOTAPPLIC filter the contents of the new HOST option. A new option, IPRESOLVED, displays the IPv4 or IPv6 address of the host. The values IPV4FAMILY, IPV6FAMILY, and UNKNOWN filter the contents of the new IPRESOLVED option. A new option, PORT, displays the numeric port number of the connection.

|
| **ATOMSERVICE** (*value*)

| Displays the 1- to 8-character name of an ATOMSERVICE resource definition
| for an Atom feed. The ATOMSERVICE resource definition defines an Atom
| service, feed, collection, or category document, and identifies the Atom
| configuration file, CICS resource or application program, and XML binding
| that are used to supply the data for the feed.

| **HOST** (*value*)

| Displays the host name, IPv4, or IPv6 address of the URL. All IPv4 addresses
| are displayed as native IPv4 dotted decimal addresses; for example, 1.2.3.4,
| regardless of the type of address format used. If you are using a URIMAP
| definition relating to CICS as an HTTP client, USAGE(CLIENT), and a native
| IPv4 address or host name is used, the address or host name and port number
| are displayed; for example, 1.2.3.4:80 or hostname.com:443. If you specify a
| hostname that is greater than 110 characters in length, port information is not
| displayed in the HOST option. Use the PORT option to view the port number.

| **HOSTTYPE**

| Displays the address format of the Host option. The Hosttype option is
| available using an expanded query only. The possible values are as follows:

| **HOSTNAME**

| The Host option contains a character host name.

| **IPV4HOST**

| The address is an IPv4 address.

| **IPV6HOST**

| The address is an IPv6 address.

| **IPFAMILY**

| Displays the address format of the IPRESOLVED option. The IPFAMILY option
| is available using an expanded query only. Filtering interacts with the
| IPFAMILY option when you filter using wildcard characters. For example, if
| the value in IPFAMILY is IPV6FAMILY, you must use the colon character to
| retrieve an IP address. The possible values are as follows:

| **IPV4FAMILY**

| The address is an IPv4 address.

| **IPV6FAMILY**

| The address is an IPv6 address.

| **UNKNOWN**

| The IPRESOLVED option is not yet in use, or the address cannot be
| resolved.

| **IPRESOLVED** (*value*)

| Displays the IPv4 or IPv6 address of the host. The IPRESOLVED option is
| available using an expanded query only.

| **PORT** (*value*)

| Displays the numeric port number value used by USAGE(CLIENT) for the

connection to the server, in the range 1 - 65535. The port number is also displayed in the HOST option if HOST contains a native IPv4 address or a host name. For USAGE(CLIENT), the PORT attribute always contains the port number that is being used for the communication, even if PORT(NO) is specified on the URIMAP at define time. For USAGE(ATOM), USAGE(SERVER), or USAGE(PIPELINE), the PORT option displays ().

Usage

Displays the usage for the URIMAP definition.

ATOM

The URIMAP definition is for an Atom feed. It is used for an incoming request for data that CICS makes available as an Atom feed.

INQUIRE VTAM

A new option PSTYPE is added:

PSTYPE

Displays the type of VTAM persistent sessions support for the CICS region. The values are as follows:

SNPS Single-node persistent sessions. VTAM sessions can be recovered after a CICS failure and restart.

MNPS

Multinode persistent sessions. VTAM sessions can also be recovered after a VTAM or z/OS failure in a sysplex.

NOPS VTAM persistent sessions support is not used for this CICS region.

INQUIRE WORKREQUEST

A new option, CLNTIP6ADDR, displays the IPv6 address of the client that originated the request. The values IPV4FAMILY, IPV6FAMILY, and UNKNOWN filter the contents of the CLIENTIPADDR option and the new CLNTIP6ADDR option. A new option, TARGETSYS, displays the IPv4 or IPv6 address of the target system. This option is an alternative to TSYSTEM. The values IPV4TSYS, IPV6TSYS, APPLID, and NOTAPPLIC filter the contents of the TSYSTEM option and the new TARGETSYS option.

CLNTIPFAMILY(*value*)

Displays the address format of the IP address in CLIENTIPADDR and CLNTIP6ADDR. The CLNTIPFAMILY option is available using an expanded query only. Filtering interacts with the CLNTIPFAMILY option when you filter using wildcard characters. For example, if the value in Clntipfamily is IPV6FAMILY, you must use the colon character to retrieve an IP address. The possible values are as follows:

IPV4FAMILY

The address is an IPv4 address.

IPV6FAMILY

The address is an IPv6 address.

UNKNOWN

The IPRESOLVED option is not yet in use, or the address cannot be resolved.

| **CLNTIP6ADDR**(*value*)

| Displays the colon hexadecimal IPv6 address of the TCP/IP client that
| originated the request as a 39-character value.

| **TARGETSYS**(*value*)

| Displays the applid of the target CICS system as a 50-byte field. This field can
| contain one of the following values:

- The colon hexadecimal TCP/IP address and port number of the target system, in the format [::a:b:c:d]:port where [] are X'BA' & X'BB' (code page 37).
- The dotted decimal TCP/IP address and port number of the target system. All IPv4 addresses are displayed as native IPv4 dotted decimal addresses, for example, 1.2.3.4, irrespective of which type of address format is used. For information on accepted IPv4 formats, see the *CICS Internet Guide*.
- The VTAM applid of the target system. The applid can be up to 8 characters followed by blanks.
- A string of blank characters. The target system is not CICS over MRO, the target system is not CICS over TCP/IP, or an error has occurred.
- A different value, which CICS captures but does not translate.

| **TSYSTYPE**

| Displays the address format of the IP address in TSYSTEM and TARGETSYS.
| Here are the values:

| **IPV4** The TSYSTEM and TARGETSYS options contain a dotted decimal IPv4
| address.

| **IPV6** The TARGETSYS option contains a colon hexadecimal IPv6 address.
| This value is returned only if an IPv6 address is returned in the
| TARGETSYS option.

| **APPLID**

| The TSYSTEM and TARGETSYS options contain an applid.

| **NOTAPPLIC**

| No entry is specified in the TSYSTEM or TARGETSYS option. Blanks
| are returned.

| **SET MONITOR**

| New options DPLLIMIT, FILELIMIT, IDNTYCLASS, and TSQUEUELIMIT are
| added.

| **DPLLIMIT** (*value*)

| The maximum number of distributed program link requests for which CICS is
| to perform transaction resource monitoring. The value specified must be in the
| range 0 - 64.

| **FILELIMIT** (*value*)

| The maximum number of files for which CICS is to perform transaction
| resource monitoring. The value specified must be in the range 0 - 64.

| **IDNTY**

| The identity class of monitoring data is to be collected.

| **NOIDNTY**

| The identity class of monitoring data is not to be collected.

| **TSQUELIMIT** (*value*)

| The maximum number of temporary storage queues for which CICS is to
| perform transaction resource monitoring. The value specified must be in the
| range 0 - 64.

Resource signature options added to CEMT INQUIRE command

Changed command, INQUIRE

The definition and installation signature options are added to the **INQUIRE** command for the following resource types:

ATOMSERVICE
BUNDLE
CONNECTION
CORBASERVER
DB2CONN
DB2ENTRY
DB2TRAN
DJAR
DOCTEMPLATE
ENQMODEL
EVENTBINDING
FILE
IPCONN
JOURNALMODEL
JVMSERVER
LIBRARY
MQCONN
MQINI
PIPELINE
PROFILE
PROCESSTYPE
PROGRAM
REQUESTMODEL
TCPIPSERVICE
TDQUEUE
TRANCLASS
TRANSACTION
TSMODEL
URIMAP
WEBSERVICE
XMLTRANSFORM

The list of possible values for each resource type **CHANGEAGENT** and **INSTALLAGENT** can vary and depends on the how the resource is defined and installed. For details of a specific INQUIRE command, see *CICS Supplied Transactions*.

| **CHANGEAGENT**(*value*)

| Displays a value identifying the agent that made the last change to the
| resource definition. You cannot use CEMT to filter on some of these values
| because they are duplicated. The possible values are as follows:

| **AUTOINSTALL**

| The resource was autoinstalled.

| **AUTOINSTALL**

| The resource was autoinstalled as a result of specifying an initiation
| queue name on a CKQC START command, and the previously
| installed MQCONN definition did not specify a value for
| INITQNAME.

| **CREATESPI**

| The resource definition was last changed by an **EXEC CICS CREATE**
| command.

| **CSDAPI**

| The resource definition was last changed by a CEDA transaction or the
| programmable interface to DFHEDAP.

| **CSDBATCH**

| The resource definition was last changed by a DFHCSDUP job.

| **DREPAPI**

| The resource definition was last changed by a CICSplex SM BAS API
| command.

| **DYNAMIC**

| The resource definition was last changed by a PIPELINE scan.

| **DYNAMIC**

| The resource was defined as a result of the installation of a DB2ENTRY
| with TRANSID specified.

| **DYNAMIC**

| The resource was defined by the CICS scanning mechanism.

| **DYNAMIC**

| The resource was defined by the CICS system for a template being
| used through the CICS template manager, DFHWBTL.

| **DYNAMIC**

| The resource was defined as a result of a MQCONN resource
| definition with INITQNAME specified.

| **DYNAMIC**

| The resource was defined by an ATOMSERVICE resource.

| **SYSTEM**

| The resource definition was last changed by the CICS or CICSplex
| system.

| **TABLE**

| The resource definition was last changed by a table definition.

| **TABLE**

| The resource definition was last changed by a File Control table
| definition.

| **CHANGEAGREL**(*value*)

| Displays the 4-digit number of the CICS release that was running when the
| resource definition was last changed.

| **CHANGETIME**(*date time*)

| Displays the date and time when the resource definition was last changed. The
| format of the date depends on the value that you selected for the DATFORM
| system initialization parameter for your CICS region. The format of the time is
| hh:mm:ss.

| **CHANGEUSRID**(*value*)

| Displays the 8-character user ID that ran the change agent.

| **DEFINESOURCE**(*value*)

| Displays the source of the resource definition. The DEFINESOURCE value
| depends on the CHANGEAGENT option. For details, see in the *CICS Resource*
| *Definition Guide*.

| **DEFINETIME**(*date time*)

| Displays the date and time when the resource was created. The format of the
| date depends on the value that you selected for the DATFORM system
| initialization parameter for your CICS region. The format of the time is
| hh:mm:ss.

| **INSTALLAGENT**(*value*)

| Displays a value identifying the agent that installed the resource. You cannot
| use CEMT to filter on some of these values because they are duplicated. The
| possible values are as follows:

| **AUTOINSTALL**

| The resource was autoinstalled.

| **AUTOINSTALL**

| The resource was autoinstalled as a result of specifying an initiation
| queue name on a CKQC START command, and the previously
| installed MQCONN definition did not specify a value for
| INITQNAME.

| **BUNDLE**

| The resource was installed by a bundle deployment.

| **CREATESPI**

| The resource was installed by an **EXEC CICS CREATE** command.

| **CSDAPI**

| The resource was installed by a CEDA transaction or the
| programmable interface to DFHEDAP.

| **DYNAMIC**

| The resource was installed using a PIPELINE scan.

| **DYNAMIC**

| The resource was installed as a result of the installation of a
| DB2ENTRY with TRANSID specified.

| **DYNAMIC**

| The resource was installed by the CICS scanning mechanism.

| **DYNAMIC**

| The resource was installed by the CICS system for a template being
| used through the CICS template manager, DFHWBTL.

| **DYNAMIC**

| The resource was installed as a result of the installation of a MQCONN
| with INITQNAME specified.

	DYNAMIC
	The resource was installed by an ATOMSERVICE resource.
	GRPLIST
	The resource was installed by GRPLIST INSTALL .
	SYSTEM
	The resource was installed by the CICS or CICSplex SM system.
	TABLE
	The resource was installed using a table definition.
	TABLE
	The resource was installed using a File Control table definition.
	INSTALLTIME (<i>date time</i>)
	Displays the date and time when the resource was installed. The format of the date depends on the value that you selected for the DATFORM system initialization parameter for your CICS region. The format of the time is hh:mm:ss.
	INSTALLUSRID (<i>value</i>)
	Displays the 8-character user ID that installed the resource.

New CEMT commands

These CEMT commands support new CICS functions.

For detailed information on all the new and changed CEMT transactions and options, see the *CICS Supplied Transactions*.

DISCARD ATOMSERVICE

Remove a ATOMSERVICE resource definition.

DISCARD BUNDLE

Remove a BUNDLE resource definition. Any resources that were dynamically created by the bundle are also discarded.

DISCARD EVENTBINDING

Remove an event binding.

DISCARD JVMSERVER

Remove a JVMSERVER resource definition.

DISCARD MQCONN

Remove an MQCONN resource definition. If there is an implicit MQINI resource definition, it is also discarded.

INQUIRE ATOMSERVICE

Retrieve information about ATOMSERVICE resource definitions.

INQUIRE BUNDLE

Retrieve information about a BUNDLE resource.

INQUIRE EVENTBINDING

Retrieve information about an event binding.

INQUIRE EVENTPROCESS

Retrieve the status of event processing.

INQUIRE JVMSERVER

Retrieve information about the status of a JVM server.

INQUIRE MQCONN

Retrieve information about the connection between CICS and WebSphere MQ.

INQUIRE MQINI

Retrieve the name of the default initiation queue used for the connection between CICS and WebSphere MQ.

INQUIRE XMLTRANSFORM

Retrieve information about an installed XMLTRANSFORM resource.

SET ATOMSERVICE

Enable or disable an ATOMSERVICE resource.

SET BUNDLE

Enable or disable a BUNDLE resource.

SET EVENTBINDING

Enable or disable an EVENTBINDING resource.

SET EVENTPROCESS

Change the status of event processing in the CICS region.

SET JVMSERVER

Change the attributes of a JVM server.

SET MQCONN

Change information about the attributes of the connection between CICS and WebSphere MQ. You can also start and stop the connection.

SET XMLTRANSFORM

Change the validation status of an XMLTRANSFORM resource.

Chapter 8. Changes to the CICS-supplied transactions

Some CICS-supplied transactions are new or have changed in support of new functions.

Changes to CEMN

The CEMN transaction has new and changed options.

The CEMN transaction now includes the new distributed program link resource limit and a new identity class field. The CEMN transaction has been split into a primary panel and a second options panel. Also, you can change the DPLLIMIT, FILELIMIT, and TSQUEUELIMIT values using the CEMN transaction.

Changes to CKQC

When you use the CKQC transaction from the CICS-MQ adapter control panels or call it from the CICS command line or a CICS application, the default settings in the transaction are now taken from the MQCONN resource definition for the CICS region, rather than from an INITPARM system initialization parameter.

The default values supplied on the CICS-MQ adapter control panels for the queue manager name and initiation queue name are taken from the MQCONN resource definition and its implied MQINI resource definition.

When CICS is connected to WebSphere MQ, the field "QMgr name" in the Display Connection panel shows the name of the queue manager to which CICS is connected, or to which CICS is waiting to connect (if resynchronization is in progress). When CICS is not connected to WebSphere MQ, the field is blank. The new field "Mqname" in the Display Connection panel shows the name of the default WebSphere MQ queue-sharing group or queue manager for the connection, which you specified using the MQNAME attribute in the MQCONN resource definition. The value for the Mqname field is displayed whether or not CICS is connected to WebSphere MQ.

You can issue the CKQC START command without specifying a queue manager name, and CICS connects to the queue manager or a member of the queue-sharing group that you have specified in the MQCONN resource definition. You can also specify the name of a queue-sharing group on the CKQC START command in place of the name of a single queue manager. If you specify the name of a queue manager or queue-sharing group on the CKQC START command, the name that you specify replaces the setting for MQNAME in the installed MQCONN resource definition.

The following table summarizes the operator actions that you can perform for the CICS-WebSphere MQ connection, and whether you can perform these actions using **EXEC CICS** and CEMT commands, the CKQC transaction, the CICS Explorer[®], or CICSplex SM.

Table 1. Operator actions for CICS-WebSphere MQ connection

Operator action	EXEC CICS, CEMT	CKQC	CICS Explorer or CICSplex SM
Start CICS-WebSphere MQ connection	Yes, using SET MQCONN, but you cannot specify the default initiation queue name	Yes	Yes
Stop CICS-WebSphere MQ connection	Yes, using SET MQCONN	Yes	Yes
Display connection status and settings	Yes, using INQUIRE MQCONN	Yes	Yes
Display connect and disconnect time	Yes, using CICS statistics commands	No	Yes
Display and reset detailed connection statistics including call types	Yes, using CICS statistics commands (resets all statistics)	Yes (resets CICS-WebSphere MQ connection statistics only)	No
Display tasks that are using the CICS-WebSphere MQ connection	Yes, but only the number of tasks, using INQUIRE MQCONN	Yes, full listing of tasks	No
Purge individual tasks that are using the CICS-WebSphere MQ connection	Yes, using SET TASK FORCEPURGE	No	No
Enable or disable CICS-WebSphere MQ API-crossing exit	No	Yes	No
Start instances of CKTI (CICS-WebSphere MQ trigger monitor or task initiator)	No	Yes	No

Changes to CRTE

The routing transaction, CRTE, now supports transaction routing over an IPIC connection.

New transaction CEPH

CEPH, the HTTP EP adapter for event processing, is introduced in CICS Transaction Server for z/OS, Version 4 Release 1.

CEPH is defined by the event processing domain during CICS initialization. It is defined with RESSEC(YES) and CMDSEC(YES). CEPH runs the CICS program DFHECEAH, the HTTP EP adapter for event processing program. You can use an alternative transaction to run DFHECEAH.

CEPH is a RACF Category 2 transaction.

New transaction CEPQ

CEPQ, the WMQ adapter for event processing, is introduced in CICS Transaction Server for z/OS, Version 4 Release 1.

CEPQ is defined by the event processing domain during CICS initialization. It is defined with RESSEC(YES) and CMDSEC(YES). CEPQ runs the CICS program DFHECEAM, the WMQ adapter for event processing program. You may use an alternative transaction that executes DFHECEAM.

CEPQ is a RACF Category 2 transaction.

New transaction CEPT

CEPT, the TSQ adapter for event processing transaction, is introduced in CICS Transaction Server for z/OS, Version 4 Release 1.

CEPT is defined by the event processing domain during CICS initialization. It is defined with RESSEC(YES) and CMDSEC(YES). CEPT runs the CICS program DFHECEAT, the TSQ adapter for event processing program. You may use an alternative transaction that executes DFHECEAT.

CEPT is a RACF Category 2 transaction.

New transaction CWWU

CWWU was introduced in CICS Transaction Server for z/OS, Version 4 Release 1 for the CICS management client interface. It calls the alias program DFHWBA to analyze CICS Web requests.

CWWU is defined in the CICS-supplied resource definition group DFHCURDI. The CICS management client interface uses CWWU instead of CWBA to run the CICS alias program DFHWBA, to distinguish CICS management client interface requests from other types of Web requests.

CWWU is a RACF Category 2 transaction.

New transaction CW2A

CW2A, the default alias transaction for Atom feeds, was introduced in CICS Transaction Server for z/OS, Version 4 Release 1. It is used for processing with ATOMSERVICE resource definitions.

CW2A is defined in the new CICS-supplied resource definition group DFHWEB2. It is defined with RESSEC(YES) and CMDSEC(YES). CW2A runs the CICS program DFHW2A, the W2 domain alias program. You may use an alternative transaction that executes DFHW2A.

CW2A is a RACF Category 2 transaction.

Chapter 9. Additions to CICS RACF category 1 transactions

The list of category 1 transactions has some new CICS internal system transactions. These transactions must be defined to your external security manager, and the CICS region user ID must be authorized to use them, so that CICS can initialize successfully when it is running with security enabled (SEC=YES).

For a full list of all the CICS category 1 transactions, see the *CICS RACF Security Guide*. Also see the DFH\$CAT1 CLIST, supplied in the SDFHSAMP library.

The new category 1 transactions are as follows:

- CEPD
- CEPM
- CISB
- CISM
- CISQ
- CISU
- CISX
- CIS4
- CJSR
- CRLR

Chapter 10. Changes to global user exits, task-related user exits, and the exit programming interface

CICS Transaction Server for z/OS, Version 4 Release 1 has changes to some existing global user exit programs and task-related user exit programs, and there are some new global user exit points. Check your existing global user exit programs against the changes summarized here.

Reassembling global user exit programs

The CICS global user exit programming interface is product-sensitive, and depends on the facilities that you have set up in your CICS system. Global user exit programs must be reassembled for each CICS release.

Check the changes summarized in this section, and modify your global user exit programs to take account of changes to relevant parameters. When you have completed your program changes, you must reassemble *all* your global user exit programs against the CICS Transaction Server for z/OS, Version 4 Release 1 libraries.

Note: If a global user exit or task-related user exit is assembled using CICS libraries from a release earlier than CICS TS 4.1 and makes an XPI call on a CICS TS 4.1 system the exit will fail. An error message is issued and the transaction that called the exit might end. You must reassemble all global user exits and task-related user exits, against the CICS TS 4.1 libraries, if they contain *any* XPI calls.

Changes to the DFHUEPAR standard parameter list

The DFHUEPAR standard parameter list of TCB two-character codes and symbolic values addressed by the global user exit task indicator field, UEPGIND, is extended. TCB modes are represented in DFHUEPAR as both a two-character code and a symbolic value.

Table 2. TCB indicators changed in DFHUEPAR

Symbolic value	2-byte code	Change	Description
UEPTTP	TP	Addition	A TP open TCB, used to own the Language Environment enclave and THRD TCB pool for a JVM server.
UEPTT8	T8	Addition	A T8 open TCB, used by a JVM server to attach pthreads for system processing.

Changes to global user exits

Some existing global user exits have new parameters, new values or return codes, or changes to the way in which the exits are used.

HTTP client authorization and send exits: XWBAUTH and XWBSNDO

XWBAUTH and XWBSNDO now support the HTTP EP adapter. If your target system requires basic authentication or security policies when using the HTTP EP adapter, you must implement XWBSNDO and XWBAUTH user exits to provide the required credentials.

HTTP client open and send exits: XWBAUTH, XWBOPEN, and XWBSNDO

XWBAUTH, XWBOPEN, and XWBSNDO now support IPv6 addressing. You must ensure that any programs that use these global user exits can process IPv6 addresses that are passed in the UEPHOST parameter.

Changes to resource management install and discard exit XRSINDI

The range of values in the 1-byte field addressed by the UEPIDTYP parameter now covers the installation and discarding of the following new resource types:

UEIDATOM

An ATOMSERVICE resource.

UEIDBNDL

A BUNDLE resource.

UEIDEVCS

An event capture resource.

UEIDEVNT

An EVENTBINDING resource.

UEIDJSRV

A JVM server resource.

UEIDMQCN

An MQCONN resource definition for the connection between CICS and WebSphere MQ.

UEIDMQIN

An MQINI resource definition.

UEIDXMLT

An XMLTRANSFORM resource.

New parameters added to XRSINDI

New parameters are added to the install and discard global user exit, XRSINDI, to support the resource signature.

UEPDEFTM

Address of a variable-length list, which corresponds to the list in UEPIDNAM, containing the definition time of the individual resource as an 8-character STCK value.

Note: The parameters UEPDEFTM, UEPCHUSR, UEPCHAGT, UEPCHREL, UEPCHTIM, UEPDEFSRC, UEPINUSR, UEPINTIM, and UEPINAGT are valid for the following resources: ATOMSERVICE,

BUNDLE, CONNECTION, CORBASERVER, DB2CONN, DB2ENTRY, DB2TRAN, DJAR, DOCTEMPLATE, ENQMODEL, EVENTBINDING, FILE, IPCONN, JOURNALMODEL, JMVSERVER, LIBRARY, MQCONN, MQINI, PIPELINE, PROFILE, PROCESSTYPE, PROGRAM, REQUESTMODEL, TCPIPSERVICE, TDQUEUE, TRANCLASS, TRANSACTION, TSMODEL, URIMAP, WEBSERVICE, and XMLTRANSFORM. The parameter value is zero for all other resources.

UEPCHUSR

Address of a variable-length list, which corresponds to the list in UEPIDNAM, containing the 8-character user ID that ran the agent that last changed the individual resource.

UEPCHAGT

Address of a variable-length list, which corresponds to the list in UEPIDNAM, of a 2-byte identifier representing the agent that last changed the individual resource. The possible values are as follows:

UEPUNKAGT

The resource was changed by an unknown agent.

UEPCSDAPI

The resource was changed using the CSD API or CEDA.

UEPCSDBAT

The resource was changed using the CSD batch program, DFHCSDUP.

UEPDRPAPI

The resource was changed using the CICSplex SM BAS API.

UEPAUTOIN

The resource was changed using autoinstall.

UEPSYSTEM

The resource was changed by the running CICS region.

UEPDYNAMC

The resource was changed dynamically.

UEPTABLE

The resource was changed using a table.

UEPCHREL

Address of a variable-length list, which corresponds to the list in UEPIDNAM, containing the 4-character CICS release level that was running when the individual resource was last changed.

UEPCHTIM

Address of a variable-length list, which corresponds to the list in UEPIDNAM, containing the CSD record time stamp change for the individual resource as an 8-character STCK value.

UEPDEFSRC

Address of a variable-length list, which corresponds to the list in UEPIDNAM, containing the 8-character CSD group name or source corresponding to the individual resource.

UEPINUSR

Address of a variable-length list, which corresponds to the list in UEPIDNAM, containing the 8-character user ID that installed the individual resource.

| **UEPINTIM**

| Address of a variable-length list, which corresponds to the list in
| UEPIDNAM, containing the time that the domain was called for the
| installation of the individual resource as an 8-character STCK value.

| **UEPINAGT**

| Address of a variable-length list, which corresponds to the list in
| UEPIDNAM, of a 2-byte identifier representing the agent that installed the
| individual resource. The possible values are as follows:

| **UEPCSDAPI**

| The resource was installed using the CSD API or CEDA.

| **UEPCRESPI**

| The resource was installed using the EXEC CICS CREATE SPI
| commands.

| **UEPGRPLST**

| The resource was installed at startup using GRPLIST install.

| **UEPAUTOIN**

| The resource was autoinstalled.

| **UEPSYSTEM**

| The resource was installed by the running CICS system.

| **UEPDYNAMC**

| The resource was installed dynamically.

| **UEPBUNDLE**

| The resource was installed by a bundle deployment.

| **UEPTABLE**

| The resource was installed using a table.

| **Global user exits, XPCTA, XPCABND, and XPCHAIR**

The transaction abend control block, TACB, now includes the breaking event address register information, BEAR. The XPCTA, XPCABND, and XPCHAIR global user exits are passed a pointer to the TACB parameter. These exits have to be reassembled only if the new information is to be processed by the exit or the ABNDMSGT field is not referenced by its address in field ABNDAMSG.

The TACB also includes additional GP and FP register information. Again, these exits have to be reassembled only if the new information is to be processed by the exit or the ABNDMSGT field is not referenced by its address in field ABNDAMSG.

| **Changed global user exit, XSRAB**

New fields in the system recovery program exit, XSRAB, support the extended z/Architecture MVS linkage support.

| **SRP_ADDITIONAL_REG_INFO**

| An area containing additional register information.

| **SRP_ADDITIONAL_REGS_FLAG**

| 1 byte containing flags:

| **SRP_CICS_GPR64_AVAIL**

| The 64-bit CICS GP registers are available.

| **SRP_SYSTEM_GPR64_AVAIL**

| The 64-bit system GP registers are available.

| **SRP_ADDITIONAL_FPR_AVAIL**

| Additional FP registers are available.

| **SRP_CICS_GP64_REGS**

| 128-byte area containing the CICS 64-bit GP registers at the time of the
| abend.

| **SRP_SYSTEM_GP64_REGS**

| 128-byte area containing the system 64-bit GP registers at the time of the
| abend.

| **SRP_FP_REGS**

| 128-byte area containing all of the FP registers at the time of the abend.

| **SRP_FPC_REG**

| 4-byte field containing the FPC register at the time of the abend.

New global user exit points

CICS Transaction Server for z/OS, Version 4 Release 1 includes some new global user exit points to help you customize new or existing CICS functions.

New global user exit points added in CICS Transaction Server for z/OS, Version 4 Release 1

| **File control RLS coexistence program exit XFCRLSCO**

| The XFCRLSCO exit can be called during a request to open a file. Use this
| exit to allow an application to switch the mode between RLS and read-only
| non-RLS to access a particular data set.

| **Intersystem communication program exit XISQLCL**

| You can use the XISQLCL exit for EXEC CICS START NOCHECK
| commands that are scheduled for an IPIC connection.

| You can use the XISQLCL sample global user exit program, DFHEXISL, to
| control the queueing of START NOCHECK requests that are scheduled for
| an IPIC connection.

| **Pipeline processing exit XWSPRROI**

| Use the XWSPRROI exit to access containers on the current channel before
| the containers are processed by a Web services provider application, but
| after any instance of the XWSPRRWI exit is invoked.

| **Pipeline processing exit XWSPRRWI**

| Use the XWSPRRWI exit to access containers on the current channel that
| are to be processed by the Web services provider application, after CICS
| has converted the Web services request body into a language structure and
| before any instance of the XWSPRROI exit is invoked.

| **Pipeline processing exit XWSPRRWO**

| Use the XWSPRRWO exit to access containers on the current channel that
| have been processed by a Web services provider application after any
| instance of the XWSPRROO exit.

| **Pipeline processing exit XWSRQROI**

| Use the XWSRQROI exit to access containers on the current channel after
| they are processed by the transport as a Web services response. The

XWSRQROI exit is invoked directly after CICS has processed the outbound Web service provider. It can also be invoked before any instance of the XWSRQRWI exit.

Pipeline processing exit XWSRQROO

Use the XWSRQROO exit to access containers on the current channel before they are passed to the transport to be processed. This exit runs after any instance of the XWSRQRWO exit is processed and before the data flowing outbound on the Web services transport.

Pipeline processing exit XWSRQRWI

Use the XWSRQRWI exit to access containers on the current channel after they have been processed by the transport as a Web services response. The XWSRQRWI exit is invoked directly after CICS has processed the inbound Web service response. It is also invoked after any instance of the XWSRQROI exit.

Pipeline processing exit XWSRQRWO

Use the XWSRQRWO exit to access containers on the current channel before they are passed to the transport to be processed. This exit runs after CICS has converted the application's language structure into a Web services request body and before CICS processes the optional XWSRQROO exit point.

Pipeline processing exit XWSRQROI

Use the XWSRQROI exit to access containers on the current channel, with CICS acting as a secured Web services requester, after they are processed by the transport as a Web services response. This exit runs after CICS processes the Web service response and before any instance of the XWSSRRWI exit.

Pipeline processing exit XWSSRROO

Use the XWSSRROO exit to access containers on the current channel, with CICS acting as a secured Web services requester, before they are passed to the transport to be processed. This exit runs after any instance of the XWSSRRWO exit is processed and before the encryption of data flowing outbound on the Web services transport.

Pipeline processing exit XWSSRRWI

Use the XWSSRRWI exit to access containers on the current channel, with CICS acting as a secured Web services requester, after they have been processed by the transport as a Web services response. This exit runs after CICS processes the Web service response and after any instance of the XWSSRROI exit.

Pipeline processing exit XWSSRRWO

Use the XWSSRRWO exit to access containers on the current channel, with CICS acting as a secured Web services requester, before they are passed to the transport to be processed. This exit runs after CICS converts the application's language structure into a Web services request body and before CICS processes the optional XWSSRROO exit point, and before being encrypted by the pipeline's security handler.

Changes to the exit programming interface (XPI)

These changes to the exit programming interface (XPI) mean that you might have to change global user exit programs that contain XPI calls. Check whether or not your global user exit programs are affected by these changes to the XPI and modify your programs accordingly.

New RELENSCALL call

By replacing the CALL XPI parameter with the RELENSCALL XPI parameter, a XPI call assembled using the CICS TS 4.1 libraries will execute successfully on all currently supported CICS releases. The release sensitive XPI call alternative applies to *all* XPI commands.

For details of the XPI function, see the *CICS Customization Guide*.

New INQUIRE_ACTIVATION call

The new INQUIRE_ACTIVATION function is provided on the DFHABRX macro call. You can use the INQUIRE_ACTIVATION call to obtain the activity name and the process type for the business transaction activity of the current transaction.

For details of the XPI function, see the *CICS Customization Guide*.

Changed DFHNQEDX call

A new ENQUEUE_TYPE option has been added to the ENQUEUE function.

ENQUEUE_TYPE (XPI | EXECSTRN | EXECADDR)

Specifies the type of resource being enqueued upon. XPI specifies the traditional DFHNQEDX behavior (the resource pool used is exclusive to XPI and cannot be accessed by the CICS API). Use EXECSTRN or EXECADDR to indicate that ENQUEUE_NAME1 specifies an enqueue resource, located in the same namespace, as the one being used by EXEC CICS ENQ. See *CICS Problem Determination Guide* for an explanation of EXECSTRN and EXECADDR.

A new ENQUEUE_TYPE option has been added to the DEQUEUE function.

ENQUEUE_TYPE (XPI | EXECSTRN | EXECADDR)

For details of the function, see the *CICS Customization Guide*.

Chapter 11. Changes to user-replaceable programs

For each CICS release, you must reassemble all user-replaceable programs, whether or not you make any changes to them. Before reassembling the programs, check whether these changes to the user-replaceable program interface affect your own customized programs, and make any necessary changes. For example, there might be changes to the parameters passed to the programs or there might be new actions that the programs need to take. To help you to identify any code changes that are required, compare your customized programs with the sample code in the user-replaceable sample programs provided with this CICS release.

See General notes about user-replaceable programs in the *CICS Customization Guide* for programming information about user-replaceable programs.

Changed user-replaceable programs

Check whether the changes listed for this release to the user-replaceable program interface affect your own customized programs, and make any necessary changes. For example, the parameters passed to the programs might be changed, or the programs might need to take new actions. To help you to identify any code changes that are required, compare your customized programs with the sample code in the user-replaceable sample programs provided with this CICS release.

Analyzer program for CICS Web support

New fields, **wbra_client_ipv6_address** and **wbra_server_ipv6_address**, handle IPv6 addressing. User replaceable modules will behave as before with all IPv4 connections and you do not need to recompile existing modules unless they use the new parameters. If you introduce an IPv6 connection, the **wbra_client_ip_address** and **wbra_server_ip_address** fields are populated with zeros.

Converter program for CICS Web support

New fields, **decode_client_ipv6_address** and **decode_client_ipv6_address_string**, handle IPv6 addressing. User replaceable modules will behave as before with all IPv4 connections and you do not need to recompile existing modules unless they use the new parameters. If you introduce an IPv6 connection, the **decode_client_address** and **decode_client_address_string** fields are populated with zeros.

DFHWBEP, Web error program

New fields, **wbep_client_ipv6_address_len**, **wbep_client_ipv6_address**, **wbep_server_ipv6_address_len**, and **wbep_server_ipv6_address** handle IPv6 addressing. User replaceable modules will behave as before with all IPv4 connections and you do not need to recompile existing modules unless they use the new parameters. If you introduce an IPv6 connection, the **wbep_client_address_len**, **wbep_client_address**, **wbep_server_address_len**, and **wbep_server_address** fields are populated with zeros.

If a URIMAP resource associated with the current HTTP request is disabled, error message DFHWB0763 is issued and the Web error program is started. This

message is written to the CICS log each time the disabled URIMAP resource is encountered. Use the XMEOUT global user exit to suppress or reroute your messages if you do not want them to be written to the CICS log.

Changed program error program, DFHPEP

A new field has been added to the supplied program error program to support the improvements in wild branch diagnosis.

```

*           Breaking Event Address
*
PEP_COM_BEAR           DS      AD      Breaking Event Addr
*

```

New fields have been added to the supplied program error program to support the extended z/Architecture MVS linkage conventions.

```

*
*           Additional register information
*
PEP_COM_FLAG1          DS      0D      Force alignment
PEP_COM_GP64_REGS_AVAIL EQU     X'80'   64 bit register values
*                               available in
*                               PEP_COM_G64_REGISTERS
PEP_COM_ACCESS_REGS_AVAIL EQU     X'40'   64 bit register values
*                               available in
*                               PEP_COM_ACCESS_REGISTERS
PEP_COM_ORIGINAL_FPR_AVAIL EQU     X'20'   FPR 0, 2, 4 & 6 values
*                               available in
*                               PEP_COM_FP_REGISTERS
PEP_COM_ADDITIONAL_FPR_AVAIL EQU   X'10'   All FPR available in
*                               PEP_COM_FP_REGISTERS &
*                               FPCR in
*                               PEP_COM_FPC_REGISTER
*                               Reserved
PEP_COM_GP64_REGISTERS DS      CL7     64 bit GP registers
PEP_COM_FP_REGISTERS  DS      CL128    FP registers
PEP_COM_FP_REGISTER0  DS      FD      FP register 0
PEP_COM_FP_REGISTER1  DS      FD      FP register 1
PEP_COM_FP_REGISTER2  DS      FD      FP register 2
PEP_COM_FP_REGISTER3  DS      FD      FP register 3
PEP_COM_FP_REGISTER4  DS      FD      FP register 4
PEP_COM_FP_REGISTER5  DS      FD      FP register 5
PEP_COM_FP_REGISTER6  DS      FD      FP register 6
PEP_COM_FP_REGISTER7  DS      FD      FP register 7
PEP_COM_FP_REGISTER8  DS      FD      FP register 8
PEP_COM_FP_REGISTER9  DS      FD      FP register 9
PEP_COM_FP_REGISTER10 DS      FD      FP register 10
PEP_COM_FP_REGISTER11 DS      FD      FP register 11
PEP_COM_FP_REGISTER12 DS      FD      FP register 12
PEP_COM_FP_REGISTER13 DS      FD      FP register 13
PEP_COM_FP_REGISTER14 DS      FD      FP register 14
PEP_COM_FP_REGISTER15 DS      FD      FP register 15
PEP_COM_FPC_REGISTER  DS      F       FPC register
PEP_COM_ACCESS_REGISTERS DS     CL64    Access registers
*

```

Chapter 12. Changes to CICS utilities

Changes to CICS utilities in CICS Transaction Server for z/OS, Version 4 Release 1 relate to new, changed, or obsolete CICS functions. The existing utility programs DFHCSDUP, DFHSTUP and DFH0STAT support new resources, and the trace formatting utility program DFHTUxxx and IPCS dump exit routine DFHPDxxx support new resources and are renamed for the release. Support for the DFHCSDUP MIGRATE command is withdrawn in CICS TS for z/OS, Version 4.1.

CSD utility program, DFHCSDUP

The CSD utility program supports all the new and changed resource types and attributes. See Chapter 5, “Changes to resource definitions,” on page 19 for details of all the changes to CSD resource definitions that are supported by DFHCSDUP.

If you are sharing the CSD with earlier releases of CICS and want to alter definitions that are used only on earlier releases, you must use the latest DFHCSDUP, even if some attributes are obsolete in the latest releases of CICS. To use the latest DFHCSDUP to update obsolete options on resource definitions, specify the COMPAT option in the PARM string to indicate that you want DFHCSDUP to operate in compatibility mode.

Changed DFHCSDUP MIGRATE command

Support for the DFHCSDUP MIGRATE command is withdrawn in CICS TS for z/OS, Version 4.1.

In previous versions of CICS, the DFHCSDUP MIGRATE command migrated the eligible DFHDCT, DFHRCT, DFHTCT and DFHTST macro resource definitions to the CICS system definition data set (CSD).

If you use any of these tables, you must migrate them to the CSD before you upgrade to CICS TS for z/OS, Version 4.1. To do so, you can use the DFHCSDUP MIGRATE command on any supported release up to CICS TS for z/OS, Version 3.2 .

Changed DFHCSDUP LIST command

A new SIGSUMM option is added to **DFHCSDUP LIST** to produce a summary of definition signatures for all of the specified resources.

Sigsumm

Shows the definition signatures for each of the resource definitions in the group specified.

Changed DFHCSDUP ADD command

New BEFORE and AFTER options are added to **DFHCSDUP ADD** to control where a new group is placed.

After(*groupname2*)

Specify AFTER to place the new group name after the existing group name. The group name is added at the end of the list if BEFORE or AFTER is not specified.

Before(*groupname3*)

Specify BEFORE to place the new group name before the existing group name. The group name is added at the end of the list if BEFORE or AFTER is not specified.

Changed sample EXTRACT programs

These sample EXTRACT user programs for the DFHCSDUP utility program support the definition signature fields:

DFH\$CRFA, DFH\$CRFP, and DFH0CRFC
DFH\$FORA, DFH\$FORP, and DFH0FORC
DFH0CBDC
DFH\$DB2T and DFH\$SQLT

Statistics formatting utility program, DFHSTUP

The statistics formatting utility program formats additional statistics reports for the new and updated resource types. See Chapter 14, “Changes to statistics,” on page 93 for information about the new keywords available on the SELECT TYPE and IGNORE TYPE parameters.

There is a new distributed program link resource limit, DPLLIMIT, parameter in the DFHSTUP Interval, End of Day, Requested and Summary reports for transaction resource monitoring.

There is a new field Events to HTTP EP adapter, EVNTHHTPCNT, attribute in the EVENTPROCESS: global statistics and EVENTPROCESS: summary global statistics reports.

Sample statistics utility program, DFH0STAT

DFH0STAT, the sample statistics utility program, produces additional statistics reports for the new resource types.

To accommodate new statistics records added in CICS TS for z/OS, Version 4.1, DFH0STAT now has three panels for selecting reports to be printed. New COBOL modules for DFH0STAT are also provided, and some of the existing modules now print a different selection of statistics from those that they previously printed.

There is a new distributed program link resource limit, DPLLIMIT, parameter in the DFH0STAT System Status Report.

There is a new field Events to HTTP EP adapter, EVNTHHTPCNT, attribute in the DFH0STAT EVENTPROCESS report.

New sample EXTRACT statistics utility program, DFH0STXD

The DFH0STXD sample extract program produces a basic report from the CICS statistics records for installed CICS resources. Each print line displays details for the resource listed including the resource type, the define source and the installation signature. For more information, see the *CICS Operations and Utilities Guide*.

Trace formatting utility program, DFHTU660

The trace formatting utility program is renamed to DFHTU660. Always ensure that you use the trace program with the correct level number for the release of CICS TS that created the trace data set that you are formatting.

The program formats trace entries written by the new domains and functions. The new identifiers that you can specify to DFHTU660 on the **TYPETR** parameter for these functional areas are the same as the CETR trace component codes.

IPCS dump exit routine, DFHPD660

The dump formatting utility program is renamed to DFHPD660. Always ensure that you use the dump formatting program with the correct level number for the release of CICS TS that created the dump data set that you are formatting.

The dump exit routine for formatting CICS system dumps formats the control blocks for the new domains. To select or ignore dump data for any domains, specify the dump component keywords for those domains. The dump component keywords for use with the CICS IPCS dump exit routine are the same as the CETR trace component codes.

Chapter 13. Changes to monitoring

Changes to CICS monitoring data might affect user-written and vendor-written utilities that analyze and print CICS SMF 110 monitoring records.

You can request a new type of monitoring data called identity data, which retrieves the distinguished name and realm for a transaction. This facility depends on the z/OS Identity Propagation function that is provided in z/OS, Version 1 Release 11 and three enabling Program Temporary Fixes (PTF). For more information, see APARs PK95579, PM01622, PK83741, and PK98426.

The length of a standard performance class monitoring record, as output to SMF, has increased to 2672 bytes. The length does not take into account any user data that you add or any system-defined data fields that you exclude by using a monitoring control table (MCT).

The offsets have changed for a number of the default CICS dictionary entries in the dictionary data sections of CICS monitoring SMF 110 records.

CICS Transaction Server for z/OS, Version 3 Release 2 introduced a data compression facility for SMF 110 monitoring records, which can provide a significant reduction in the volume of data written to SMF.

All monitoring records, except identity records, are compressed by default. If you do not want to compress monitoring records, you must change the compression option to COMPRESS=NO.

Check your utility programs that process CICS SMF records to ensure that they can still process SMF 110 records correctly. If you have utility programs provided by independent software vendors, you must ensure that they can handle the SMF 110 records correctly. If you want to activate data compression for monitoring records, these programs must handle data compression correctly. You must make sure that the product can identify compressed CICS SMF 110 monitoring records and expand the data section using the z/OS Data Compression and Expansion Services, so that the monitoring records can be processed correctly. If the reporting tool cannot work in this way, consider using the CICS-supplied monitoring sample program DFH\$MOLS, with the EXPAND control statement, to produce an output data set containing the SMF 110 monitoring records in their expanded format, with which the tool can work.

You can identify SMF 110 records from different releases by using the record-version field in the SMF product section.

New and changed monitoring data fields

A new type of monitoring class, identity class monitoring is available. A number of new performance data fields are added to performance class data records. Some existing performance class, resource class, and exception class data fields are changed.

New identity class monitoring added in CICS Transaction Server for z/OS, Version 4 Release 1

You can request a new type of monitoring data called identity data, which retrieves the distinguished name and realm for a transaction. For more information, see Chapter 13, “Changes to monitoring,” on page 83.

New performance data fields added in CICS Transaction Server for z/OS, Version 4 Release 1

Group DFHCICS

| **372 (TYPE-C, 'OCLIPADR', 40 BYTES)**

| The IP address of the originating client or Telnet client.

| **402 (TYPE-A, 'EICTOTCT', 4 BYTES)**

| The total number of EXEC CICS commands issued by the user task.

| **405 (TYPE-A, 'TIASKTCT', 4 BYTES)**

| The number of EXEC CICS ASKTIME commands issued by the user task.

| **406 (TYPE-A, 'TITOTCT', 4 BYTES)**

| The total number of EXEC CICS ASKTIME, CONVERTTIME, and
| FORMATTIME commands issued by the user task.

| **408 (TYPE-A, 'BFDGSTCT', 4 BYTES)**

| The total number of EXEC CICS BIF DIGEST commands issued by the user
| task.

| **409 (TYPE-A, 'BFTOTCT', 4 BYTES)**

| The total number of EXEC CICS BIF DEEDIT and BIF DIGEST commands
| issued by the user task.

| **415 (TYPE-A, 'ECSIGECT', 4 BYTES)**

| The number of EXEC CICS SIGNAL EVENT commands issued by the user
| task.

| **416 (TYPE-A, 'ECEFOPCT', 4 BYTES)**

| The number of event filter operations performed by the user task.

| **417 (TYPE-A, 'ECEVNTCT', 4 BYTES)**

| The number of events captured by the user task.

Group DFHDATA

| **397 (TYPE-S, 'WMQASRBT', 12 BYTES)**

| The WebSphere MQ SRB time this transaction spent processing MQ API
| requests. Add this field to the transaction CPU time field (USRCPUT) when
| considering the measurement of the total CPU time consumed by a transaction.
| This field is zero for point-to-point messaging activity, but it is nonzero where
| MQ API requests result in publish and subscribe type messaging.

| **Note:** WebSphere MQ only returns this value to CICS when Class 3 accounting
| information is being collected in WebSphere MQ; if this information is not
| being collected, the field is always zero. To start collecting Class 3 accounting
| information, issue the command START TRACE(ACCTG) DEST(SMF) CLASS(3) in
| WebSphere MQ.

Group DFH SOCK

| **318 (TYPE-C, 'CLIPADDR', 40 BYTES)**

| The IP address of the client or Telnet client.

| **Group DFHTASK**

| **283 (TYPE-S, 'MAXTTDLY', 12 BYTES)**

| The elapsed time for which the user task waited to obtain a T8 TCB, because
| the CICS system reached the limit of available threads. The T8 mode open
| TCBs are used by a JVM server to perform multithreaded processing. Each T8
| TCB runs under one thread. The thread limit is 1024 for each CICS region and
| each JVM server in a CICS region can have up to 256 threads. This field is a
| component of the task suspend time field, SUSPTIME (group name: DFHTASK,
| field ID: 014).

| **400 (TYPE-S, 'T8CPUT', 12 BYTES)**

| The processor time during which the user task was dispatched by the CICS
| dispatcher domain on a CICS T8 mode TCB. T8 mode TCBs are used by a JVM
| server to perform multithreaded processing. When a thread is allocated a T8
| mode TCB, that same TCB remains associated with the thread until the
| processing completes. This field is a component of the total task CPU time
| field, USRCPUT (field ID 008 in group DFHTASK), and the task key 8 CPU
| time field, KY8CPUT (field ID 263 in group DFHTASK).

| **401 (TYPE-S, 'JVMTHDWT', 12 BYTES)**

| The elapsed time that the user task waited to obtain a JVM server thread
| because the CICS system had reached the thread limit for a JVM server in the
| CICS region. This field is a component of the task suspend time field,
| SUSPTIME (group name: DFHTASK, field ID: 014).

| **Group DFHWEBB**

| **380 (TYPE-C, 'WBURIMNM', 8 BYTES)**

| For CICS Web support, Atom feeds, and Web service applications, the name of
| the URIMAP resource definition that was mapped to the URI of the inbound
| request that was processed by this task.

| **381 (TYPE-C, 'WBPIPLNM', 8 BYTES)**

| For Web service applications, the name of the PIPELINE resource definition
| that was used to provide information about the message handlers that act on
| the service request processed by this task.

| **382 (TYPE-C, 'WBATMSNM', 8 BYTES)**

| For Atom feeds, the name of the ATOMSERVICE resource definition that was
| used to process this task.

| **383 (TYPE-C, 'WBSVCENM', 32 BYTES)**

| For Web service applications, the name of the WEBSERVICE resource definition
| that was used to process this task.

| **384 (TYPE-C, 'WBSVOPNM', 64 BYTES)**

| For Web service applications, the first 64 bytes of the Web service operation
| name.

| **385 (TYPE-C, 'WBPROGNM', 8 BYTES)**

| For CICS Web support, the name of the program from the URIMAP resource
| definition that was used to provide the application-generated response to the
| HTTP request processed by this task.

- 386 (TYPE-A, 'WBSFCRCT', 4 BYTES)
The number of EXEC CICS SOAPFAULT CREATE commands issued by the user task.
- 387 (TYPE-A, 'WBSFTOCT', 4 BYTES)
The total number of EXEC CICS SOAPFAULT ADD, CREATE, and DELETE commands issued by the user task.
- 388 (TYPE-A, 'WBISSFCT', 4 BYTES)
The total number of SOAP faults received in response to the EXEC CICS INVOKE SERVICE and EXEC CICS INVOKE WEBSERVICE commands issued by the user task.
- 390 (TYPE-A, 'WBSREQBL', 4 BYTES)
For Web service applications, the SOAP request body length.
- 392 (TYPE-A, 'WBSRSPBL', 4 BYTES)
For Web service applications, the SOAP response body length.
- 411 (TYPE-S, 'MLXSCTM', 12 BYTES)
The CPU time taken to convert a document using the z/OS XML System Services parser. This field is a subset of the total CPU time as measured in the USRCPUT field (owner DFHTASK, field ID 008).
- 412 (TYPE-A, 'MLXSSTDL', 4 BYTES)
The total length of the documents that were parsed using the z/OS XML System Services parser.
- 413 (TYPE-A, 'MLXMLTCT', 4 BYTES)
The number of EXEC CICS TRANSFORM commands issued by the user task.
- 420 (TYPE-A, 'WSACBLCT', 4 BYTES)
The number of EXEC CICS WSACONTEXT BUILD commands issued by the user task.
- 421 (TYPE-A, 'WSACGTCT', 4 BYTES)
The number of EXEC CICS WSACONTEXT GET commands issued by the user task.
- 422 (TYPE-A, 'WSAEPCT', 4 BYTES)
The number of EXEC CICS WSAEPR CREATE commands issued by the user task.
- 423 (TYPE-A, 'WSATOTCT', 4 BYTES)
The total number of EXEC CICS WS-Addressing commands issued by the user task.

Performance data fields changed in CICS Transaction Server for z/OS, Version 4 Release 1

Group DFHPROG

- 071 (TYPE-C, 'PGMNAME', 8 BYTES)
For Web service applications, this field contains the target application program name.

Group DFHTASK

- 007 (TYPE-S, 'USRDISPT', 12 BYTES)
Total elapsed time during which the user task was dispatched on each CICS TCB under which the task ran. The TCB modes managed by the CICS dispatcher are: QR, RO, CO, FO, SZ, RP, SL, SP, SO, EP, J8, J9, L8, L9, S8, TP, T8, X8, X9, JM, and D2. Be aware that, for each CICS release, new TCB modes might be added to this list, or obsolete TCB modes might be removed.

008 (TYPE-S, 'USRCPUT', 12 BYTES)

Processor time for which the user task was dispatched on each CICS TCB under which the task ran. The TCB modes managed by the CICS dispatcher are: QR, RO, CO, FO, SZ, RP, SL, SP, SO, EP, J8, J9, L8, L9, S8, TP, T8, X8, X9, JM, and D2. Be aware that, for each CICS release, new TCB modes might be added to this list, or obsolete TCB modes might be removed.

164 (TYPE-A, 'TRANFLAG', 8 BYTES)

Transaction flags, a string of 64 bits used for signaling transaction definition and status information:

Byte 0 Transaction facility identification:

Bit 0 Transaction facility name = none (x'80')

Bit 1 Transaction facility name = terminal (x'40')

If this bit is set, FCTYNAME and TERM contain the same terminal ID.

Bit 2 Transaction facility name = surrogate (x'20')

Bit 3 Transaction facility name = destination (x'10')

Bit 4 Transaction facility name = 3270 bridge (x'08')

Bits 5–7

Reserved

Byte 1 Transaction identification information:

Bit 0 System transaction (x'80')

Bit 1 Mirror transaction (x'40')

Bit 2 DPL mirror transaction (x'20')

Bit 3 ONC/RPC Alias transaction (x'10')

Bit 4 WEB Alias transaction (x'08')

Bit 5 3270 Bridge transaction (x'04')

Bit 6 Reserved (x'02')

Bit 7 CICS BTS Run transaction

Byte 2 z/OS workload manager request (transaction) completion information:

Bit 0 Report the total response time (begin-to-end phase) for completed work request (transaction).

Bit 1 Notify that the entire execution phase of the work request is complete.

Bit 2 Notify that a subset of the execution phase of the work request is complete.

Bit 3 This transaction has been reported to the z/OS workload manager as completing abnormally because it has tried to access DB2® and a “connection unavailable” response has been returned. This abnormal completion occurs when all the following are true:

1. Bit 0 is set.
2. CICS is not connected to DB2.

3. The CICS-DB2 adapter is in standby mode (STANDBYMODE(RECONNECT) or STANDBYMODE(CONNECT)).
4. CONNECTERROR(SQLCODE) is specified, causing the application to receive a -923 SQL code.

Bits 4-7

Reserved

Byte 3 Transaction definition information:

Bit 0 Taskdataloc = below (x'80')

Bit 1 Taskdatakey = cics (x'40')

Bit 2 Isolate = no (x'20')

Bit 3 Dynamic = yes (x'10')

Bits 4-7

Reserved

Byte 4 Transaction origin type:

X'01' None

X'02' Terminal

X'03' Transient data

X'04' START

X'05' Terminal-related START

X'06' CICS business transaction services (BTS) scheduler

X'07' Transaction manager domain (XM)-run transaction

X'08' 3270 bridge

X'09' Sockets domain

X'0A' CICS Web support (CWS)

X'0B' Internet Inter-ORB Protocol (IIOP)

X'0C' Resource Recovery Services (RRS)

X'0D' LU 6.1 session

X'0E' LU 6.2 (APPC) session

X'0F' MRO session

X'10' External Call Interface (ECI) session

X'11' IIOP domain request receiver

X'12' Request stream (RZ) instore transport

X'13' IPIC session

X'14' Event

Byte 5 Transaction status information:

Bit 0 The transaction origin

Bit 1 Reserved

Bit 2 Resource class record, or records, for this task

- Bit 3** Identity class record, or records, for this task
- Bit 4** Reserved
- Bit 5** Reserved
- Bit 6** Task purged on an open TCB
- Bit 7** Task abnormally terminated

Note: If bit 6 is set, the task was purged while running on an open TCB, and its transaction timing clocks were left in an unreliable state. Because of this, the clocks are set to zero when the record is written by the CICS Monitoring Facility (CMF).

Byte 6 Reserved

Byte 7 Recovery manager information:

- Bit 0** Indoubt wait = no
- Bit 1** Indoubt action = commit
- Bit 2** Recovery manager, UOW resolved with indoubt action
- Bit 3** Recovery manager, Shunt
- Bit 4** Recovery manager, Unshunt
- Bit 5** Recovery manager, Indoubt failure
- Bit 6** Recovery manager, Resource owner failure
- Bit 7** Reserved

Note: Bits 2 through 6 are reset on a SYNCPOINT request when the MNSYNC=YES option is specified.

257 (TYPE-S, 'MSDISPT', 12 BYTES)

Elapsed time for which the user task was dispatched on each CICS TCB. The CICS TCB modes are used as follows:

- RO and FO are always used.
- CO is used if **SUBTSKS=1** is specified as a system initialization parameter.
- SZ is used if FEPI is active.
- RP is used if ONC/RPC is installed and active.
- SL, SO, and SP are used if **TCPIP=YES** is specified as a system initialization parameter. Mode SL is used by the CICS support for TCP/IP (TCP/IP Service) Listener system transaction CSOL. Mode SO is used to process the CICS support for TCP/IP socket requests issued by or on behalf of the user task. Mode SP is the CICS support for TCP/IP sockets IPT task (Initial Pthread TCB) and also owns all the SSL pthreads (S8 TCBs).
- D2 is used to stop DB2 protected threads.
- JM is used for Java shared class cache management when JVMs running in CICS are using a shared class cache.
- EP is used for event processing.
- CICS creates a TP mode TCB for every JVMSERVER resource definition that is installed and enabled. The TP TCB owns the IPT task (Initial Process Thread TCB), the Language Environment enclave, the JVM, the THRD TCB pool, and the T8 TCBs for that JVM server.

For more information, see Clocks and time stamps.

258 (TYPE-S, 'MSCPUT', 12 BYTES)

The processor time for which the user task was dispatched on each CICS TCB. The usage of each CICS TCB is shown in the description for field **MSDISPT** (field ID 257 in group DFHTASK). For more information, see Clocks and time stamps.

262 (TYPE-S, 'KY8DISPT', 12 BYTES)

The total elapsed time during which the user task was dispatched by the CICS dispatcher on a CICS Key 8 mode TCB:

- A J8 mode TCB is allocated when a transaction calls a Java program that is defined with EXECKEY=CICS, indicating that the program requires a JVM in CICS key. A J8 mode TCB can also be allocated if the Java program is defined with EXECKEY=USER, but the storage protection facility is inactive. The TCB remains associated with the task until the Java program completes.
- An L8 mode TCB is allocated when a transaction calls an OPENAPI application program defined with EXECKEY=CICS or a task-related user exit program that has been enabled with the OPENAPI option. The TCB remains associated with the task until the transaction is detached.
- An S8 mode TCB is allocated when a transaction is using the secure sockets layer (SSL) during client certificate negotiation. The S8 mode TCB remains associated with the same task for the life of the SSL request.
- A T8 mode TCB is allocated when a transaction is using a JVM server to perform multithreaded processing. When a thread is allocated a T8 mode TCB, that same TCB remains associated with the thread until the processing completes.
- An X8 mode TCB is allocated when a transaction calls a C or C++ program that was compiled with the XPLINK option and that is defined with EXECKEY=CICS. The TCB remains associated with the task until the program ends.

This field is a component of the task dispatch time field, **USRDISPT** (field ID 007 in group DFHTASK).

263 (TYPE-S, 'KY8CPUT', 12 BYTES)

The processor time during which the user task was dispatched by the CICS dispatcher on a CICS Key 8 mode TCB. The usage of the CICS Key 8 mode TCBs is shown in the description for field **KY8DISPT** (field ID 262 in group DFHTASK). This field is a component of the task CPU time field, **USRCPUT** (field ID 008 in group DFHTASK).

Group DFHWEBB

224 (TYPE-A, 'WBREADCT', 4 BYTES)

The number of CICS Web support READ HTTPHEADER, READ FORMFIELD, and READ QUERYPARM requests issued by the user task.

235 (TYPE-A, 'WBTOTWCT', 4 BYTES)

The total number of CICS Web support requests issued by the user task.

239 (TYPE-A, 'WBBRWCT', 4 BYTES)

The number of CICS Web support browsing requests for HTTPHEADER, FORMFIELD, and QUERYPARM (STARTBROWSE, READNEXT, and ENDBROWSE) issued by the user task.

340 (TYPE-A, 'WBIWSCT', 4 BYTES)

The number of **EXEC CICS INVOKE SERVICE** and **EXEC CICS INVOKE WEBSERVICE** requests issued by the user task.

Resource class

New transaction resource class monitoring data for distributed program link requests to improve the work load management of DPL applications.

Changes to the monitoring sample program DFH\$MOLS

DFH\$MOLS is a sample program that you can modify or adapt to your own purposes. It shows you how you can code your own monitoring utility program to produce reports from the data collected by the CICS monitoring domain (MN) and written to SMF data sets.

From CICS Transaction Server for z/OS, Version 3 Release 2, DFH\$MOLS can identify any SMF 110 monitoring records that have been compressed and expand them using the z/OS Data Compression and Expansion Services, CSRCE\$RV, before printing reports.

New options

A new DPL option is added to the DFH\$MOLS **RESOURCE** control statement to control the printing of the distributed program link resource monitoring data.

DFH\$MOLS now contains an IDN option on the PRINT control statement to allow you produce a report of the new identity class records. The DFH\$MOLS totals report page also includes information about the number of identity records processed.

Chapter 14. Changes to statistics

CICS statistics records contain changes because of new domains or because of enhancements to CICS. New statistics types are added and some statistics types have new or changed fields. You might need to recompile application programs using the changed DSECTs.

New statistics types

Copybook

For functional area

DFHECCDS

CAPTURESPEC resource statistics

DFHECGDS

EVENTBINDING global statistics

DFHECRDS

EVENTBINDING resource statistics

DFHEPGDS

Event processing global statistics

DFHMLRDS

XMLTRANSFORM resource statistics

DFHMNIDS

Identity class statistics

DFHPGDDS

Program definition statistics

DFHRLRDS

BUNDLE resource statistics

DFHSJSDS

JVMSERVER resource statistics

DFHW2RDS

Atom feed statistics

Changed statistics types

Copybook

For functional area

DFHA03DS

VTAM[®] global statistics

DFHA14DS

Connection resource statistics

DFHA17DS

File resource statistics

DFHDHDDS

DOCTEMPLATE resource statistics

DFHDSGDS

Dispatcher statistics

DFHD2GDS	DB2 connection statistics
DFHD2RDS	DB2ENTRY resource statistics
DFHEJRDS	CorbaServer resource statistics
DFHIIRDS	Requestmodel resource statistics
DFHISRDS	IP connection resource statistics
DFHLDBDS	LIBRARY resource statistics
DFHMNGDS	Monitor global statistics
DFHMQGDS	WebSphere MQ connection statistics
DFHPIRDS	PIPELINE resource statistics
DFHPIWDS	Web service resource statistics
DFHSJGDS	The JVM pool global statistics
DFHSORDS	TCP/IP service resource statistics
DFHTQRDS	Transient data queue resource statistics
DFHWBGDS	URIMAP global statistics
DFHWBRDS	URIMAP resource statistics
DFHXMCDs	Tranclass resource statistics
DFHXRDS	Transaction resource statistics

New or changed statistics types might increase the amount of statistics data that is written to the MVS systems management facility (SMF). To avoid any problems caused by multiple CICS regions writing increased interval statistics to the SMF at the same time, you can use the DFH\$STED sample utility program. This program varies the statistics interval occurrence time for each CICS region. For more information, see Stagger end-of-day time sample utility program (DFH\$STED) in the *CICS Operations and Utilities Guide*.

New values in DFHSTIDS (statistics record identifiers)

The new DSECTs added have corresponding values in the common statistics record copybook, DFHSTIDS. The revised list of the statistics record identifiers is shown in CICS statistics data section in the *CICS Customization Guide*.

The new values in that list are as follows:

STIRLR	100	DFHRLRDS	BUNDLES (resource) id
STIW2R	110	DFHW2RDS	ATOMSERVICE (resource) id
STIMLR	113	DFHMLRDS	XMLTRANSFORM (resource) id
STISJS	116	DFHSJSDS	JVMSEVER stats (resource) id
STIPGD	120	DFHPGDDS	PROGRAMDEF stats (resource) id
STIECG	140	DFHECGDS	EVENTBINDINGS (global) id
STIECR	141	DFHECRDS	EVENTBINDINGS (resource) id
STIEPG	142	DFHEPGDS	EVENTPROCESS (global) id
STIECC	143	DFHECCDS	CAPTURESPECs (resource) id

The statistics formatting utility program, DFHSTUP

The statistics formatting utility program now formats additional statistics reports for the new statistics. You can code new resource types on the SELECT TYPE and IGNORE TYPE parameters using these keywords:

- ATOMSERVICE
- BUNDLE
- CAPTURESPEC
- EVENTBINDING
- EVENTPROCESS
- JVMSEVER
- PROGRAMDEF
- XMLTRANSFORM

CEMT and EXEC CICS statistics commands

You can retrieve all the new statistics described in this topic using the **EXEC CICS EXTRACT STATISTICS** command, the **EXEC CICS PERFORM STATISTICS RECORD** command, and the **CEMT PERFORM STATISTICS** command.

The list of resources supported by the **EXEC CICS COLLECT STATISTICS** command is now closed. All new resources introduced from CICS Transaction Server for z/OS, Version 3 Release 1 onwards are supported by the **EXEC CICS EXTRACT STATISTICS** command, which operates in the same way.

Chapter 15. Changes to sample programs

CICS Transaction Server for z/OS, Version 4 Release 1 has a number of changes to the samples provided to demonstrate the use of the EXEC CICS API commands. Unless otherwise stated, sample programs are supplied in the SDFHSAMP library.

Atom feed samples: DFH\$W2S1 (C) and DFH0W2F1 (COBOL)

The C language sample service routine, DFH\$W2S1, shows you how to respond to requests for Atom entries by reading the parameters in the DFHATOMPARM container, updating the character containers, and updating and returning the DFHATOMPARM container.

DFH0W2F1 is a COBOL sample service routine that shows you how to handle POST, PUT, and DELETE requests for Atom collections. DFH0W2F1 is an updated version of the sample service routine DFH0W2FA that was provided in SupportPac CA8K. CICS provides sample URIMAP and ATOMSERVICE resources in the DFH\$WEB2 group that you can use to run DFH0W2F1. The resources are both named DFH\$W2P1.

Event processing sample: DFH0EPAC (COBOL)

The sample custom EP adapter is provided in the COBOL language. It is shipped as source code in the CICSTS41.CICS.SDFHSAMP library, and also as a load module.

- The source code is named DFH0EPAC.
- The load module is named after the source code.
- Group DFH\$EPAG is defined in DFHCURDS.DATA. The group defines program DFH0EPAC and transaction ID EPAT to include in your event binding to run it.

CICS system management client API samples: DFH\$WUUR and DFH\$WUTC

DFH\$WUUR and DFH\$WUTC are new sample resource definitions to help you set up the CICS system management client API.

DFH\$WUUR is a sample URI Map definition. The URI map uses transaction CWWU and calls program DFHWBA to analyze the CICS web request. DFH\$WUTC is sample TCP/IP service definition.

The sample definitions are supplied in group DFH\$WU. You must install definitions like these before you can use the API.

IPIC sample: DFH\$XISL

A new sample global user exit program, DFH\$XISL, has been added. You can use the XISQLCL sample global user exit program, DFH\$XISL, to control the queueing of START NOCHECK requests that are scheduled for an IPIC connection.

JVM server samples: DFHJVMAX and DFHAXRO

DFHJVMAX is a new JVM profile file that specifies the options for initializing the JVM server. The JVMSERVER resource defines the name of the JVM profile. Its location is determined by the **JVMPROFILEDIR** system initialization parameter.

DFHAXRO is a new sample program that provides default values for configuring the Language Environment enclave of a JVM server. Modify and recompile this program to change the Language Environment enclave for a JVM server. The JVMSERVER resource defines the name of the program that controls the options for the Language Environment enclave. Each JVM server can use a different version of the runtime options if required. The program must be in the *hlq.SDFHLOAD* library.

Chapter 16. Changes to problem determination

CICS provides information to help you diagnose problems relating to new functions.

Part 5, “Changes to CICS messages and codes,” on page 185 lists messages and abend codes that have been removed, changed, and added for CICS Transaction Server for z/OS, Version 4 Release 1.

New component codes

The following component codes have been added to support new functions in CICS TS for z/OS, Version 4.1:

Component code	Component keyword	Description
EC	None	Event capture domain
EP	EVENTPROC	Event processing domain
ML	None	Markup language domain
RL	RESLIFEMGR	Resource life cycle domain
RS	REGIONSTAT	Region status domain
WU	WEBRESTMGR	Application domain: RESTful API component
W2	WEB2	Web 2.0 domain

You can use the component codes in the following ways:

- To select the level of standard and special tracing in each component:
 - In the CETR transaction.
 - In the **STNTRxx** and **SPCTRxx** system initialization parameters.
 - In the **INQUIRE TRACETYPE** and **SET TRACETYPE** system programming commands. If there is a component keyword, you can use it instead of the component codes in these commands.
- To specify the areas of CICS storage that you want to be included in a formatted dump and the amount of data that you want formatted.
- To specify the trace entries that you want to be included in a formatted dump and in the output from the trace utility program.

On output, CICS uses the component codes to identify messages and trace entries.

Changes to HTTP status codes for Atom feed support

When serving Atom feeds, CICS issues some new HTTP status codes, and some status codes that CICS previously issued are now issued for new reasons. The new status codes that are issued by CICS are as follows:

201 Created	Issued in response to a request with the POST method. A new object has been created. The new URL for the object is returned in the Location header.
-------------	---

409 Conflict	When issued in response to a request with the POST method, this status code means that an existing object already exists with the specified URL, so the new object is not created.
These status codes were previously issued by CICS, but are now issued for new reasons:	
400 Bad Request	When issued in response to a request with the PUT method, this status code might mean that a PUT request without an If-Match header was received. A client that wants to update an object without knowing the current entity tag must specify If-Match: *. The status code is also issued for a markup or data problem in the Atom entry submitted by the Web client for a POST or PUT request.
403 Forbidden	Now issued when the current user is not authorized to access one of the following: <ul style="list-style-type: none"> • The alias transaction specified in the TRANSACTION attribute of the URIMAP resource definition • The ATOMSERVICE resource definition • The CICS resource specified in the ATOMSERVICE resource definition • Any CICS resource or command accessed by a program that is specified in the ATOMSERVICE resource definition
404 Not Found	Now issued when any of the following items cannot be found: <ul style="list-style-type: none"> • The ATOMSERVICE resource definition specified in the URIMAP resource definition • The CICS resource specified in the Atom configuration file • The selected record in the CICS resource
412 Precondition Failed	Now issued in response to a request with the PUT method, when the entity tag value on the If-Match header does not match the entity tag for the object being updated. The current contents of the object are returned in the response body, and the Etag header contains the new entity tag value.
500 Resource Error	Now issued for some errors involving a resource for an Atom feed, such as an error producing XML markup from a resource record for use as Atom entry content.
503 Service Unavailable	Now issued when either a requested ATOMSERVICE resource definition, or the CICS resource that it references, is disabled.

Part 2. Upgrading CICS Transaction Server

To upgrade your CICS regions to CICS Transaction Server for z/OS, Version 4 Release 1, carry out the tasks described here. There are some general upgrading tasks which you must always perform. There are also upgrading tasks for some specific functional areas where there is a need for special considerations.

Chapter 17. Upgrade procedures for all CICS regions

Complete these tasks when you upgrade any CICS Transaction Server region to CICS Transaction Server for z/OS, Version 4 Release 1.

Redefining and initializing the local and global catalogs

When you upgrade to a new CICS release, delete, redefine, and initialize the CICS local catalog and global catalog.

Procedure

1. Delete your existing local catalog and global catalog.
2. Define and initialize new local and global catalogs, following the instructions in the *CICS System Definition Guide*. When you initialize the catalogs, make sure that you use the CICS Transaction Server for z/OS, Version 4 Release 1 versions of the DFHRMUTL and DFHCCUTL utility programs and the sample jobs.
3. When you start the CICS region for the first time after upgrading, make sure that it is an initial start with the START=INITIAL parameter.

Enabling z/OS conversion services

To obtain the benefits of z/OS conversion services for data conversion, perhaps because your system requires support for the conversion of UTF-8 or UTF-16 data to EBCDIC, you must enable the z/OS conversion services and install a conversion image that specifies the conversions that you want CICS to perform.

Refer to the instructions in *z/OS Support for Unicode: Using Conversion Services*, SA22-7649, to find out how to set up and configure conversions supported through the operating system services.

If z/OS conversion services are not enabled, CICS issues a message to indicate this. You can suppress that message if you do not need these services. If the message is encountered when starting a CICS region that is expected to make use of these services, an IPL is necessary to enable the z/OS conversion services.

To discover the status of z/OS conversion services after an IPL, use one of these commands from an MVS console:

D UNI

To show whether z/OS conversion services were enabled.

D UNI,ALL

To show whether z/OS conversion services were enabled and which conversions are supported by the system.

If you want to enter the command from SDSF, add a / to the beginning of the command.

Upgrading the CSD for CICS-supplied and other IBM-supplied resource definitions

Upgrade the CICS-supplied resource definitions using the UPGRADE function of the CSD utility program DFHCSDUP. If you have resource definitions in your CSD that support other IBM products, such as z/OS, you might need to upgrade these also.

About this task

If you need to share your upgraded CSD with different CICS releases, see “CSD compatibility between different CICS releases” on page 106.

Procedure

1. Run the DFHCSDUP utility program, specifying the UPGRADE command, to upgrade the CICS-supplied definitions in your CSD to the latest CICS TS level. You can create a new CSD using the DFHCSDUP INITIALIZE command. For information about running DFHCSDUP with the UPGRADE command, see the *CICS Operations and Utilities Guide*. To help estimate the space you need in your CSD for definition records, see the *CICS System Definition Guide*.
2. If you have resource definitions in your CSD that support other IBM products, upgrade these as required. For example, if your Language Environment[®] resource definitions are not at the correct z/OS level, you should delete and replace the CSD group containing these. The Language Environment resource definitions are in the SCEESAMP library in member CEECCSD. “Sample job for additional CSD modification” has an example job to delete and replace the CSD group containing these.

Sample job for additional CSD modification

If you need to upgrade the Language Environment resource definitions in your CSD, you can use a job like this.

```

//CSDUPGRD JOB 1,WALSH,MSGCLASS=A,MSGLEVEL=(1,1),
//      CLASS=A,NOTIFY=BELL
/*JOBPARM SYSAFF=MV26
/* Remove Old Language Environment group
//CSDUP1 EXEC PGM=DFHCSDUP,REGION=2M,PARM='CSD(READWRITE) '
//STEPLIB DD DSN=CICSTS41.CICS.SDFHLOAD,DISP=SHR
//DFHCSD DD DSN=CICSTS41.CICSHURS.DFHCSD,DISP=SHR
//SYSPRINT DD SYSOUT=*
//SYSABOUT DD SYSOUT=*
//SYSABEND DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//SYSIN DD *
DELETE GROUP(CEE)
/*
//*
//CSDUP2 EXEC PGM=DFHCSDUP,REGION=2M,PARM='CSD(READWRITE) '
//STEPLIB DD DSN=CICSTS41.CICS.SDFHLOAD,DISP=SHR
//DFHCSD DD DSN=CICSTS41.CICSHURS.DFHCSD,DISP=SHR
//SYSPRINT DD SYSOUT=*
//SYSABOUT DD SYSOUT=*
//SYSABEND DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//SYSIN DD DSN=SYS1.ZOS190.SCEESAMP(CEECCSD),DISP=SHR
/*
//

```

Figure 1. Upgrading Language Environment resource definitions

Upgrading user-modified CICS-supplied resource definitions

When you run the UPGRADE function of the CSD utility program DFHCSDUP, ensure that you manually upgrade any CICS-supplied definitions that you have modified in earlier releases. The safest way to do this is to copy the upgraded CICS-supplied definitions and reapply your modifications. This action is necessary because the UPGRADE command does not operate on your own groups or on CICS groups that you have copied.

About this task

It is important to upgrade these modified definitions to ensure that they are defined correctly with nondefault values for attributes that are new. If you fail to upgrade modified definitions, CICS assigns default values to any new attributes, and these might be inappropriate for CICS-supplied resource definitions.

If you are not sure whether your CSD contains any modified CICS-supplied definitions, use the DFHCSDUP SCAN command to compare the CICS-supplied resource definitions with any user-modified versions.

The DFHCSDUP SCAN command searches for the CICS-supplied version of a specified resource name of a specific resource type and compares it with any other resource definition of the same name and type. DFHCSDUP reports any differences it finds between the CICS-supplied definition and a user-modified version. If you have copied and changed the name of a CICS-supplied definition, the SCAN command enables you to specify the changed name as an alias.

Upgrading copies of CICS-supplied resource definitions

If you have made copies of CICS-supplied resource definitions, you might need to change your copies to match the changes that have been made to the supplied definitions for this release. To help you, member DFH\$CSDU in library SDFHSAMP contains ALTER commands that you can apply using the CSD utility program DFHCSDUP.

Procedure

1. Review your resource definitions to determine if you have copied any CICS-supplied definitions.
2. Review DFH\$CSDU to determine if the changes that it contains should apply to your resource definitions.
3. Make any necessary changes to DFH\$CSDU. It is advisable to make a copy of DFH\$CSDU and apply any changes to the copy.
4. Run DFHCSDUP using your modified version of DFH\$CSDU as input. As supplied, the ALTER commands in DFH\$CSDU specify GROUP(*), which means that DFHCSDUP attempts to change resources in the CICS-supplied groups. This action is not permitted and results in message DFH5151. You can ignore this message.

Example

JVMPROFILE(DFHJVMCD) is added to the definition of program DFHADJR. Therefore, DFH\$CSDU contains the following command:

```
ALTER PROGRAM(DFHADJR) GROUP(*) JVMPROFILE(DFHJVMCD)
```

When you run DFHCSDUP, the attribute is added to the definitions of program DFHADJR in all groups. Other attributes are unchanged.

CSD compatibility between different CICS releases

Most releases of CICS make changes to the CICS-supplied groups of resource definitions that are included in the DFHLIST group list. The old versions of the CICS resource definitions are retained in compatibility groups, which are needed to support earlier releases if you share the CSD between different levels of CICS.

When you have upgraded a CSD, if you plan to share the CSD with earlier releases of CICS, include the appropriate DFHCOMP x compatibility groups in your startup group list to provide the required support for earlier releases. Table 3 shows you which DFHCOMP x groups you need to include for the earlier releases. Do not attempt to share a CSD with a CICS region running at a higher level than the CSD.

You must install the compatibility groups in the correct order, as shown in the table. For example, to run a CICS TS 3.1 region, with the CSD upgraded to CICS TS 4.1, append the compatibility groups DFHCOMPD followed by DFHCOMPC at the end of your group list.

Table 3. Required compatibility groups for earlier releases of CICS

	CICS TS 4.1 CSD	CICS TS 3.2 CSD	CICS TS 3.1 CSD	CICS TS 2.3 CSD
Shared with CICS TS 3.2	DFHCOMPD	None	Do not share	Do not share

Table 3. Required compatibility groups for earlier releases of CICS (continued)

	CICS TS 4.1 CSD	CICS TS 3.2 CSD	CICS TS 3.1 CSD	CICS TS 2.3 CSD
Shared with CICS TS 3.1	DFHCOMPD DFHCOMPC	DFHCOMPC	None	Do not share
Shared with CICS TS 2.3	DFHCOMPD DFHCOMPC DFHCOMPB	DFHCOMPC DFHCOMPB	DFHCOMPB	None

Chapter 18. Upgrading application programs

CICS translator support for pre-Language Environment compilers is withdrawn. Runtime support is usually provided for your existing application programs that were developed using these old compilers, with the exception of OS/VS COBOL and OO COBOL programs, which do not have runtime support.

Withdrawal of support for pre-Language Environment compilers

The compilers for which CICS translator support is withdrawn are:

- OS/VS COBOL (5740-CB1, 5740-LM1, and 5734-CB4)
- VS COBOL II (5668-958 and 5688-023)
- OS PL/I Version 1 (5734-PL1)
- OS PL/I Version 2 (5668-910 and 5668-909)
- SAA AD/Cycle[®] C/370[™] (5688-216)

For details of the compilers that are supported by CICS, see the *CICS Transaction Server for z/OS What's New*.

The following JCL procedures that were supplied in earlier releases for translating, compiling, and link-editing using the unsupported compilers are also withdrawn:

COBOL

The DFHEITVL, DFHEXTVL, DFHEBTVL, DFHEITCL, and DFHEXTCL procedures.

PL/I The DFHEITPL, DFHEXTPL, and DFHEBTPL procedures.

C The DFHEITDL and DFHEXTDL procedures.

CICS now supplies the following procedures only, for use with Language Environment-conforming compilers:

Language	CICS-online	EXCI	Integrated translator
C	DFHYITDL	DFHYXTDL	DFHZITDL (without XPLINK) DFHZITFL (with XPLINK)
C++	DFHYITEL	DFHYXTEL	DFHZITEL (without XPLINK) DFHZITGL (with XPLINK)
COBOL	DFHYITVL	DFHYXTVL	DFHZITCL
PL/I	DFHYITPL	DFHYXTPL	DFHZITPL

The following CICS translator options, which all relate to the unsupported compilers, are obsolete:

- ANSI85
- LANGLVL
- FE

The CICS translators ignore these and issue a return code 4 warning message.

Runtime support for programs developed using pre-Language Environment compilers

Although application program development support for old, obsolete compilers is withdrawn, CICS usually continues to provide runtime support for your existing application programs that were developed using these old compilers. However, to apply maintenance to these application programs, use one of the supported Language Environment-conforming compilers.

Applications compiled and linked with pre-Language Environment compilers usually execute successfully using the runtime support provided by Language Environment. They do not usually have to be recompiled or re-link-edited. In some circumstances, you might need to adjust Language Environment runtime options to enable these applications to execute correctly. Refer to the *z/OS Language Environment Run-Time Application Migration Guide*, and the *Compiler and Run-Time Migration Guide* for the language in use, for further information. Because pre-Language Environment compilers are not Language Environment-conforming, programs compiled by these compilers cannot take advantage of all Language Environment facilities in a CICS region.

The runtime libraries provided by Language Environment replace the native runtime libraries that were provided with older compilers such as VS COBOL II, OS PL/I, and C/370. The native runtime libraries provided with pre-Language Environment compilers are not supported. Language libraries, other than the Language Environment libraries, should not be present in your CICS startup JCL.

Withdrawal of runtime support for OS/VS COBOL

Runtime support for OS/VS COBOL programs is withdrawn. If you try to use an OS/VS COBOL program, CICS issues the abend code ALIK, abnormally terminates the task, and disables the program.

Withdrawal of runtime support for OO COBOL

In this CICS release, you cannot use COBOL class definitions and methods (object-oriented COBOL). This restriction includes both Java classes and COBOL classes.

Modules using OO features and compiled in earlier CICS releases with the OOCOBOL translator option cannot execute in this CICS release. The OOCOBOL translator option was used for the older SOM-based (System Object Manager-based) OO COBOL, and runtime support for this form of OO COBOL was withdrawn in z/OS V1.2. The newer Java-based OO COBOL, which is used in Enterprise COBOL, is not supported by the CICS translator.

Chapter 19. Security updates to monitor RACF Event Notifications (ENF)

CICS now monitors for RACF type 71 Event Notifications (ENF) that is issued when a CONNECT or REMOVE command has affected a RACF user profile, or a user ID is revoked using the REVOKE option of the ALTUSER command. With z/OS 1.11, RACF issues an ENF 71 event code and CICS is notified immediately, overriding any setting you have specified in the USRDELAY system initialization parameter.

If you are using RACF with a z/OS 1.11 system, review your USRDELAY settings.

Chapter 20. Upgrading Business Transaction Services (BTS)

When you upgrade your BTS environment to CICS Transaction Server for z/OS, Version 4 Release 1, you might need to migrate the DFHLRQ data set. Be aware that even if you are not explicitly making use of BTS services in your applications, it is possible that they are being exploited by vendor code or IBM-supplied products executing within your CICS environment.

Migrating the DFHLRQ data set

The local request queue data set stores pending BTS requests, such as timer requests, or requests to run activities. It is recoverable and is used to ensure that, if CICS fails, no pending requests are lost.

Requests that CICS can execute immediately, such as requests to run activities, are stored on the data set only briefly. Requests that CICS cannot execute immediately, such as timer or unserviceable requests, might be stored for longer periods. When CICS has processed a request, the request is deleted from the data set.

If you have outstanding BTS activities for BTS processes in CICS, you must migrate the contents of your DFHLRQ data set as part of the upgrade. You can use a utility such as IDCAMS COPY to update the CICS TS for z/OS, Version 4.1 DFHLRQ data set with the contents of the DFHLRQ data set from your previous CICS release.

Be aware that even if you are not explicitly making use of BTS services in your applications, it is possible that they are being exploited by vendor code or IBM-supplied products executing within your CICS environment.

PTFs for earlier CICS releases modified the dynamic routing DSECT used for dynamic DPL and dynamic start requests. This modification caused the structure of DFHLRQ records to change. The PTF numbers are:

CICS TS 1.3

PTF UQ82768 (APAR PQ75814)

CICS TS 2.2

PTF UQ82632 (APAR PQ75834)

CICS TS 2.3

PTF UQ85555 (APAR PQ81378)

If you have one of these PTFs applied to your existing CICS system, or if your existing CICS system is a later release than those listed here, the DFHLRQ records match the format of DFHLRQ records used in CICS TS for z/OS, Version 4.1, and so can be migrated using a utility such as IDCAMS COPY. However, if your existing CICS system is listed here and you do not have one of these PTFs applied, the DFHLRQ record format is *not* compatible with that used in CICS TS for z/OS, Version 4.1. In this case, you must complete your BTS workload before you upgrade to CICS TS for z/OS, Version 4.1, and start with an empty DFHLRQ at that release.

Repository data sets

When a process is not executing under the control of the CICS business transaction services domain, its state and the states of its constituent activities are preserved by being written to a VSAM data set known as a repository.

To use BTS, you must define at least one BTS repository data set to MVS. You may decide to define more than one, assigning a different set of process-types to each. One reason for doing this might be storage efficiency, for example, if some of your process-types tend to produce longer records than others.

If you operate BTS in a sysplex, several CICS regions may share access to one or more repository data sets. This sharing enables requests for the processes and activities stored on the data sets to be routed across the participating regions. As you upgrade your CICS releases, you may therefore still share older versions of repository data sets. The expectation is that you define and use different repository data sets whenever you want to assign different sets of process-types, rather than because a CICS upgrade has occurred.

Chapter 21. Migrating to IPv6 addressing

You need a minimum level of CICS TS 4.1 to communicate using IPv6. The CICS TS 4.1 region must be running in a dual-mode (IPv4 and IPv6) environment and the client or server that CICS is communicating with must also be running in a dual-mode environment. Explicitly defined IP version 4 (IPv4) connections in either single-mode or dual-mode environments continue to operate as before.

Before you begin

Ensure that you have an existing TCP/IP network configured and available and that you have existing TCP/IP resources defined and installed.

About this task

Follow these steps to migrate CICS network resources from an earlier release and to enable IPv6 addressing:

Procedure

1. Copy your existing resource definitions to the system definition data set (CSD) for the new release system. For information on migrating CICSplex SM CSD structures, see the *CICSplex System Manager Concepts and Planning*.
2. Inquire on the new resources to verify that they have been defined correctly.
3. If you are running in a dual-mode environment and you are connecting to another CICS TS 4.1 region that is running in a dual-mode environment and you have specified `HOST(ANY)` or `IPADDRESS(ANY)` in your `TCPIPSERVICE` definition, you do not have to make any updates to receive IPv6 traffic. If you have defined a specific IPv4 address in the `TCPIPSERVICE` definition, you will need to change this address to receive IPv6 traffic.
4. Make sure that new application programs that manipulate IP addresses use the options that support IPv6 addressing:
 - a. If you are using the **EXTRACT WEB**, **WEB EXTRACT**, **WEB OPEN**, or **WEB PARSE URL** commands, the `HOST` option allows you to specify IP address information
 - b. If you are using **EXTRACT TCPIP**, new client and server options return IPv6 address information.

You do not have to recompile existing application programs that return IPv4 addressing information.

Results

Existing IPv4 connections continue to function correctly and your IPv6 resources are defined and ready for network traffic.

What to do next

If you are having problems with your connection, see the *CICS Problem Determination Guide*.

Chapter 22. Upgrading IP interconnectivity (IPIC)

If you have already upgraded to IPIC with a previous version of CICS, and you have upgraded your IPCONN resource definitions to CICS TS for z/OS, Version 4.1, you must install the CICS TS for z/OS, Version 4.1 version of the DFHISCIP group. This is because the IPIC resource definitions that are provided in group DFHISCIP are extended in this release.

Communicating over IPIC with different levels of CICS

If both an APPC or MRO connection and an IPIC connection exist between two CICS regions, and both have the same name, the IPIC connection takes precedence.

However, if your terminal-owning region (TOR) and application-owning region (AOR) are in CICS systems that are using different levels of CICS, the rules can differ. An APPC or MRO connection is defined using the CONNECTION resource. An IPIC connection is defined using the IPCONN resource. CICS always attempts to use an IPIC connection for communication, unless a non-3270 terminal is being used, or the request is being sent using enhanced routing.

If both a CONNECTION resource and an IPCONN resource exist between two CICS regions, and both have the same name, the IPIC connection takes precedence. However, if the IPCONN resource is not available, CICS will attempt to route over an APPC or MRO connection using a CONNECTION resource. If the request fails, a SYSID error is returned to the application that scheduled the request. For more information about how IPIC overrides default connections, see Chapter 5, "Changes to resource definitions," on page 19.

Table 4 shows how the resources are used, depending on the level of CICS installed at the communicating regions, the availability of resources, and the intercommunication method that is being used.

Table 4. Selection behavior for IPCONN and CONNECTION resources

Version of CICS in the TOR or routing region	Status of IPCONN resource	CICS TS 3.2 AOR		CICS TS 4.1 AOR	
		DPL	Asynchronous processing and transaction routing	DPL	Asynchronous processing and transaction routing
CICS TS 3.2	Acquired	IPIC connection	APPC or MRO connection	IPIC connection	APPC or MRO connection
	Released	Request rejected	APPC or MRO connection	Request rejected	APPC or MRO connection
CICS TS 4.1	Acquired	IPIC connection	APPC or MRO connection	IPIC connection	IPIC connection
	Released	APPC or MRO connection	APPC or MRO connection	APPC or MRO connection	APPC or MRO connection

Chapter 23. Upgrading multiregion operation (MRO)

To upgrade CICS multiregion operation (MRO) support, install the latest DFHIRP and DFHCSVC modules in the MVS link pack area (LPA) and carry out tests.

About this task

For MRO, the interregion communication program DFHIRP is installed in the link pack area (LPA). The CICS TS for z/OS, Version 4.1 DFHIRP module is compatible with earlier releases, and works with all releases of CICS. However, the CICS TS for z/OS, Version 4.1 version of DFHIRP, required for multiple XCF group support, can be used only on z/OS Version 1.7 or later.

DFHIRP can be used only from the LPA. Therefore in an MVS image you can have only one version of the module named DFHIRP, which must be at the *highest* release level of the CICS regions that run in that MVS image.

In a Parallel Sysplex[®], where MRO communication between MVS images is through XCF/MRO, the DFHIRP programs installed in the different MVS images can be at different release levels. However, the DFHIRP in an MVS image must still be installed from the *highest* release of CICS running in that MVS image. For example, a CICS TS 2.3 DFHIRP can communicate with a CICS TS for z/OS, Version 4.1 across XCF/MRO, but the CICS regions running in the MVS with the CICS TS 2.3 DFHIRP cannot be later than CICS TS 2.3.

These steps are a guide to the upgrading process for MRO, to install the latest DFHIRP and DFHCSVC modules in the MVS link pack area (LPA). For information about how to perform some of these steps, such as installing the SVC or IRP modules in the LPA, see *Installing CICS modules in the MVS link pack area in the CICS Transaction Server for z/OS Installation Guide*. These steps assume that RACF is your external security manager (ESM).

Procedure

1. Install the CICS SVC routine, DFHCSVC, in the LPA, and specify a new CICS SVC number for this routine in the MVS SVC Parm table. If the new DFHCSVC has to coexist with an older version, rename one of them so that both versions can be installed in the LPA. However, coexistence is not recommended or necessary: DFHCSVC is compatible with earlier releases and the latest CICS TS version supports all the earlier releases of CICS.
2. Test the new SVC on stand-alone CICS regions, without using any MRO. You can do this running the CICS IVP, DFHIVPOL.
3. Install the CICS interregion communication program, DFHIRP, in a suitable LPA library, and IPL MVS with the CLPA option. Do not use the dynamic LPA function to replace DFHIRP for upgrading between releases, because you might cause incompatibility between control blocks, resulting in abend situations.
4. Test your production MRO CICS regions, under your existing release of CICS, but using the new SVC number and the new DFHIRP. For this test, run without any logon or bind-time security checking: that is, do not define any RACF FACILITY class profiles.
5. Define the required DFHAPPL.applid profiles in the RACF FACILITY general resource class. When the profiles are ready for all the MRO regions, test the

production regions again with the new SVC and DFHIRP, this time using the FACILITY class profiles for logon and bind-time security checking.

6. If the production MRO regions successfully log on to the new IRP with the new SVC, and bind-time security checking works successfully, use the new DFHIRP and SVC for the production regions.
7. With the production regions running successfully under the CICS SVC and IRP, you can initialize and test some CICS Transaction Server regions using MRO. These test regions can coexist in the same MVS image as the production regions, all using the same SVC and IRP.

Chapter 24. Upgrading the Java environment

When you upgrade to a new CICS release, you are likely to require changes to your JVM profiles and to other aspects of your Java environment. You might also require changes to your Java applications and enterprise beans.

CICS TS 4.1 supports the JVM provided by the IBM 31-bit SDK for z/OS, Java Technology Edition, Version 6 and Version 6.0.1. CICS TS 4.1 supports only the 31-bit version of the SDK. You can find more information about Java on the z/OS platform and download a suitable version of the SDK at <http://www.ibm.com/servers/eserver/zseries/software/java/>.

Earlier versions of Java

Java programs that ran under CICS Transaction Server for z/OS, Version 2 Release 3, or CICS Transaction Server for z/OS, Version 3 can also run under CICS Transaction Server for z/OS, Version 4.

When you upgrade from one version of Java to another, check for compatibility issues between the Java APIs, and compatibility issues specific to the IBM SDK for z/OS. You can find this information at <http://www.ibm.com/systems/z/os/zos/tools/java/services/j6restrict31.html> and in the Java compatibility and deprecated API information provided at <http://java.sun.com>.

To avoid potential problems with deprecated APIs, develop all new Java programs for CICS Transaction Server for z/OS, Version 4 Release 1 using an application development environment that supports the same version of Java as used by CICS. You may run code compiled with an older version of Java in a new runtime, if it does not use APIs that have been removed in the newer version of Java.

JVM profiles

If you already have JVM profiles that you set up in a previous CICS release, you might want to upgrade these for use with the new CICS release. The settings that are suitable for use in JVM profiles can change from one CICS release to another, so check the CICS documentation for any significant changes, and compare your existing JVM profiles to the latest CICS-supplied samples. Changes to the JVM profile options in this CICS release are described in the *CICS Transaction Server for z/OS What's New* and also listed in "Changes to options in JVM profiles" on page 123. A list of suitable options for the present release is in *Java Applications in CICS*. For JVM profiles created more than one or two releases ago, use the new samples supplied with CICS Transaction Server for z/OS, Version 4 Release 1 to help you create new files, rather than upgrading your existing files.

Make a copy of your JVM profiles in a new location on z/OS UNIX to use with the new CICS release, and make the changes that are required to upgrade them; for example, changing the path for the home directory for CICS files on z/OS UNIX. Do not try to use JVM profiles with more than one CICS release at the same time, because the settings are not compatible.

Ensure that the JVM profiles that you want to use are in the z/OS UNIX directory that is specified by the **JVMPROFILEDIR** system initialization parameter. *Java Applications in CICS* explains how to set the location for the JVM profiles.

The JVM profiles DFHJVMPR and DFHJVMCD must always be available to CICS and configured so that they can be used in your CICS region. *Java Applications in CICS* tells you how to do this.

Key changes to CICS support for Java applications

Note these changes that will affect your Java environment when you upgrade to CICS Transaction Server for z/OS, Version 4 Release 1.

- The class sharing function, first introduced with Version 5, has a number of changes that are important if you are upgrading from Version 1.4.2:
 - The Version 6 shared class cache contains all application classes, with no distinction between shareable and nonshareable application classes. All the application classes are placed on the standard class path in the JVM profiles, and they are all eligible to be loaded into the shared class cache. (In some exceptional scenarios, discussed in the *IBM Developer Kit and Runtime Environment, Java Technology Edition, Version 6 Diagnostics Guide*, some classes might not be eligible to be loaded into the shared class cache.) The shareable application class path in the JVM properties file (**-Dibm.jvm.shareable.application.class.path**), which was used with the Version 1.4.2 shared class cache, is obsolete.
 - The Version 6 shared class cache does not contain compiled classes produced by just-in-time (JIT) compilation. These classes are stored in individual JVMs, not in the shared class cache, because the compilation process can vary for different workloads. The Version 1.4.2 shared class cache did contain compiled classes, so you might find that your Version 6 shared class cache uses less storage.
 - The Version 6 shared class cache updates its contents automatically if you change any application classes or JAR files, or add new items to the class paths in your JVM profiles, and restart the appropriate JVMs. You do not need to stop and restart the shared class cache as well, as you did with the Version 1.4.2 shared class cache.
 - If the Version 6 shared class cache becomes full, JVMs can continue to use the classes that are already present in it, and any further classes are loaded into the individual JVMs. A warning message is issued if you have requested verbose output, but the JVMs can continue to run applications as they did before. With the Version 1.4.2 shared class cache, a JVM throws an error if it tries to add a new class or the results of JIT-compilation to a full shared class cache.
 - The Version 6 shared class cache is normally persistent across warm and emergency CICS starts, except in some circumstances such as an IPL of z/OS, so there is no startup cost to the first JVM in the CICS region at those times. The Version 6 shared class cache is destroyed on only a cold or initial start, and normally starts again automatically when it is required. The Version 1.4.2 shared class cache was terminated each time CICS shut down.
 - The Version 6 shared class cache does not have a master JVM, so you do not have to specify the **JVMCCPROFILE** system initialization parameter or configure a master JVM profile. (The master JVM profile DFHJVMCC, and its associated JVM properties file `dfhjvmcc.props`, were the default files for the Version 1.4.2 shared class cache.) CICS uses the CICS-supplied sample profile DFHJVMCD to initialize and terminate the Version 6 shared class cache, but you do not need to make any additional changes to this profile for use with the shared class cache.
 - JVMs that use the Version 6 shared class cache do not inherit values for JVM options from a master JVM, and you do not have to place classes on the

library path and shareable application class path in a JVM profile or JVM properties file for a master JVM. All the JVM options and classes are specified in the JVM profiles for the individual JVMs. So, with the Version 6 shared class cache, the JVM options for a JVM that uses the shared class cache and a JVM that does not are the same. Except for the CLASSCACHE option, the JVM profiles are set up in the same way, and the same class paths are used. Therefore, with Java 6, reusable JVMs that use the shared class cache are no longer referred to as worker JVMs.

- If required, JVMs that use the Version 6 shared class cache can be single-use JVMs (REUSE=NO) instead of continuous JVMs (REUSE=YES), and they can also be used for debugging.
- The format for the JVM trace point ID, which appears in the CICS trace entries SJ 4D01 and SJ 4D02, is different with Java 6. Again, this change was first introduced in Java 5.
 - With Java 1.4.2, the JVM trace point ID was in the format TPID_XXXXXX, where XXXXXX represents the hex JVM trace point ID. This format is fixed length, so the Java 1.4.2 trace point ID always ended at offset 8 in the data.
 - With Java 6, the JVM trace point ID is in the format TPID_componentId.number, where componentId is the name of the JVM component that issued the trace point, and number is the unique identifying number in the component. This format is variable length.

For more information, see the topics about tracing Java applications and the JVM in the Version 6 *IBM Developer Kit and Runtime Environment, Java Technology Edition Diagnostics Guide*, which is available to download from www.ibm.com/developerworks/java/jdk/diagnosis/.

Changes to options in JVM profiles

A reference for changes to options in JVM profiles.

Table 5. Changed options in JVM profiles

Option	Status	CICS and Java launcher action	Replace with	Notes
-Dibm.jvm.shareable.application.class.path	Obsolete	CICS adds entries to standard classpath	CLASSPATH_SUFFIX	Obsolete for Java 5

Changes to class paths in JVM profiles

There are a number of changes to the way class paths are specified in CICS Transaction Server for z/OS, Version 4 Release 1. Identify an appropriate class path for each of the items that you specified on class paths in your existing JVM profiles and optional JVM properties files, and transfer the items to the correct class paths.

To help you to upgrade, if you continue to specify items on class paths using the old options, CICS accepts these options and builds them into an appropriate class path.

You must use IBM 31-bit SDK for z/OS, Java Technology Edition, Version 6 for Java support with CICS Transaction Server for z/OS, Version 4 Release 1. Two class paths are built using the options in the order shown here:

Library path for Java 6

1. LIBPATH_PREFIX

2. CICS-supplied DLL files in the CICS_HOME/lib and CICS_HOME/ctg directories
3. IBM SDK-supplied DLL files in the JAVA_HOME/bin and JAVA_HOME/bin/classic directories
4. LIBPATH (old option)
5. LIBPATH_SUFFIX

Standard class path for Java 6

1. TMPREFIX (old option)
2. CLASSPATH_PREFIX
3. CICS-supplied jar files in the CICS_HOME/lib directory
4. IBM SDK-supplied jar files in the JAVA_HOME/standard directory
5. TMSUFFIX (old option)
6. ibm.jvm.shareable.application.class.path (old option)
7. CLASSPATH (old option)
8. CLASSPATH_SUFFIX

Changes to class paths in JVM profiles: shareable application class path

In Java 6, the shareable application class path is not used for class sharing. To share Java classes when using Java 6, place the classes on the standard class path for the JVM.

When you upgrade to using Java 6 in a CICS region, if you have any classes on the shareable application class path in your JVM profiles, you must put them on the standard class path. CICS still accepts the shareable application class path but places the classes on the standard class path instead.

With Java 6, the shared class cache does not have a special shareable application class path. If you request class sharing to take place with Java 6 JVMs, all of the classes in the JVMs are shared, and all must be placed on the standard class path, which is defined by the CLASSPATH_SUFFIX option in the JVM profile.

Upgrading from IBM SDK for z/OS, Java Technology Edition, Version 1.4.2 to Version 6

Carry out the steps listed in this topic to upgrade to Version 6 because Version 1.4.2 is no longer supported.

About this task

If you are upgrading from Java 1.4.2, carry out the steps listed here. If you are upgrading from Java 5, see "Upgrading from IBM SDK for z/OS, Java Technology Edition, Version 5 to Version 6" on page 128.

The steps in this topic assume that you have one or more CICS regions at CICS TS 3.2 or earlier, with existing Java workloads supported by Version 1.4.2 of the IBM SDK for z/OS, and that you are upgrading these regions to CICS TS 4.1 and therefore must use Version 6 of the SDK for the first time.

You can upgrade to Version 6.0.0 of the SDK or, if you have applied APAR PM38397, you can upgrade to Version 6.0.1 of the SDK.

If you have implemented workload balancing for enterprise beans and you have a logical EJB server that consists of cloned CICS regions that listen for and fulfil IOP enterprise bean requests, upgrade all the CICS regions in the logical EJB server to CICS TS 4.1 and Java 6 at the same time. In a logical EJB server, IOP messages from a single client process might be handled in different CICS regions, and, if the CICS regions are using different versions of Java, application errors might occur in some circumstances.

To upgrade to Version 6 of the SDK:

Procedure

1. Check your Java programs against the information at <http://www.ibm.com/systems/z/os/zos/tools/java/services/j6restrict31.html> for compatibility issues between the IBM SDK for z/OS, V6 and the IBM SDK for z/OS, V1.4.2 and V5. The information includes links to Java compatibility and deprecated API information for both Java V6.0.0 and Java V6.0.1. Make any changes that are necessary to enable your programs to run with the Java 6 API and the IBM SDK for z/OS, V6.
2. Download and install the IBM 31-bit SDK for z/OS, Java Technology Edition, Version 6 on your z/OS system.
 - You can download V6.0.1 from http://www.ibm.com/systems/z/os/zos/tools/java/products/sdk601_31.html.
 - You can download V6.0.0 from <http://www.ibm.com/systems/z/os/zos/tools/java/products/j6pcont31.html>.

CICS TS 4.1 supports only the 31-bit version of the SDK, not the 64-bit version. For details of which service refresh is required, see CICS TS 4.1 detailed system requirements.

3. If you want to upgrade some or all of the JVM profiles and JVM properties files that you used with your previous CICS release, so that you can continue to use them, make copies of them in a new location on z/OS UNIX. The full path to this location, including the directory name, must be 240 characters or less, so that you can specify it on the **JVMPROFILEDIR** system initialization parameter for CICS.
4. If you do not want to continue using the JVM profiles and JVM properties files that you used with your previous CICS release, make copies of the new sample JVM profiles supplied with CICS TS 4.1 in a new location on z/OS UNIX. JVM properties files are not supplied with CICS TS 4.1. The samples are in the `/usr/lpp/cicsts/cicsts41/JVMProfiles` directory, where the `/usr/lpp/cicsts/cicsts41` directory is the installation directory for CICS files on z/OS UNIX, specified by the **USSDIR** parameter in the DFHISTAR installation job. If you created your existing JVM profiles more than one or two releases ago, you might want to use the new samples rather than upgrading your existing files, because a number of changes have been made to the options.
5. If you used the shared class cache in Version 1.4.2, and want to upgrade JVM profiles for which **CLASSCACHE=YES** is specified in the profile so that the JVMs use the shared class cache (known as worker JVMs in Version 1.4.2), make changes to the copies of your JVM profiles as follows:
 - a. Locate the JVM profile for your Version 1.4.2 master JVM (DFHJVMCC or a profile modeled on it), and its associated JVM properties file (`dfjvmcc.props` or a file modeled on it).

- b. Copy the CICS_HOME, JAVA_HOME, and REUSE options and their values from the master JVM profile into each of the profiles for JVMs that use the shared class cache (worker JVM profiles).
- c. Change the CICS_HOME option in each of the profiles for JVMs that use the shared class cache to specify the path for the home directory for CICS TS 4.1 files on z/OS UNIX. The new sample JVM profiles supplied with CICS TS 4.1 show this path.
- d. Change the JAVA_HOME option in each of the profiles for JVMs that use the shared class cache to specify the location where you installed Version 6 of the IBM 31-bit SDK for z/OS, Java Technology Edition.
/usr/lpp/java/J6.0/ is the default install location for the product.
- e. Copy the LIBPATH_PREFIX and LIBPATH_SUFFIX options and their values from the master JVM profile into each of the profiles for JVMs that use the shared class cache. Native C dynamic link library (DLL) files specified on the library path are not stored in each of the individual JVMs, and they are not stored in the shared class cache; a single copy of each DLL file is used by all the JVMs that need it.
- f. If the CLASSPATH_PREFIX and CLASSPATH_SUFFIX options, or the older CLASSPATH option, are included in any of your profiles for JVMs that use the shared class cache, check whether the classes that they specify must be isolated to JVMs with that particular profile or whether they can safely be placed in the shared class cache. With Version 1.4.2, classes specified in this way were not loaded into the shared class cache, but with Version 6, all the classes on the standard class path are now eligible for sharing. If you want to exclude classes from the shared class cache, you must make the JVM profile that contains them into a standalone JVM by specifying CLASSCACHE=NO instead of CLASSCACHE=YES in the profile.
- g. Copy the classes specified by the **-Dibm.jvm.shareable.application.class.path** system property in the JVM properties file for the master JVM, and specify them as values for the CLASSPATH_SUFFIX option in each of the profiles for JVMs that use the shared class cache. The shareable application class path in the master JVM properties file contained the shareable application classes for all the applications which ran in your worker JVMs. With Version 6, all these classes are placed on the standard class path in the individual JVM profiles.
- h. If you have a number of profiles for JVMs that use the shared class cache, and you can identify which classes on the shareable application class path belong to each of your Java applications and which of the JVM profiles each application uses, you can delete unwanted items from each CLASSPATH_SUFFIX option so that each class is specified only in the appropriate JVM profiles. If you cannot determine the unwanted items, keep all the classes in every JVM profile. Keeping all the classes does not use any additional storage because the JVMs are sharing the class cache, but if you make changes to a class, you must restart more JVMs than if the classes were correctly arranged.
- i. To check the results of your changes, you can compare your JVM profiles with the CICS TS 4.1 CICS-supplied sample JVM profile DFHJVMPR, for a JVM that uses the shared class cache.
- j. When you have finished transferring options and their values from the master JVM profile to the profiles for JVMs that use the shared class cache, remove the master JVM profile from the folder of profiles where you are working, because it is not used for the Version 6 shared class cache.

6. For any other JVM profiles that you want to upgrade, including the default CICS-supplied JVM profiles, DFHJVMPR and DFHJVMCD, if you have made copies of your versions of these profiles from a previous CICS release, change the JAVA_HOME option to specify the installation location for IBM 31-bit SDK for z/OS, Java Technology Edition, Version 6. /usr/lpp/java/J6.0/ is the default installation location for the product.
7. Check all the JVM profiles that you have upgraded against the listing of changes to JVM options in “Changes to options in JVM profiles” on page 123 and make any further required changes.
8. If you have chosen to make copies of the new sample JVM profiles supplied with CICS TS 4.1 and to use these instead of your existing JVM profiles from previous CICS releases, use the documentation in *Java Applications in CICS* to help you set these up for your CICS regions.

Note: The JAVA_HOME option in the CICS TS 4.1 sample JVM profiles is set at installation by the JAVADIR parameter in the DFHISTAR job. The default is the default installation location for Version 6 of the IBM 31-bit SDK for z/OS, Java Technology Edition, which is /usr/lpp/java/J6.0/. Check whether the installation location in the sample JVM profiles that you have used matches the location where you installed the Version 6 SDK, and change it if necessary.

9. Give all your CICS regions read and execute access on z/OS UNIX to these directories, files, and profiles:
 - a. The directories and files for the IBM SDK for z/OS, V6 installation.
 - b. Your Version 6 JVM profiles and optional JVM properties files (the files that you have been modifying during these steps) and the directory containing them.
10. Change the **JVMPROFILEDIR** system initialization parameter in all the CICS regions that you are upgrading to CICS TS 4.1 and Java 6, to specify the location on z/OS UNIX where you placed the Version 6 JVM profiles.
11. When you have completed any other necessary upgrade tasks for the CICS regions, start one region and run your Java workload in it as a test region. Make these checks:
 - a. Confirm that you can start JVMs with each of your JVM profiles successfully and can use them to run applications. You can use the **INQUIRE JVM** command to browse the JVMs in a CICS region, identify their JVM profiles, and see when they are allocated to a task.
 - b. Confirm that the shared class cache (if used) has been started successfully. You can use the **INQUIRE CLASSCACHE** command to see the status of the shared class cache and the number of JVMs that are using it.
 - c. Check that the behavior of your application is as it was when you used Version 1.4.2 of the SDK.
 - d. If you are using class sharing, check that the amount of storage specified for the shared class cache (by the **JVMCCSIZE** system initialization parameter) and for the individual JVMs (in the JVM profiles) is right for the new mix of items stored in each location. Compiled classes produced by just-in-time (JIT) compilation are now stored in individual JVMs, not in the shared class cache. However, classes that were on the standard class path in a Version 1.4.2 JVM profile are now stored in the shared class cache, not individual JVMs.
12. If you encounter any problems in the test CICS region, make these checks:
 - a. Check that your Version 6 SDK installation was successful, that you gave the CICS region the correct permissions to access it, and that the JAVA_HOME option in your JVM profiles correctly specifies the Version 6

SDK installation. If you try to start a JVM using a profile that specifies the Version 1.4.2 SDK, CICS issues message DFHSJ0900 and abend ASJJ. Abend ASJJ is also issued if CICS cannot access the JAVA_HOME directory or if the installation appears to be invalid.

- b. Check that the directory specified by the **JVMPROFILEDIR** system initialization parameter is the directory containing the Version 6 JVM profiles, and that the CICS region has permissions for this directory and the files.
 - c. If you are unable to start the shared class cache, check that the default CICS-supplied JVM profile DFHJVMCD is available in the directory specified by the **JVMPROFILEDIR** system initialization parameter, is set up correctly for use in your CICS region, and correctly specifies the Version 6 SDK installation. With Version 6, CICS uses this JVM profile to initialize and terminate the shared class cache.
 - d. If you had JVM profiles for Version 1.4.2 worker JVMs that you upgraded for use with Version 6, check that all the items listed in 5 on page 125 have been transferred correctly from the master JVM profile to the individual JVM profiles.
 - e. Check that you have correctly addressed any compatibility issues between Java 1.4.2 and Java 6.
 - f. Adjust the size of the shared class cache or the storage specified in the JVM profiles, as appropriate for your new storage use. Use the **PERFORM CLASSCACHE** command to phase in a new, larger, or smaller shared class cache while CICS is running, and set the **JVMCCSIZE** system initialization parameter to specify the new size permanently. To change the maximum size of the storage heap for a JVM, increase or decrease the value of the **-Xmx** option in the JVM profile for the JVM, and use the **PERFORM JVMPOOL** command to stop and restart the JVMs that use the changed profile.
13. Start the remaining upgraded CICS regions and use them for your Java workload.
 14. If you did not use the shared class cache supplied by the IBM SDK for z/OS, V1.4.2, consider using the shared class cache supplied by Version 6 of the SDK. This shared class cache requires minimal setup and administration, updates itself automatically when classes or JAR files change or when new ones are added, and is persistent across warm starts of CICS.

Upgrading from IBM SDK for z/OS, Java Technology Edition, Version 5 to Version 6

Follow these steps to upgrade from Java 5 in CICS TS 3.2 to Java 6 in CICS TS 4.1.

About this task

The steps in this topic assume that you have one or more CICS regions at CICS TS 3.2 or earlier, with existing Java workloads supported by Version 5 of the IBM SDK for z/OS, and that you are upgrading these regions to CICS TS 4.1 and therefore must use Version 6 of the SDK for the first time.

You can upgrade to Version 6.0.0 of the SDK or, if you have applied APAR PM38397, you can upgrade to Version 6.0.1 of the SDK.

If you have implemented workload balancing for enterprise beans and you have a logical EJB server that consists of cloned CICS regions that listen for and fulfil IOP enterprise bean requests, upgrade all the CICS regions in the logical EJB server to

CICS TS 4.1 and Java 6 at the same time. In a logical EJB server, IIOP messages from a single client process might be handled in different CICS regions, and, if the CICS regions are using different versions of Java, application errors might occur in some circumstances.

To upgrade to Version 6 of the SDK:

Procedure

1. Check your Java programs against the information at <http://www.ibm.com/systems/z/os/zos/tools/java/services/j6restrict31.html> for compatibility issues between the IBM SDK for z/OS, V6 and the IBM SDK for z/OS, V5. The information includes links to Java compatibility and deprecated API information for both Java V6.0.0 and Java V6.0.1. Make any changes that are necessary to enable your programs to run with the Java 6 API and the IBM SDK for z/OS, V6.
2. Download and install the IBM 31-bit SDK for z/OS, Java Technology Edition, Version 6 on your z/OS system.
 - You can download V6.0.1 from http://www.ibm.com/systems/z/os/zos/tools/java/products/sdk601_31.html.
 - You can download V6.0.0 from <http://www.ibm.com/systems/z/os/zos/tools/java/products/j6pcont31.html>.

CICS TS 4.1 supports only the 31-bit version of the SDK, not the 64-bit version. For details of which service refresh is required, see CICS TS 4.1 detailed system requirements.

3. If you want to upgrade some or all of the JVM profiles and JVM properties files that you used with your previous CICS release, so that you can continue to use them, make copies of them in a new location on z/OS UNIX. The full path to this location, including the directory name, must be 240 characters or less, so that you can specify it on the **JVMPROFILEDIR** system initialization parameter for CICS.
4. If you do not want to continue using the JVM profiles and JVM properties files that you used with your previous CICS release, make copies of the new sample JVM profiles supplied with CICS TS 4.1 in a new location on z/OS UNIX. Sample JVM properties files are not supplied with CICS TS 4.1. The JVM profile samples are in the `/usr/lpp/cicsts/cicsts41/JVMProfiles` directory, where the `/usr/lpp/cicsts/cicsts41` directory is the installation directory for CICS files on z/OS UNIX, specified by the **USSDIR** parameter in the DFHISTAR installation job.
5. If you want to upgrade JVM profiles where **CLASSCACHE=YES** is specified in the profile so that the JVMs use the shared class cache, make changes to the copies of your JVM profiles as follows:
 - a. Locate the JVM profile.
 - b. Copy the **CICS_HOME**, **JAVA_HOME** and **REUSE** options and their values into each of the profiles for JVMs that use the shared class cache.
 - c. Change the **CICS_HOME** option in each of the profiles for JVMs that use the shared class cache to specify the path for the home directory for CICS TS 4.1 files on z/OS UNIX. The new sample JVM profiles supplied with CICS TS 4.1 show this path.
 - d. Change the **JAVA_HOME** option in each of the profiles for JVMs that use the shared class cache to specify the location where you installed Version 6 of the IBM 31-bit SDK for z/OS, Java Technology Edition.
`/usr/lpp/java/J6.0/` is the default installation location for the product.

- e. Copy the LIBPATH_PREFIX and LIBPATH_SUFFIX options and their values into each of the profiles for JVMs that use the shared class cache. Native C dynamic link library (DLL) files specified on the library path are not stored in each of the individual JVMs, and they are not stored in the shared class cache; a single copy of each DLL file is used by all the JVMs that need it.
 - f. If the CLASSPATH_PREFIX and CLASSPATH_SUFFIX options, or the older CLASSPATH option, are included in any of your profiles for JVMs that use the shared class cache, check whether the classes that they specify must be isolated to JVMs with that particular profile or whether they can safely be placed in the shared class cache. With Version 6, as with Java 5 all the classes on the standard class path are now eligible for sharing. If you want to exclude classes from the shared class cache, you must make the JVM profile that contains them into a standalone JVM by specifying CLASSCACHE=NO instead of CLASSCACHE=YES in the profile.
 - g. If you have not already done so, copy the classes specified by the `-Dibm.jvm.shareable.application.class.path` system property, and specify them as values for the CLASSPATH_SUFFIX option in each of the profiles for JVMs that use the shared class cache.
 - h. If you have a number of profiles for JVMs that use the shared class cache, and you can identify what classes on the shareable application class path belong to each of your Java applications and which of the JVM profiles each application uses, you can delete unwanted items from each CLASSPATH_SUFFIX option so that each class is specified only in the appropriate JVM profiles. If you cannot determine the unwanted items, keep all the classes in every JVM profile. Keeping all the classes does not use any additional storage because the JVMs are sharing the class cache, but, if you make changes to a class, you must restart more JVMs than if the classes were correctly arranged.
 - i. To check the results of your changes, you can compare your JVM profiles with the CICS TS 4.1 CICS-supplied sample JVM profile DFHJVMPR, for a JVM that uses the shared class cache.
 - j. When you have finished transferring options and their values from the master JVM profile to the profiles for JVMs that use the shared class cache, remove the master JVM profile from the folder of profiles where you are working, because it is not used for the Version 6 shared class cache.
6. For any other JVM profiles that you want to upgrade, including the default CICS-supplied JVM profiles, DFHJVMPR and DFHJMCD, if you have made copies of your versions of these profiles from a previous CICS release, change the JAVA_HOME option to specify the installation location for IBM 31-bit SDK for z/OS, Java Technology Edition, Version 6. `/usr/lpp/java/J6.0/` is the default installation location for the product.
 7. Check all the JVM profiles that you have upgraded against the listing of changes to JVM options in “Changes to options in JVM profiles” on page 123 and make any further required changes.
 8. If you have chosen to make copies of the new sample JVM profiles supplied with CICS TS 4.1 and to use these instead of your existing JVM profiles from previous CICS releases, use the documentation in *Java Applications in CICS* to help you set these up for your CICS regions.

Note: The JAVA_HOME option in the CICS TS 4.1 sample JVM profiles is set at installation by the JAVADIR parameter in the DFHISTAR job. The default is the default installation location for Version 6 of the IBM 31-bit SDK for z/OS, Java Technology Edition, which is `/usr/lpp/java/J6.0/`. Check whether the

- installation location in the sample JVM profiles that you have used matches the location where you installed the Version 6 SDK, and change it if necessary.
9. Give all your CICS regions read and execute access on z/OS UNIX to these directories, files, and profiles:
 - a. The directories and files for the IBM SDK for z/OS, V6 installation.
 - b. Your Version 6 JVM profiles and optional JVM properties files (the files you have been modifying during these steps) and the directory containing them.
 10. Change the **JVMPROFILEDIR** system initialization parameter in all the CICS regions that you are upgrading to CICS TS 4.1 and Java 6, to specify the location on z/OS UNIX where you placed the Version 6 JVM profiles.
 11. When you have completed any other necessary upgrade tasks for the CICS regions, start one region and run your Java workload in it as a test region. Make these checks:
 - a. Confirm that you can start JVMs with each of your JVM profiles successfully and can use them to run applications. You can use the **INQUIRE JVM** command to browse the JVMs in a CICS region, identify their JVM profiles, and see when they are allocated to a task.
 - b. Confirm that the shared class cache (if used) has been started successfully. You can use the **INQUIRE CLASSCACHE** command to see the status of the shared class cache and the number of JVMs that are using it.
 - c. Check that the behavior of your application is as it was when you used Version 5 of the SDK.
 - d. If you are using class sharing, check that the amount of storage specified for the shared class cache (by the **JVMCCSIZE** system initialization parameter) and for the individual JVMs (in the JVM profiles) is right for the new mix of items stored in each location. Compiled classes produced by just-in-time (JIT) compilation are now stored in individual JVMs, not in the shared class cache.
 12. If you encounter any problems in the test CICS region, make these checks:
 - a. Check that your Version 6 SDK installation was successful, that you gave the CICS region the correct permissions to access it, and that the **JAVA_HOME** option in your JVM profiles correctly specifies the Version 6 SDK installation. If you try to start a JVM using a profile that specifies the Version 5 SDK, CICS issues message DFHSJ0900 and abend ASJJ. Abend ASJJ is also issued if CICS cannot access the **JAVA_HOME** directory or if the installation appears to be invalid.
 - b. Check that the directory specified by the **JVMPROFILEDIR** system initialization parameter is the directory containing the Version 6 JVM profiles, and that the CICS region has permissions for this directory and the files.
 - c. If you are unable to start the shared class cache, check that the default CICS-supplied JVM profile DFHJVMCD is available in the directory specified by the **JVMPROFILEDIR** system initialization parameter, is set up correctly for use in your CICS region, and correctly specifies the Version 6 SDK installation. With Version 6, CICS uses this JVM profile to initialize and terminate the shared class cache.
 - d. If you had JVM profiles that you upgraded for use with Version 6, check that all the items have been transferred correctly.
 - e. Check that you have correctly addressed any compatibility issues between Java 5 and Java 6.

- f. Adjust the size of the shared class cache or the storage specified in the JVM profiles, as appropriate for your new storage use. Use the **PERFORM CLASSCACHE** command to phase in a new, larger, or smaller shared class cache while CICS is running, and set the **JVMCCSIZE** system initialization parameter to specify the new size permanently. To change the maximum size of the storage heap for a JVM, increase or decrease the value of the **-Xmx** option in the JVM profile for the JVM, and use the **PERFORM JVMPOOL** command to stop and restart the JVMs that use the changed profile.
13. Start the remaining upgraded CICS regions and use them for your Java workload.

Upgrading from IBM SDK for z/OS, Java Technology Edition, Version 6.0.0 to Version 6.0.1

Support for Version 6.0.1 of the SDK is provided by APAR PM38397. If you have already upgraded to Version 6.0.0, follow these steps to upgrade to Version 6.0.1.

Procedure

1. Check your Java programs against the information at <http://www.ibm.com/systems/z/os/zos/tools/java/services/j6restrict31.html> for compatibility issues between the IBM SDK for z/OS, V6.0.1 and the IBM SDK for z/OS, V6.0.0. The information includes links to Java compatibility and deprecated API information. Make any changes that are necessary to enable your programs to run with the Java 6 API and the IBM SDK for z/OS, V6.0.1.
2. Download and install the IBM 31-bit SDK for z/OS, Java Technology Edition, Version 6.0.1 on your z/OS system. You can download the product, and find out more information about it, at http://www.ibm.com/systems/z/os/zos/tools/java/products/sdk601_31.html. CICS TS 4.1 supports only the 31-bit version of this SDK, not the 64-bit version. For details of which service refresh is required, see CICS TS 4.1 detailed system requirements.
3. Edit your JVM profiles, including the supplied profiles, to change the **JAVA_HOME** option to specify the installation direction of the Java SDK for V6.0.1. The default installation value is `/usr/lpp/java/J6.0.1_31/`.
4. If any of the JVM profiles use the shared class cache, you must remove the existing class cache before starting any JVMs with the V6.0.1 SDK. You cannot share a class cache between V6.0.0 and V6.0.1 JVMs.

You can either use the **PERFORM CLASSCACHE** command to remove the class cache in each CICS region or you can use Java commands in UNIX System Services to check and remove all class caches across the system. Follow these steps if you want to use UNIX System Services:

- a. Shut down CICS before removing the shared class cache.
- b. In UNIX System Services, enter the following command to list the class caches:

```
java -Xshareclasses:listallcaches
```

- c. Remove the class caches by entering the following command:

```
java -Xshareclasses:name=CICS_sharedcc_ APPLID_n,destroy
```

APPLID is the APPLID of the CICS region and *n* is the number assigned to the class cache.

- d. Restart CICS to start using V6.0.1 of the SDK.

5. If you encounter any problems in the CICS region, make these checks:

- a. Check that your Version 6.0.1 SDK installation was successful, that you gave the CICS region the correct permissions to access it, and that the `JAVA_HOME` option in your JVM profiles correctly specifies the Version 6.0.1 SDK installation.
- b. Check that the directory specified by the **JVMPROFILEDIR** system initialization parameter is the directory containing the Version 6.0.1 JVM profiles, and that the CICS region has permissions for this directory and the files.
- c. If you are unable to start the shared class cache, check that the supplied JVM profile `DFHJVMCD` is available in the directory specified by the **JVMPROFILEDIR** system initialization parameter, is set up correctly for use in your CICS region, and correctly specifies the Version 6.0.1 SDK installation.
- d. Check that you have correctly addressed any compatibility issues between Java V6.0.0 and Java V6.0.1.
- e. Adjust the size of the shared class cache or the storage specified in the JVM profiles, as appropriate for your new storage use. Use the **PERFORM CLASSCACHE** command to phase in a new, larger, or smaller shared class cache while CICS is running, and set the **JVMCCSIZE** system initialization parameter to specify the new size permanently. To change the maximum size of the storage heap for a JVM, increase or decrease the value of the `-Xmx` option in the JVM profile for the JVM, and use the **PERFORM JVMPOOL** command to stop and restart the JVMs that use the changed profile.

Chapter 25. Upgrading the CICS-WebSphere MQ connection

If you use the CICS-WebSphere MQ adapter, bridge, trigger monitor, or API crossing exit to connect CICS to WebSphere MQ, you must make some changes to your configuration.

Review availability of TCBs for CICS-WebSphere MQ connection (MAXOPENTCBS setting)

Before CICS TS for z/OS, Version 3.2, a CICS region used a pool of eight subtask TCBs to connect to WebSphere MQ queue managers. The subtask TCBs were not owned by the CICS tasks that made the requests to connect to WebSphere MQ. When a subtask TCB returned the results of a request to a CICS task, the subtask TCB became available for other CICS tasks that needed to connect to WebSphere MQ.

From CICS TS for z/OS, Version 3.2, a CICS region uses open TCBs in L8 mode to connect to WebSphere MQ queue managers. When a CICS task makes a request to connect to WebSphere MQ, it obtains an L8 TCB from the pool in the CICS region, and keeps the L8 TCB from the time it is allocated to the end of the task. Even if the CICS task switches back to run on the QR TCB or makes no further requests to connect to WebSphere MQ, the L8 TCB is not released until the CICS task ends. Each concurrent CICS task that connects to WebSphere MQ therefore requires one L8 TCB for the duration of the task.

The availability of L8 TCBs in the pool is determined by the setting for the MAXOPENTCBS system initialization parameter, and by the number of other CICS tasks that are using L8 or L9 TCBs, such as CICS applications that connect to DB2. A CICS task is allowed at most one L8 TCB, which the task can use for any purpose that requires an L8 TCB. For example, a task that connected to both WebSphere MQ and DB2 would use only one L8 TCB. Within the overall limit set for the TCB pool by MAXOPENTCBS, there is no specific limit on the number of L8 TCBs that are allocated for CICS tasks that connect to WebSphere MQ queue managers; these tasks can potentially occupy all of the available L8 TCBs in the pool.

When you upgrade from a release earlier than CICS TS for z/OS, Version 3.2, it is important to review your setting for the MAXOPENTCBS system initialization parameter to ensure that enough L8 TCBs are available to provide one for each concurrent CICS task that connects to WebSphere MQ, and to leave sufficient L8 and L9 TCBs available for the other users of these TCBs in the CICS region. For guidance on reviewing your setting for the MAXOPENTCBS system initialization parameter, see "MAXOPENTCBS" in the *CICS Performance Guide* and "Setting MAXOPENTCBS" in the *CICS Performance Guide*. It is helpful to review the MAXOPENTCBS setting each time you upgrade to a new CICS release.

CICS tasks that connect to WebSphere MQ require storage in the WebSphere MQ subsystem. When you upgrade from a release earlier than CICS TS for z/OS, Version 3.2, or when the peak number of concurrent CICS tasks that connect to WebSphere MQ changes, review the use of common storage in the WebSphere MQ subsystem. For information about common storage and connections from CICS to WebSphere MQ, see the topic "Common storage" in the WebSphere MQ information center. For further information about storage and performance

requirements in WebSphere MQ, including velocity goals for CICS regions, see the topic "Planning your storage and performance requirements" in the WebSphere MQ information center.

If CICS is connecting to WebSphere MQ Version 6, you might also need to increase your setting for the WebSphere MQ subsystem tuning parameter CTHREAD. Before CICS TS for z/OS, Version 3.2, CICS always took up nine of the connections specified by CTHREAD, plus one for each task initiator (CKTI). From CICS TS for z/OS, Version 3.2, the number of connections depends on the number of CICS tasks that are using L8 TCBS to connect to WebSphere MQ. In WebSphere MQ Version 6, you can change the value of CTHREAD using the WebSphere MQ SET SYSTEM command. From WebSphere MQ Version 7, the CTHREAD parameter cannot be adjusted in WebSphere MQ.

New CICS resources and commands for CICS-WebSphere MQ connection

To support WebSphere MQ queue-sharing groups, CICS TS 4.1 introduces the MQCONN resource definition and new EXEC CICS and CEMT commands for the CICS-WebSphere MQ connection.

Before CICS TS 4.1, you used the DFHMQPRM operand of the CICS system initialization parameter INITPARM to specify a default WebSphere MQ queue manager name and initiation queue name for the CICS-WebSphere MQ connection. (The DFHMQPRM operand was called CSQCPARM before CICS TS 3.2.) An example of this statement is as follows:

```
INITPARM=(DFHMQPRM='SN=CSQ1,IQ=CICS01.INITQ')
```

You can no longer use the INITPARM system initialization parameter to specify these defaults. CICS issues a warning message if the DFHMQPRM operand is present on INITPARM when you start the CICS-WebSphere MQ connection, and the settings are ignored. The INITPARM system initialization parameter itself is still valid with other operands.

You must now set up an MQCONN resource definition for the CICS region to provide defaults for the connection between CICS and WebSphere MQ. You must install the MQCONN resource definition before you start the connection. The defaults that you specify in the MQCONN resource definition apply when you use the CKQC transaction from the CICS-WebSphere MQ adapter control panels or call it from the CICS command line or a CICS application. CICS uses the defaults when you use the MQCONN system initialization parameter to specify that CICS starts a connection to WebSphere MQ automatically during initialization. This example MQCONN resource definition can replace the example INITPARM statement shown above:

```
MQconn      : MQDEF1
Group       : MQDEFNS
DEscription ==>
Mqname      ==> CSQ1
Resyncmember ==> Yes           Yes | No
Initqname   ==> CICS01.INITQ
```

You can specify either a WebSphere MQ queue-sharing group as a default in the MQCONN resource definition, or the name of a single queue manager. To use a WebSphere MQ queue-sharing group, the CICS TS 4.1 CICS SVC must be active for the CICS region. When you install a new level of the CICS SVC, an IPL is required to activate it. Message DFHMQ0325 is issued if a CICS region attempts to connect

to a WebSphere MQ queue-sharing group when the CICS TS 4.1 CICS SVC is not active, and a system dump is taken with the dump code DFHAP0002 and the severe error code X'A0C6'.

You can use new EXEC CICS and CEMT commands to work with the MQCONN resource definition. You can also use the SET MQCONN command to start and stop the CICS-WebSphere MQ connection, as an alternative to issuing CKQC START or STOP commands.

If you use an application program to control the CICS-WebSphere MQ connection, you might experience some new results from the application. For information about these changes, see “Possible application behavior changes for CICS-WebSphere MQ connection” on page 138. For information about upgrading your application to use the new functions, see “Upgrading your application for CICS-WebSphere MQ connection” on page 139.

Support for WebSphere MQ Version 7 API calls

If you are using WebSphere MQ Version 7 and you want to use the API calls that are new in Version 7 in your CICS application programs, the WebSphere MQ queue manager must be at WebSphere MQ Version 7.0.1 or higher, and you must apply the following PTFs:

- In CICS, the PTF for APAR PK89844
- In WebSphere MQ Version 7.0.1, the PTFs for APARs PK97364 and PK97972

If you have installed WebSphere MQ Version 7 and you have applied the PTF for APAR PK89844, you must ensure that your CICS STEPLIB concatenation includes only the WebSphere MQ Version 7 SCSQAUTH. All modules in WebSphere MQ Version 7 SCSQAUTH are downwardly compatible.

Applications that do not use the Version 7 API calls can operate without these PTFs.

If you use CICSplex SM, you must apply the PTF for APAR PK89845 to CICSplex SM to display statistics for the new API calls.

When you have applied the PTF for APAR PK89844 to CICS, you must upgrade the CICS-WebSphere MQ resource definitions in the CSD by running a DFHCSDUP job with the command UPGRADE USING(DFHCURDM). After the upgrade, the DFHMQ group contains definitions for programs CSQBCRMH, CSQCBFMH, CSQBPAPI, CSQCCTMH, CSQCCTMH, CSQCCTMP, CSQCIQMP, CSQCMHBF, CSQCSTAT, CSQCSTMP, and DFHMQMCM. If you are installing CICS TS 4.1 with this maintenance applied, the DFHCSDUP job with the command UPGRADE REPLACE includes the CICS-WebSphere MQ resource definitions.

New or changed CICS applications that use the new API calls in WebSphere MQ Version 7 must be link-edited with the WebSphere MQ API stub modules that are shipped with CICS. The new API calls are MQBUFMH, MQCB, MQCTL, MQCRTMH, MQDLTMH, MQDLTMP, MQINQMP, MQMHBUF, MQSETMP, MQSTAT, MQSUB, and MQSUBRQ. These Version 7 API calls are only supported in CICS when you use the stubs shipped with CICS, not the stubs shipped with WebSphere MQ. New and existing CICS applications that do not use the Version 7 API calls can use the stubs shipped with CICS or WebSphere MQ.

If you use the new Version 7 API calls MQCB and MQCTL for asynchronous message consumption by CICS applications, you must code your program using

information given in the CICS documentation, in addition to the WebSphere MQ programming documentation. The requirements for asynchronous message consumption in a CICS environment are listed in "Asynchronous message consumption and callback routines" in the CICS integration with WebSphere MQ documentation.

Possible application behavior changes for CICS-WebSphere MQ connection

You can start the CICS-WebSphere MQ connection from an application in the same way as you did prior to CICS TS 4.1, by issuing an EXEC CICS LINK command to link to program DFHMQQCN (or CSQCQCON, which is retained for compatibility) and passing a set of parameters. However, if you continue to use this method of starting the CICS-WebSphere MQ connection, you might experience some new results depending on the parameters that you use in the application.

If you upgrade your application to use the new SET MQCONN command to control the CICS-WebSphere MQ connection, you can avoid these results. The new results that you might now experience when you use program DFHMQQCN to start the CICS-WebSphere MQ connection are as follows:

CONNSSN parameter

If your application uses the CONNSSN parameter to specify the name of a WebSphere MQ queue manager for the connection, CICS connects to this queue manager as before. In addition, your setting for the MQNAME attribute in the installed MQCONN definition is replaced with the name of the queue manager that you specified on the command. If you want to revert to the original queue manager or queue-sharing group, set MQNAME in the resource definition again.

CONNIQ parameter

If your application uses the CONNIQ parameter to specify the name of the default initiation queue for the connection, CICS uses that initiation queue name, and the INITQNAME attribute in the installed MQINI resource definition is replaced with the name of the initiation queue that you specified on the command. (MQINI is an implicit resource definition that CICS installs when you install the MQCONN resource definition.)

INITP parameter

If your application uses the INITP parameter, which specifies that the default settings are used, these default settings are now taken from the installed MQCONN resource definition, and not from the INITPARM system initialization parameter. The INITP parameter is therefore now known as MQDEF. When MQDEF is set to Y, the setting from the MQCONN resource definition applies as follows:

- If the MQCONN resource definition specifies the name of a WebSphere MQ queue manager in the MQNAME attribute, CICS connects to that queue manager.
- If the MQCONN resource definition specifies a WebSphere MQ queue-sharing group in the MQNAME attribute, CICS connects to any active member of that group. In the event of reconnection, CICS might either connect to the same queue manager or to a different queue manager, depending on the setting for the RESYNCMEMBER attribute in the MQCONN resource definition. You might need to modify your application to take this new behavior into account.

You can stop the CICS-WebSphere MQ connection from an application in the same way as before, by issuing an EXEC CICS LINK command to program DFHMQDSC (or CSQCDSC, which is retained for compatibility). The results of this operation remain unchanged.

Upgrading your application for CICS-WebSphere MQ connection

You can upgrade your application to specify a queue-sharing group, or use the new SET MQCONN command to control the CICS-WebSphere MQ connection instead of linking to another program.

Procedure

- In the parameter list that your application passes to DFHMQQCN (or CSQCQCON), the CONNSSN parameter maps to the MQNAME attribute in the installed MQCONN definition. You can therefore now use this parameter to specify either the name of a WebSphere MQ queue-sharing group, or the name of a single WebSphere MQ queue manager.
- As an alternative to using the EXEC CICS LINK command to DFHMQQCN, you can use the new EXEC CICS SET MQCONN CONNECTED command to start the CICS-WebSphere MQ connection. You can specify the name of a queue-sharing group and suitable resynchronization behavior, or use the settings specified in the MQCONN resource definition for the CICS region.
- You can also use the new EXEC CICS SET MQCONN NOTCONNECTED command to stop the CICS-WebSphere MQ connection. You can specify a force stop or a quiesce stop with the new command, and, in addition, for a quiesce stop you can specify whether control is returned to the application before or after the connection is stopped.
- If you want to enable or disable the CICS-WebSphere MQ API-crossing exit while the connection is active, you must still link to the adapter reset program, DFHMQRS (or CSQCRST, which is retained for compatibility).

Chapter 26. Upgrading CICS Web support applications

CICS Transaction Server for z/OS, Version 4 Release 1 supports your existing CICS Web support architecture for both Web-aware and non-Web-aware application programs. The **EXEC CICS WEB** API command changes are designed to allow existing Web-aware application programs that send and receive HTTP messages to work unchanged, until you choose to upgrade them to take advantage of the enhancements that are now available. If you have existing CICS Web support applications from earlier releases, note these points for upgrade.

Upgrading Atom feeds from SupportPac CA8K

If you set up Atom feeds using the CA8K SupportPac in CICS TS for z/OS, Version 3.1 or CICS TS for z/OS, Version 3.2, you can use these unchanged in CICS TS for z/OS, Version 4.1, or you can upgrade them to use the CICS TS for z/OS, Version 4.1 support for Atom feeds.

About this task

CICS TS for z/OS, Version 4.1 supports Atom feeds that were set up with the CA8K SupportPac. If you do not want to upgrade your Atom feed yet, you must retain all the resources unchanged, and continue to use the PIPELINE resource support instead of the new ATOMSERVICE resource support.

When you upgrade Atom feeds from the CA8K SupportPac, you can continue to use your service routines after some modifications. However, you must replace most of the supporting resources, such as pipeline configuration files, with their CICS TS for z/OS, Version 4.1 replacements, such as Atom configuration files.

Table 6 summarizes the resources used for an Atom feed with the CA8K SupportPac, and how they are reused or replaced in CICS TS for z/OS, Version 4.1 support for Atom feeds.

Table 6. Reusing SupportPac CA8K resources

SupportPac CA8K resource	CICS TS for z/OS, Version 4.1 usage
URIMAP definition (samples DFH\$W2U1 and DFH\$W2V1)	Can be reused, with change from USAGE(PIPELINE) to USAGE(ATOM)
PIPELINE resource definition (samples DFH\$W2F1 and DFH\$W2Q1)	Replace with ATOMSERVICE resource definition
Pipeline configuration file	Replace with Atom configuration file
Terminal handler parameter list in pipeline configuration file	Most elements can be reused in Atom configuration file, except <cics:layout> element using DFDL, which is no longer required (the XML binding now describes the structure of the resource)
Message handler program (samples DFH\$W2FD and DFH\$W2SD)	No longer required; CICS performs this processing

Table 6. Reusing SupportPac CA8K resources (continued)

SupportPac CA8K resource	CICS TS for z/OS, Version 4.1 usage
Service routine (samples DFH\$W2TS and DFH0W2FA)	Can be reused, with some modifications. The sample service routine DFH0W2F1 is an updated version of DFH0W2FA, and a new sample service routine DFH\$W2S1 is provided
Resource Layout Mapping structure	Replace with XML binding
CICS resource containing Atom feed data (such as temporary storage queue)	Can be reused unchanged

Follow these steps to upgrade or replace each of your SupportPac CA8K resources to create a CICS TS for z/OS, Version 4.1 Atom feed:

Procedure

1. Modify your service routine as follows:
 - a. Rename the ATOMPARAMETERS container to DFHATOMPARGS.
 - b. Rename the ATOMCONTENT container to DFHATOMCONTENT.
 - c. If you used the optional containers ATOMTITLE and ATOMSUMMARY, rename these to DFHATOMTITLE and DFHATOMSUMMARY. If you used the optional container ATOMSUBTITLE, discard this container, as subtitles are not valid for an Atom entry, only for an Atom feed.
 - d. Replace the references to the copybooks that mapped the parameters passed in the ATOMPARAMETERS container, with the copybooks that map the DFHATOMPARGS container, as follows:

Copybook	Replace with
DFH\$W2PD for Assembler	DFHW2APD
DFH0W2PO for Cobol	DFHW2APO
DFH\$W2PL for PL/I	DFHW2APL
DFH\$W2PH for C	DFHW2APH

The parameters in the container are listed in *CICS Internet Guide*. The following parameters from the list in SupportPac CA8K are no longer used:

- **ATMP_RLM**, which pointed to the Resource Layout Mapping structure
- **ATMP_KEY_FLD**
- **ATMP_SUBTITLE_FLD**

A number of new parameters are added in the DFHATOMPARGS container, and there are also some new bit values in **ATMP_OPTIONS**.

- e. Replace the references to the copybooks that contained the constant definitions referenced by the copybooks for the ATOMPARAMETERS container, with the copybooks that contain the new constant definitions, as follows:

Copybook	Replace with
DFH\$W2CD for Assembler	DFHW2CND
DFH0W2CO for Cobol	DFHW2CNO
DFH\$W2CL for PL/I	DFHW2CNL
DFH\$W2CH for C	DFHW2CNH

- f. Check the instructions in the *CICS Internet Guide* to see whether you want to make any additional modifications to your service routine to take advantage of new features. You might want to use some of the additional containers and parameters that are available for returning data.

When you have made these changes, recompile the modules for the service routine.

2. Modify the URIMAP definition for your Atom feed to point to an ATOMSERVICE resource in place of a PIPELINE resource.
 - a. Change USAGE(PIPELINE) to USAGE(ATOM).
 - b. Delete the PIPELINE attribute.
 - c. Add the ATOMSERVICE attribute, specifying a suitable name for an ATOMSERVICE resource definition.
 - d. Change the TRANSACTION attribute to specify CW2A, the default alias transaction for Atom feeds, or another alias transaction that runs DFHW2A, the W2 domain alias program. The *CICS Internet Guide* explains how to set up an alternative alias transaction.

Alternatively, you can set up a new URIMAP definition following the instructions in the *CICS Internet Guide*.

3. Follow the instructions in the *CICS Internet Guide* to create an Atom configuration file to replace your pipeline configuration file. You can reuse most of the elements from your terminal handler parameter list in the Atom configuration file, but make sure that you follow the new nesting structure for those elements in the Atom configuration file. The elements that you can reuse are as follows:
 - a. Reuse the <cics:resource> element, which specifies the name and type of the CICS resource that provides the data for the feed.
 - b. Reuse the <cics:fieldnames> element, which specifies the fields in your CICS resource that provide metadata for the Atom entries. Rename the "id" attribute as "atomid". Some new attributes are also available for this element in the Atom configuration file.
 - c. Reuse the <atom:feed> element and its child elements, which specify metadata for the Atom feed.
 - d. Reuse the <atom:entry> element and its child elements, which specify metadata and name the resource that provides the content for the Atom entries.

The <cics:layout> element, which described the CICS resource using the Data File Descriptor Language (DFDL), is no longer required.

4. Use the CICS XML assistant program DFHLS2SC to produce an XML binding for the resource that contains the data for your Atom feed. The XML binding replaces the <cics:layout> element in the pipeline configuration file, and also the Resource Layout Mapping structure. To create an XML binding, you must have a high-level language structure, or copybook, in COBOL, C, C++, or PL/I, that describes the structure of the records in the resource. For instructions to use DFHLS2SC, see the *CICS Application Programming Guide*.
5. Create an ATOMSERVICE resource definition to replace your PIPELINE resource definition. Use the ATOMSERVICE name that you specified in your new or modified URIMAP resource definition. For detailed instructions, see the *CICS Internet Guide*. The attributes of your PIPELINE resource definition are not required and you can discard that resource definition.

6. Install the ATOMSERVICE and URIMAP resource definitions that you have created, and any TRANSACTION definition that you created for an alternative alias transaction.

Results

When you have completed these steps, your upgraded Atom feed is ready for use in CICS TS for z/OS, Version 4.1.

Chapter 27. Upgrading CICS Web services

If you have used CICS Web services in earlier releases, note these points during your upgrade to CICS Transaction Server for z/OS, Version 4 Release 1.

- SOAP for CICS is not supported by CICS Transaction Server for z/OS, Version 4 Release 1.

Because there is no support or service provided for the SOAP for CICS feature in CICS Transaction Server for z/OS, Version 4 Release 1, you must migrate any of your applications that use this feature before, or as part of, your upgrade to CICS Transaction Server for z/OS, Version 4 Release 1.

- Improvements in the XML parsing of SOAP messages mean that some malformed SOAP messages that were previously tolerated by CICS are now rejected.

For more information on XML parsing in z/OS, refer to the *z/OS XML System Services User's Guide and Reference*: <http://www-03.ibm.com/servers/eserver/zseries/zos/xml/Library/>.

- The performance of XML parsing in CICS has improved with the introduction of the IBM z/OS XML System Services (XMLSS) parser, which can be accessed directly from CICS. The XMLSS parser also allows XML parsing to be offloaded to a zSeries® Application Assist Processor (zAAP). The XMLSS parser uses above-the-bar storage, so there is more below-the-bar storage available for user programs.

For more information on zAAP, see the *zSeries Application Assist Processor (zAAP) Implementation* IBM Redbook: <http://www.redbooks.ibm.com/abstracts/sg246386.html><http://www.redbooks.ibm.com/abstracts/sg246386.html>.

- Web Services Atomic Transactions (WS-AT) use Web Services Addressing (WS-Addressing) elements in their SOAP headers. The default namespace prefix for these WS-Addressing elements has changed from `wsa` to `cicswsa`.

Migrating from the SOAP for CICS feature

If you use the SOAP for CICS feature, you must perform a number of tasks to migrate applications that use the feature. The support for Web services provided in CICS Transaction Server is substantially different from that provided in the SOAP for CICS feature.

About this task

The SOAP for CICS feature relies mainly on user-written code, and therefore it is not possible to set out a step-by-step migration task. Here are some of the things you must consider when you migrate from the CICS for SOAP feature.

Because there is no support or service provided for the SOAP for CICS feature in CICS Transaction Server for z/OS, Version 4 Release 1, you must migrate any of your applications that use this feature before, or as part of, your upgrade to CICS Transaction Server for z/OS, Version 4 Release 1.

Procedure

- Consider using the Web services assistant to construct and parse SOAP messages. If you use the Web services assistant to construct and parse SOAP messages, it is recommended that you discard your existing message adapters

and design new wrapper programs to replace them. This is because it is unlikely that you will be able to reuse significant amounts of code in your adapters.

- If you use SOAP messages, but decide not to use the Web services assistant, you might be able to reuse your existing code for constructing and parsing the messages. Even if you don't use the Web services assistant, you might want to use the CICS-provided SOAP message handlers because they are designed to work with SOAP 1.1 and SOAP 1.2 messages.
- Review your use of containers. The SOAP for CICS feature uses BTS containers, whereas CICS Transaction Server uses channel containers. You must review your programs and change any BTS-related commands required by the feature. You must also review the name and usage of each container, because most of these have changed.
- Consider how to migrate the function that was provided by your pipeline programs. The pipeline in the SOAP for CICS feature has a fixed number of user-written programs, each with a designated purpose. The function provided by some of these programs is provided in CICS Transaction Server by the CICS-provided SOAP message handlers, so you might be able to dispense with these programs.

You can use CICS Transaction Server to define as many programs in your pipeline as you need. Therefore, you must consider whether the function performed by your pipeline programs needs restructuring to take advantage of the new framework.

The way that pipeline programs communicate with CICS, and with one another, has changed, so you must review these pipeline programs to check if they can be reused in the new environment.

In the SOAP for CICS feature, you can have just one pipeline for all your service provider applications, and one for all your service requester applications. In CICS Transaction Server, you can configure many different pipelines. Therefore, it is possible that the logic you provided in your pipeline programs to distinguish one application from another can be replaced by CICS resource definitions. For example, in a service provider, code that distinguishes between applications based upon a URI, can be replaced with a suitable set of URIMAP resources.

Chapter 28. Upgrading DB2 security support

If you use RACF for some or all of the security checking in your DB2 address space, the circumstances in which CICS passes the RACF access control environment element (ACEE) to DB2 have changed.

In previous releases, the ACEE was passed to DB2 only when AUTHTYPE(USERID) or AUTHTYPE(GROUP) was specified for a DB2CONN or a DB2ENTRY resource. This behavior is unchanged, but, in addition, CICS now passes the address of the ACEE to DB2 when you specify AUTHTYPE(SIGN), and the SIGNID attribute specifies the CICS region user ID.

This change makes it possible for DB2 to use RACF security when you use the CICS region user ID to control access to DB2. However, you must verify that your existing resource definitions do not introduce this changed behavior unexpectedly. You must also check any DB2 signon exits to ensure they operate as expected when the CICS region ACEE is passed to DB2.

Chapter 29. Upgrading file definitions

Nonshared resource (NSR) files are not supported with transaction isolation. If CICS writes to these files, upgrade your file definitions to avoid receiving an AFDK abend.

About this task

Any attempt to issue a file control write or update request against an NSR file with transaction isolation active results in an AFDK abend. Requests to read or browse the file that do not attempt to update the file in any way do not result in an abend.

Procedure

You can upgrade your file definitions in one of the following ways:

- If the file requires transaction isolation, upgrade the file to use LSR pools or RLS.
- If the file does not require transaction isolation, change the transaction definition to specify ISOLATE(NO). Setting this value causes the individual transaction to run without transaction isolation.

Part 3. Changes to CICSplex SM externals

CICSplex SM views and functions have changed to support the changes in function for this release of CICS and CICSplex SM. Check which changes might affect your system.

Chapter 30. Changes to CICSplex SM installation and definition

Changes to CICSplex SM installation, initialization parameters, resource definition, or setup are summarized here.

New and changed CICSplex SM WUI server initialization parameters

You can specify these CICSplex SM Web User Interface server initialization parameters in the startup job or in a fixed block 80 data set.

TCPIPSSLCERT(*name*)

Specifies the label for the SSL certificate that is to be used for the connection between the Web User Interface and the Web browser. The value that you specify for this parameter is now case-sensitive. In previous releases, CICS folded the value to uppercase. If you previously entered the value in lower case and relied on the folding behavior to set the correct SSL certificate name, you must now change the value to upper case.

Change to Common Work Area size for a CMAS

The size of the Common Work Area has increased to 2048 bytes. You specify the Common Work Area size in the CICS system initialization parameter WRKAREA.

For a complete list of CICS system initialization parameters for a CMAS, see in the *CICS Transaction Server for z/OS Installation Guide*.

Change to EYUJXBTP JCL procedure

The EYUJXBTP STEPLIB reference to the Alternate Library for REXX, REXX.SEAGALT, is commented out because z/OS 1.9 supplies the Alternate Library for REXX as a base element. EYUJXBTP is a JCL procedure used by the samples EYUJXBTP1 and EYUJXBTP2 to call the EYU9XDBT CICSplex SM definition utility.

You might have to change the EYUJXBTP STEPLIB if the z/OS Alternate Library for REXX customization is not complete.

Removal of SEYUMLIB, SEYUPLIB and SEYUTLIB libraries

Following the removal of the CICSplex SM TSO end-user interface (EUI) in CICS TS for z/OS, Version 3.2, the libraries SEYUMLIB, SEYUPLIB and SEYUTLIB and all their contents are no longer shipped with CICS Transaction Server. If you have any references to these libraries in your TSO login profiles or other locations, remove them.

Referencing these libraries might cause your TSO login to fail.

Change to generic alert structures used by CICSplex SM

When you upgrade to CICS Transaction Server for z/OS, Version 4 Release 1, there is a change to SNA generic alerts and resolutions as they are used by CICSplex SM.

| "Product Set ID" (X'10') MS common subvector is a "Product ID" (X'11') common
| subvector that identifies the product as IBM Software (X'04'). It contains a "Product
| Number" (X'08') Product ID subfield that identifies the product number. This
| product number has changed to 5655S97.

| The previous product numbers were as follows, depending on the version of CICS
| TS from which you are upgrading:

- | • In CICS Transaction Server for z/OS, Version 2, the product number was
| 5695081.
- | • In CICS Transaction Server for z/OS, Version 3, the product number was
| 5655M15.

Chapter 31. Changes to CICSplex SM views and resource tables

These changes affect CICSplex SM views, resource tables, and Business Application Services definition objects.

Changed CICSplex SM views and resource tables

These changed CICSplex SM views and resource tables now support new or changed CICS resource types and functions.

Changed CICSplex SM views

Table 7. Changed CICSplex SM views

Changed CICS resource type or function	Corresponding CICSplex SM views that have changed
Bundles	<ol style="list-style-type: none">1. Administration views > Basic CICS resource administration views > Resource definitions2. CICS operations views
Configuring VTAM persistent sessions support	CICS operations views > CICS region operations views > CICS regions - CICSRRGN
Event processing statistics	<ol style="list-style-type: none">1. CICS operations views > Application operations views > Event processing
Identity propagation	<ol style="list-style-type: none">1. CICS operations views > Task operations views > Task association information2. CICS operations views > CICS region operations views > CICS regions3. Administration views > Monitor administration views > Definitions
IPv6	<ol style="list-style-type: none">1. CICS operations views > TCP/IP service operations views > IPIC connections2. CICS operations views > Task operations views > Task association information
JVM servers	<ol style="list-style-type: none">1. CICS operations views > CICS region operations views > CICS regions2. EYUSTARTCICSRRGN.DETAILED > Logging and journaling activity > Monitor status3. CICS operations views > Task operations views
Monitoring details (new DPLLIMIT field, DPLLIMIT, FILELIMIT, and TSQLIMIT values can be set)	CICS Regions > CICS system name > Monitoring and statistics details > Monitoring details

Table 7. Changed CICSplex SM views (continued)

Changed CICS resource type or function	Corresponding CICSplex SM views that have changed
SYSLINK objects that support IPIC connections	<ol style="list-style-type: none"> 1. Administration views > Basic resource administration views 2. Administration views > Fully functional resource administration views 3. Administration views > Basic CICS resource administration views > CICS system links and related resources > System link definitions 4. Administration views > Basic CICS resource administration views > CICS system links and related resources > CICS system definitions 5. Administration views > Basic CICS resource administration views > System link definitions > MASs known to CICSplex
Workload management improvements	<ol style="list-style-type: none"> 1. Active workload views 2. Active workload views > Active workloads 3. Active workload views > Active routing regions 4. Active workload views > Active workload target distribution factors 5. Active workload views > CICSplex definitions 6. Active workload views > CICS system definitions 7. Active workload views > Active MASs in CICSplex 8. CICSplex SM operations views > CMASs managing CICSplex 9. Administration views > CMAS configuration administration views > CMAS in CICSplex definitions
XMLTRANSFORM resources	<ol style="list-style-type: none"> 1. CICS operations views > CICS region operations views > Request statistics processing 2. EYUSTARTCICSRGN.DETAILED > Monitoring and statistics details > Statistics details > Request statistics processing
z/OS Communications Server and partner system information	CICS operations views > TCP/IP service operations views > IP connections
z/OS Communications Server information	CICS operations views > Task operations views > Task association information

Changed CICSplex SM resource tables

Review these resource tables for possible affect on any RTA evaluation definitions (EVALDEF) or CICSplex SM API programs that you are using:

- CICSplex
- CICSrgn
- CMASplex
- CONNECT
- CPLEXDEF
- CPLXCMAS
- CSYSDEF
- DB2CONN

- DB2ENTRY
- DB2TRN
- DOCTEMP
- EJCODEF
- EJCOSE
- EJDJAR
- ENQMODEL
- EPLEXCHG
- EVNTGBL
- EXTRATDQ
- HTASK
- INDTDQ
- INTRATDQ
- IPCONDEF
- IPCONN
- JRNLMODL
- LIBRARY
- LOCFILE
- LOCTRAN
- MAS
- MONDEF
- MONITOR
- PIPELINE
- PROCTYP
- PROFILE
- PROGRAM
- REMFILE
- REMTDQ
- REMTRAN
- RESDESC
- RQMODEL
- SYSLINK
- TASK
- TASKASSC
- TCPDEF
- TCPIPS
- TRANCLAS
- TSMODEL (The TSMODEL base table attribute called DESCRIPTION in earlier releases is renamed to RSVRD1.)
- URIMAP
- URIMPDEF
- WEBSERV
- WLMATARG
- WLMAWAOR
- WLMAWORK

- WLMAWTOR
- WORKREQ

Resource tables that support CICS management client interface (CMCI) requests include a new URI resource name attribute. The CICS management client interface uses these resource name attributes to specify CICS and CICSplex SM resources in URI requests.

Changes to views for the resource signature

Detailed resource signature information can be viewed in the CICS operations views, listed in the table below. These new fields can also be displayed in the Web User Interface resource administration views.

View set	Navigation
EYUSTARTATOMSERV	CICS operations views > TCP/IP service operations views > Atomservices > EYUSTARTATOMSERV.DETAILED1
EYUSTARTBUNDLE	CICS operations views > Application operations views > Bundles > EYUSTARTBUNDLE.DETAILED1
EYUSTARTCONNECT	CICS operations views > Connection operations views > ISC/MRO connections > EYUSTARTCONNECT.DETAILED4
EYUSTARTDB2CONN	CICS operations views > DB2, DBCTL and WebSphere MQ operations views > Connections > EYUSTARTDB2CONN.DETAILED4
EYUSTARTDB2ENTRY	CICS operations views > DB2, DBCTL and WebSphere MQ operations views > Entries > EYUSTARTDB2ENTRY.DETAILED2
EYUSTARTDB2TRN	CICS operations views > DB2, DBCTL and WebSphere MQ operations views > Entry associated transactions > EYUSTARTDB2TRN.DETAILED1
EYUSTARTDOCTEMP	CICS operations views > Document template operations views > Document template > EYUSTARTDOCTEMP.DETAILED2
EYUSTARTEJCOSE	CICS operations views > Enterprise Java component operations views > CorbaServers > EYUSTARTEJCOSE.DETAILED5
EYUSTARTEJDJAR	CICS operations views > Enterprise Java component operations views > CICS-deployed JAR files > EYUSTARTEJDJAR.DETAILED1
EYUSTARTENQMODEL	CICS operations views > Enqueue model operations views > Enqueue model > EYUSTARTENQMODEL.DETAILED1
EYUSTARTEXTRATDQ	CICS operations views > Transient data queue (TDQ) operations views > Extrapartition > EYUSTARTEXTRATDQ.DETAILED1
EYUSTARTINDTDQ	CICS operations views > Transient data queue (TDQ) operations views > Indirect > EYUSTARTINDTDQ.DETAILED1
EYUSTARTINTRATDQ	CICS operations views > Transient data queue (TDQ) operations views > Intrapartition > EYUSTARTINTRATDQ.DETAILED1
EYUSTARTJRNLMDL	CICS operations views > Journal operations views > Models > EYUSTARTJRNLMDL.DETAILED1

View set	Navigation
EYUSTARTJVMSEV	CICS operations views > Enterprise Java component operations views > JVM server > EYUSTARTJVMSEV.DETAILED1
EYUSTARTLIBRARY	CICS operations views > Program operations views > LIBRARYs, including DFHRPL > EYUSTARTLIBRARY.DETAILED1
EYUSTARTLOCFILE	CICS operations views > File operations views > Local files > EYUSTARTLOCFILE.DETAILED3
EYUSTARTLOCTRAN	CICS operations views > Transaction operations views > Local or dynamic > EYUSTARTLOCTRAN.DETAILED3
EYUSTARTMQCON	CICS operations views > DB2, DBCTL and WebSphere MQ operations views > WebSphere MQ connections > EYUSTARTMQCON.DETAILED4
EYUSTARTMQINI	CICS operations views > DB2, DBCTL and WebSphere MQ operations views > WebSphere MQ initiation queue > EYUSTARTMQINI.DETAILED
EYUSTARTPIPELINE	CICS operations views > TCP/IP service operations views > Pipelines > EYUSTARTPIPELINE.DETAILED1
EYUSTARTPROCTYP	CICS operations views > CICS Business Transaction Services (BTS) operations views > Process type > EYUSTARTPROCTYP.DETAILED1
EYUSTARTPROFILE	CICS operations views > Connection operations views > Profiles > EYUSTARTPROFILE.DETAILED1
EYUSTARTPROGRAM	CICS operations views > Program operations views > Programs > EYUSTARTPROGRAM.DETAILED1
EYUSTARTREMFIL	CICS operations views > File operations views > Remote files > EYUSTARTREMFIL.DETAILED1
EYUSTARTREMTDQ	CICS operations views > Transient data queue (TDQ) operations views > Remote > EYUSTARTREMTDQ.DETAILED1
EYUSTARTREMTAN	CICS operations views > Transaction operations views > Remote > EYUSTARTREMTAN.DETAILED1
EYUSTARTRQMODEL	CICS operations views > Transaction operations views > Request model > EYUSTARTRQMODEL.DETAILED1
EYUSTARTTCPIPS	CICS operations views > TCP/IP service operations views > TCP/IP service > EYUSTARTTCPIPS.DETAILED2
EYUSTARTTRANCLAS	CICS operations views > CICS region operations views > Transaction classes > EYUSTARTTRANCLAS.DETAILED1
EYUSTARTTSMODEL	CICS operations views > Temporary storage queue (TSQ) operations views > Models > EYUSTARTTSMODEL.DETAILED1
EYUSTARTURIMAP	CICS operations views > TCP/IP service operations views > URI map > EYUSTARTURIMAP.DETAILED3
EYUSTARTWEBSERV	CICS operations views > TCP/IP service operations views > Web services > EYUSTARTWEBSERV.DETAILED1
EYUSTARTXMLTRANS	CICS operations views > Application operations views > XML transformation > EYUSTARTXMLTRANS.DETAILED1

Changed operations base tables for the resource signature

The resource signature attributes are added to the following operations base tables:

ATOMSERV
BUNDLE
CONNECT
DB2CONN
DB2ENTRY
DB2TRN
DOCTEMP
EJCOSE
EJDJAR
ENQMODEL
EXTRATDQ
INDTDQ
INTRATDQ
IPCONN
JRNLMODL
JVMSERV
LIBRARY
LOCFILE
LOCTRAN
MQCON
MQINI
PIPELINE
PROCTYP
PROFILE
PROGRAM
REMFIL
REMTDQ
REMTRAN
RQMODEL
TCPIPS
TRANCLAS
TSMODEL
URIMAP
WEBSERV
XMLTRANS

Table 8. New fields in views

Field	Attribute name	Description
BAS resource definition version	BASDEFINEVER	The BAS version number of this definition.

Table 8. New fields in views (continued)

Field	Attribute name	Description
Last modification agent	CHANGEAGENT	The change agent identifier that made the last modification.
Last modification agent release	CHANGEAGREL	The CICS release level of the agent that made the last modification to the resource definition.
Last modification user ID	CHANGEUSRID	The user ID that made the last modification to the resource definition.
Source of the resource definition	DEFINESOURCE	The source of the definition, depending on which agent made the last change.
Creation time	DEFINETIME	The local date and time when the resource definition record was created on DFHCSD or EYUDREP.
Installation agent	INSTALLAGENT	The change agent identifier that made the installation.
Installation time	INSTALLTIME	The local date and time when the definition was installed.
Installation user ID	INSTALLUSRID	The user ID that installed the resource definition.

For more information, see the *CICSplex System Manager Application Programming Guide*

New CICSplex SM views and resource tables

These new CICSplex SM views and resource tables support CICS resource types and functions.

Table 9. New CICSplex SM views and resource tables

Resource type or function	CICSplex SM views	CICSplex SM resource tables
Atom feeds	CICS operations views > TCP/IP service operations views > Atomservice definitions	ATOMSERV
ATOMSERVICE resource definitions	Administration views > Basic CICS resource administration views and Resource definitions > Atomservice definitions	ATOMDEF
ATOMSERVICE resources in a resource group	Administration views > Basic CICS resource administration views > Resource definitions in a resource group	ATMINGRP

Table 9. New CICSplex SM views and resource tables (continued)

Resource type or function	CICSplex SM views	CICSplex SM resource tables
Bundles	CICS operations views > Applications > Bundles	BUNDLE, CRESBUND
BUNDLE resource definitions	Administration views > Basic CICS resource administration views and Resource definitions > BUNDLE definitions	BUNDDEF
BUNDLE resources in a resource group	Administration views > Basic CICS resource administration views > Resource definitions in a resource group	BUNINGRP
Event capture specifications	Application operations views > Event capture specification	EVCSPEC, CRESEVCS
Event bindings	Application operations views > Event bindings	EVNTBIND, CRESEVBD
Event processing	Application operations views > Global event processing attributes	EVNTGBL
JVM servers	CICS operations views > Enterprise Java operations views > JVM servers	JVMSERV
JVMSERVER resource definitions	Administration views > Basic CICS resource administration views > Resource definitions > JVMSERVER definitions	JVMSVDEF
JVMSERVER resources in a resource group	Administration views > Basic CICS resource administration views > Resource definitions in a resource group	JMSINGRP
MQCONN resource definitions	Administration views > Basic CICS resource administration views and Resource definitions > WebSphere MQ connection definitions	MQCONDEF
MQCONN resources in a resource group	Administration views > Basic CICS resource administration views > Resource definitions in a resource group	MQCINGRP
System initialization parameters	None	SYSPARM
System link definitions	Administration views > Basic CICS resource administration views > CICS system links and related resources	SYSLINK (existing resource table)

Table 9. New CICSplex SM views and resource tables (continued)

Resource type or function	CICSplex SM views	CICSplex SM resource tables
Target region for one or more active workloads	Active workload views > Target region distribution statistics	WLMATARG
WebSphere MQ connection definition with MQCONN resource	CICS operations views > DB2, DBCTL and WebSphere MQ operations views > WebSphere MQ Connection	MQCON
WebSphere MQ connection with dynamically created MQINI resource	CICS operations views > DB2, DBCTL and WebSphere MQ operations views > WebSphere MQ initiation queue	MQINI
XMLTRANSFORM resources	Application operations views > XMLTRANSFORM resources	XMLTRANS

New Business Application Services definition objects

These new Business Application Services definition objects describe new CICS resource types and functions.

Table 10. New BAS definition objects

BAS object	What is it?
ATOMDEF	CICS definition that describes an ATOMSERVICE resource.
ATMINGRP	BAS definition that describes the membership of an ATOMSERVICE definition (ATOMDEF) in a resource group.
BUNDDEF	CICS definition that describes a BUNDLE resource.
BUNINGRP	BAS definition that describes the membership of a BUNDLE definition (BUNDDEF) in a resource group.
JVMSVDEF	CICS definition that describes a JVMSERVER resource.
JMSINGRP	BAS definition that describes the membership of a JVMSERVER definition (JVMSVDEF) in a resource group.
MQCONDEF	CICS definition that describes an MQCONN resource.
MQCINGRP	BAS definition that describes the membership of an MQCONN definition (MQCONDEF) in a resource group.

Chapter 32. Changes to CICSplex SM transactions

These changes affect CICSplex SM transactions.

New CICSplex SM transactions

The following new transactions have been added to support enhancements in CICSplex SM. These transactions are listed in the CSD group EYU\$CDEF and must be defined to your external security manager.

The new CICSplex SM transactions are as follows:

- WMWD
- XZLT

Changed Web User Interface control transaction (COVC)

The Web User Interface control transaction (COVC) has changed to display IPv6 information.

Several COVC panels have changed to support IPv6 addressing.

COVC front panel

The Current Status, Time, Applid, and Date fields have moved by one line down the screen COVC status screen. Please review any automated processes that use these fields.

COVC status panel

A new field, TCP/IP Family, displays whether the address of the connected region is an IPv4 or IPv6 address.

COVC user sessions panel

An existing field, ClientIp, now displays IPv6 addresses. The IPv6 address extends over two lines, which reduces the number of users visible per page (to a minimum of three users, if they all have IPv6 addresses). IPv4 addresses are displayed on a single line.

Chapter 33. Programs that connect to a previous release of CICSplex SM

CICSplex SM API programs that use the CONNECT verb specifying a VERSION keyword for a previous release of CICSplex SM can experience significant increases in both CPU consumption by the CMAS address space and data space storage use by the Environment Services System Services (ESSS) address space.

API programs that specify a CRITERIA string to limit the size of a result set on a GET or PERFORM OBJECT request, or use the SPECIFY FILTER verb, can experience the increase in CMAS CPU and ESSS storage. Batch job runtimes might also increase.

You are not required to recompile your CICSplex SM API programs when you upgrade to the new release. However, if you do not recompile affected programs, the CMAS has to convert the records from the current release format to the level specified on the VERSION keyword on the CONNECT verb. This transformation process is highly intensive for CPU and storage when the result set is very large, for example, 300,000 to 500,000 records. The increases are observed in most cases when a criteria string is used to filter the result set; for example, specifying a criteria for the PROGRAM object using the NAME key for a specific or generic program. In this case, CICSplex SM has to retrieve all program objects and return them to the CMAS where the API is connected, transform the records to the version of the API, and then apply the filtering.

If you recompile your programs to specify the VERSION keyword to match the current release of CICSplex SM, this conversion does not take place, and storage and CPU consumption do not increase significantly.

Part 4. Upgrading CICSplex SM

To upgrade CICSplex SM to the CICS Transaction Server for z/OS, Version 4 Release 1 level, carry out the tasks described here. Also check the important information here about the compatibility of CICSplex SM with previous releases of CICS Transaction Server.

Make sure that you complete all your upgrades to CICS TS for z/OS, Version 4.1 CICSplex SM, including your CMAS, all MASs that are connected to it, and all MASs that act as Web User Interface servers for it, before you restart CICSplex SM.

Several skeleton postinstallation members are distributed with CICSplex SM. You must generate these postinstallation members for use during the upgrade. For information about generating the postinstallation members, see CICS Transaction Server for z/OS Installation Guide.

So that you can revert to the previous release of CICSplex SM if you encounter problems during the upgrade to CICS TS for z/OS, Version 4.1 CICSplex SM, take backup copies of the previous release components such as JCL, CLISTS, CICS tables, CMAS data repositories, and WUI repositories before you start the upgrade process.

Chapter 34. Conditions for running CICSplex SM Version 4.1 and earlier releases concurrently

You can run CICSplex SM Version 4.1 and earlier releases concurrently, but you must take account of a number of conditions for compatibility.

The CICSplex SM releases referred to in this information are the CICSplex SM element of CICS Transaction Server for z/OS releases. They are not available as separate products. For example, CICSplex SM Version 4.1 is the CICSplex SM element of CICS Transaction Server for z/OS, Version 4 Release 1.

You can run CICSplex SM Version 4.1, Version 3.2, Version 3.1, and Version 2.3 at the same time, with interconnected CMASs at different levels. The ability to do this allows gradual upgrading of the environment to Version 4.1. However, in CICS TS for z/OS, Version 4.1, a CICSplex SM CMAS will run only in a CICS system at Version 4.1.

CICS systems (MASs) running the following supported CICS releases can be connected to CICSplex SM Version 4.1:

- CICS TS for z/OS, Version 3.2
- CICS TS for z/OS, Version 3.1
- CICS TS for z/OS, Version 2.3

To be connected to CICSplex SM Version 4.1, CICS systems must use the CICSplex SM Version 4.1 MAS agent, so they must have the CICSplex SM Version 4.1 libraries in their CICS JCL. For a CICS system running CICS TS for z/OS, Version 3.1 or CICS TS for z/OS, Version 2.3, you must also apply a compatibility APAR to the CICS system as follows:

- APAR PK17360 for CICS TS 3.1
- APAR PK16582 for CICS TS 2.3

If you have difficulty running CICSplex SM with CICS TS for z/OS, Version 3.2 because of a recursive 0c4 protection exception in module DFHMSMR, apply PTF UK43094 for apar PK77484 and restart the system.

If you have any CICS systems at the release levels listed here that are connected to an earlier release of CICSplex SM, you are recommended to migrate them to the current release of CICSplex SM to take full advantage of the enhanced management services.

If you want to manage CICS systems at an earlier release level than those listed here, connect them to a CMAS running at an earlier release level that supported those systems. This CMAS can be connected to your CICSplex SM Version 4.1 CMAS, so that the older CICS systems are indirectly connected to the Version 4.1 CMAS.

The following conditions apply to environments in which CICSplex SM Version 4.1 and earlier releases of CICSplex SM are running concurrently:

- For a CMAS and a MAS (including those MASs that act as Web User Interface servers) to communicate, they must be running at the same release of CICSplex SM.

- A CMAS running at Version 4.1 can be connected to a CMAS running at Version 3.2, Version 3.1, or Version 2.3.
- In a CICSplex that consists of CMASs at the Version 4.1 level and at one or more earlier levels, the maintenance point CMAS must be at the Version 4.1 level. So, when a CICSplex contains CMASs at more than one level, the first CMAS upgraded to Version 4.1 must be the maintenance point.
- If you are using the API or Web User Interface to manage MASs connected to a CMAS at an earlier release, you must ensure that the MASs are managed indirectly from the Version 4.1 CMAS:
 - All WUI servers must connect to the Version 4.1 CMAS.
 - All API programs must run in such a way that they are connected to the Version 4.1 CMAS. This requirement applies only if the API program accesses new fields or later-level CICS systems. If the API program connects to a lower level CMAS, any resource tables that contain new or updated fields for the new release are not returned to the API program connected to the lower release level CMAS.
- You cannot view all resources of a CICS TS for z/OS, Version 4.1 region using a CMAS running at an earlier release.
- A WUI server at an earlier release that is connected to a CMAS at an earlier release can retrieve data from a MAS connected to a Version 4.1 CMAS if the CMAS participates in the management of the CICSplex. However, the WUI server cannot retrieve data about resource types that were not available in the earlier release.
- If you want to create any of the following CICSplex SM objects, you must create them using a WUI server that is running at the same CICSplex SM release level as the maintenance point CMAS:
 - CPLEXDEF (CICSplex definition)
 - CMTCMDEF (CMAS to CMAS link definition)
 - CSYSGRP (system group definition)
 - PERIODEF (time period definition)
 - MONSPEC (monitor specification)
 - MONGROUP (monitor group)
 - MONDEF (monitor definition)
 - RTAGROUP (RTA group)
 - RTADEF (RTA definition)
 - WLMSPEC (WLM specification)
 - WLMGROUP (WLM group)
 - WLMDEF (WLM definition)
 - TRANGRP (transaction group)

If you use the API or the BATCHREP batched repository-update facility to create these objects, CICSplex SM and the maintenance point CMAS release level must, again, be at the same release level.

Chapter 35. Upgrading a CMAS

You must upgrade your CICSplex SM CMAS to Version 4.1 at the same time as you upgrade the CICS system on which it runs. A CICSplex SM CMAS will run only in a CICS system at the same release level. During startup, the CMAS checks the CICS release level and stops with message EYUXL0142 if the release does not match.

About this task

Follow these steps to upgrade your CMAS to Version 4.1:

Procedure

1. If the CMAS is running, stop it.
2. In the z/OS image that contains the CMAS, verify that the IEASYSxx member of the SYS1.PARMLIB library that you use for z/OS initialization includes the **MAXCAD** and **NSYSLX** parameters, with appropriate values. the *CICS Transaction Server for z/OS Installation Guide* explains what values are suitable. If you are running both a previous release and Version 4.1 of CICSplex SM, an Environment Services System Services (ESSS) space is started for each release, so you might need to modify the **NSYSLX** value.
3. Authorize the Version 4.1 libraries by adding them to the list of APF-authorized libraries in the appropriate PROGxx or IEAAPFxx member in SYS1.PARMLIB. For information about how to do this, see the *CICS Transaction Server for z/OS Installation Guide*.
4. Update the MVS linklist with the Version 4.1 modules that are required for CICS and CICSplex SM. For information about how to do this, see the *CICS Transaction Server for z/OS Installation Guide*.
5. Upgrade the CSD file with the Version 4.1 group of resource definitions and CICS startup group list. For information about how to do this, see “Upgrading the CSD for CICS-supplied and other IBM-supplied resource definitions” on page 104. You do not need to carry out an additional upgrade using a release-dependent set of definitions for CICSplex SM.
6. If you made any modifications to the default resource definitions for your earlier release that were supplied by CICSplex SM in the EYU\$CDEF sample (which contains definitions for a CMAS), manually upgrade your modified resource definitions using the equivalents in the EYU\$CDEF sample for Version 4.1. The safest way to do this is to copy the upgraded default resource definitions and reapply your modifications. It is important to upgrade your modified definitions to ensure that they are defined correctly with nondefault values for attributes that are new. If you fail to upgrade modified definitions, CICS assigns default values to any new attributes, and these might be inappropriate for CICS-supplied resource definitions.
7. Edit the JCL used to start the CMAS, changing the previous release of CICSplex SM library names to the Version 4.1 names. If you have BBACTDEF, BBVDEF, or BBIPARM DD statements in the JCL, delete them. For information about the CMAS startup JCL, see the *CICS Transaction Server for z/OS Installation Guide*.
8. Use the EYU9XDUT utility to upgrade the data repository (EYUDREP data set) for the CMAS to Version 4.1. For information about how to upgrade the data repository, see the *CICS Transaction Server for z/OS Installation Guide*. The

conversion utility copies the contents of the existing data repository to a newly allocated data repository. The existing data repository is not modified.

Note: After upgrading the data repository for the CMAS, the next time the CMAS is started it must point to the upgraded EYUDREP data set. If it does not, data repository updates might be lost. This loss can lead to incorrect results, which can include other CMASs isolating themselves when they connect to this CMAS.

9. Ensure that you have deleted, redefined, and initialized the CICS local catalog and global catalog using the DFHCCUTL and the DFHRMUTL utility programs.
10. Verify the CICSplex SM system parameters referenced by the EYUPARM DD statement. If the CASNAME system parameter is present, delete it. For information about these parameters, see the *CICS Transaction Server for z/OS Installation Guide*.
11. Verify that the CICS system initialization parameter GRPLIST references the CICS-supplied default startup group list, DFHLIST, and any CSD groups containing resource definitions that you have modified.

Results

When you have completed all these steps, you can cold start the CMAS.

Chapter 36. Upgrading a Web User Interface server

Both the Web User Interface server and the CMAS to which it connects must be at the highest level of CICSplex SM and CICS in the CICSplex. They must be at the same level as the maintenance point CMAS.

About this task

A Web User Interface server can connect only to a CMAS at the same release level. Before you upgrade a Web User Interface server, you must upgrade the CMAS to which it connects. If the CMAS to which the Web User Interface server connects is not the maintenance point CMAS, you must also upgrade the maintenance point CMAS before you start the Web User Interface server and the CMAS to which it connects. Upgrade the Web User Interface server before you start any other MASs, so that it is ready to manage the upgraded MASs.

Because a CICS system that acts as a Web User Interface server is a local MAS, all the considerations that apply to a local MAS also apply to a Web User Interface server.

To upgrade a Web User Interface server to Version 4.1 :

Procedure

1. Increase the size of the DFHTEMP data set, which is used in the COVC import process. The standard CICS sample has only a primary allocation, but include a secondary allocation for RECORDS as follows:

```
//DEFTS JOB accounting info,name
//AUXTEMP EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=A
//SYSIN DD *
DEFINE CLUSTER(NAME(CICSTS41.CICS.CNTL.CICSqualifier.DFHTEMP)-
RECORDSIZE(4089,4089) -
RECORDS(200 200) -
NONINDEXED -
CONTROLINTERVALSIZE(4096) -
SHAREOPTIONS(2 3) -
VOLUMES(valid) -
DATA(NAME(CICSTS41.CICS.CNTL.CICSqualifier.DFHTEMP.DATA) -
UNIQUE)
/*
```

2. Upgrade the MAS that acts as your Web User Interface server. See Chapter 37, "Upgrading a MAS," on page 179.
3. Upgrade the contents of the Web User Interface server repository (EYUWREP). See "Upgrading the contents of the Web User Interface server repository (EYUWREP)" on page 176.

Phased upgrade scenario for Web User Interface servers

If you have CICSplex SM Web User Interface servers connected to CMASs other than the maintenance point CMAS, which have many other MASs connected to them, you might not want to upgrade the other MASs at the same time as the CMAS. In that case, consider using this phased upgrade path.

About this task

Assuming you are running the latest CICSplex SM maintenance levels, you can upgrade one LPAR at a time.

Procedure

1. Define a new Version 4.1 CMAS on the same z/OS image as the Web User Interface server.
2. Connect the Version 4.1 CMAS to the CICSplex to which the Web User Interface server CMAS is connected. This CMAS will not become available for use until the maintenance point CMAS has been upgraded. If you see message EYUCP0022E at this time, take no action.
3. Upgrade the maintenance point CMAS to Version 4.1 and take down the Web User Interface server at the same time.
4. Upgrade the Web User Interface server to Version 4.1 and, when you restart it, connect it to the Version 4.1 CMAS. The Version 4.1 CMAS should now connect successfully to the Version 4.1 maintenance point CMAS.
5. Upgrade the remaining MASs when required, and connect them to the Version 4.1 CMAS as you restart them.
6. When you have moved all the MASs to the Version 4.1 CMAS, you can remove the original CMAS.

Upgrading the contents of the Web User Interface server repository (EYUWREP)

With each release of CICS, internal Web User Interface repository record versions might be incremented to enable the new features in view definitions. For this reason, if your existing Web User Interface repository contains customized view sets or menus, you must upgrade your view set and menu definitions.

About this task

You can import a view set and menu definitions from a previous release into a CICS TS for z/OS, Version 4.1 Web User Interface server repository.

You do not need to make any changes to existing customized views and menus, but you can consider modifying or creating view sets to take into account the new attributes and resources.

To upgrade the Web User Interface server repository to the current version:

Procedure

1. With your Web User Interface server still running at your current release, use the export function of the COVC transaction to export your view set and menu definitions to an extrapartition transient data queue. It is not necessary for the Web User Interface server to be connected to a CMAS. For information about exporting definitions, see the *CICSplex System Manager Web User Interface Guide*.
2. Create a new Web User Interface server repository using the JCL described in the *CICS Transaction Server for z/OS Installation Guide*.
3. Start the CICS TS for z/OS, Version 4.1 Web User Interface server using the new Web User Interface server repository.
4. Use COVC to import the view set and menu definitions from your previous release from the extrapartition transient data queue to which you exported

them. For information about the import function of the COVC transaction, see the *CICSplex System Manager Web User Interface Guide*. This import is necessary for each type of resource (VIEW, MENU, USER, USERGRP, and so on) that you had previously customized.

5. Use COVC to import the new starter set definitions. Specify the OVERWRITE option on the **Import option** field of the COVC panel to ensure that none of the new starter set views are accidentally overwritten by views from a previous release. For information about using COVC, see the *CICSplex System Manager Web User Interface Guide*.

What to do next

You can also export view set and menu definitions from a CICS TS for z/OS, Version 4.1 Web User Interface server and import them into a server repository of a previous release. However, any new attributes or resources that are new in this release are not accessible in previous releases. You can remove these attributes and view sets using the View Editor. For information about the View Editor, see the *CICSplex System Manager Web User Interface Guide*.

Chapter 37. Upgrading a MAS

Follow these steps to upgrade a CICSplex SM MAS to Version 4.1. Because a CICS system that acts as a Web User Interface server is a MAS, you must complete these steps as part of the process of upgrading a Web User Interface server.

Procedure

1. Authorize the Version 4.1 libraries. See the *CICS Transaction Server for z/OS Installation Guide*.
2. If you use the link pack area (LPA), decide when you will replace the previous release modules in the LPA with the Version 4.1 modules. Every CICSplex SM module installed in the LPA can be used only by the release of CICSplex SM to which it relates.
 - a. If you put the Version 4.1 modules in the LPA immediately, change your previous release MASs to use the previous release modules from the STEPLIB and DFHRPL concatenations, instead of the LPA.
 - b. If you put the Version 4.1 modules in the LPA at the end of the upgrade process, make sure your upgraded MASs are using the Version 4.1 modules from the STEPLIB and DFHRPL concatenations instead of the LPA, then change them to use the LPA when you replace the modules.

For information about this task, see the *CICS Transaction Server for z/OS Installation Guide*.

3. Optional: If you are not using **CPSMCONN=LMAS**, upgrade the CSD file with the Version 4.1 group of resource definitions and CICS startup group list. For information about upgrading the CSD, see “Upgrading the CSD for CICS-supplied and other IBM-supplied resource definitions” on page 104. You do not need to carry out an additional upgrade using a release-dependent set of definitions for CICSplex SM.
4. If you made any modifications to the default resource definitions for your earlier release that were supplied by CICSplex SM in the EYU\$MDEF sample (which contains definitions for a MAS), or the EYU\$WDEF sample (which contains definitions for a WUI), manually upgrade your modified resource definitions using the equivalents in the EYU\$MDEF or EYU\$WDEF sample for Version 4.1. The safest way to do this is to copy the upgraded default resource definitions and reapply your modifications. It is important to upgrade your modified definitions to ensure that they are defined correctly with nondefault values for attributes that are new. If you fail to upgrade modified definitions, CICS assigns default values to any new attributes, and these might be inappropriate for CICS-supplied resource definitions.
5. Edit the JCL used to start the MAS, changing the previous release of CICSplex System Manager library names to the Version 4.1 names. For information about the MAS startup JCL, see the *CICS Transaction Server for z/OS Installation Guide*.
6. In the sequential data set or partitioned data set member identified by the CICS SYSIN statement, verify that the CICS system initialization parameter **EDSALIM** is included, and set it to a value of at least 50 MB. 50 MB is the minimum EDSALIM required to start the MAS agent for Version 4.1.
7. Optional: If you are upgrading the CICS region and not just migrating the CPSM agent code, ensure that you have deleted, redefined, and initialized the CICS local catalog and global catalog using the DFHCCUTL and the DFHRMUTL utility programs.

8. Optional: If you are upgrading the CICS region and not just migrating the CPSM agent code, verify that the CICS system initialization parameter GRPLIST references the CICS-supplied default startup group list, DFHLIST, any CSD groups containing resource definitions that you have modified, and the lists of definitions for your own applications.
9. If you intend to use MAS history recording, you are recommended to define new history data sets using the EYUJHIST sample job. If, however, you need to upgrade your existing history data sets, you can still use the EYUJHIST sample job, following the upgrading instructions, supplied as comments, in the sample. The EYUJHIST sample is supplied uncustomized in the TDFHINST library and customized by DFHISTAR in the XDFHINST library. Remember to edit the MAS startup JCL to include the history data sets.

Results

When you have completed these steps, you can cold start the MAS.

Chapter 38. Upgrading CICSplex SM workload management

Changes to CICSplex SM workload management, modules, application programs, or parameters are summarized here.

Changes to CICSplex SM EYU9WRAM module

If you use the workload management functions of CICSplex SM and you use your own version of the CICSplex SM user-replaceable Workload Routing Action Module, EYU9WRAM, you must recompile and link-edit your version of EYU9WRAM using the Version 4 libraries.

Changes to CICSplex SM application programs

If you have modified your application programs to make a call to EYU9XLOP using the EYUAWTRA commarea, you must also recompile and link-edit them using the Version 4 libraries.

Changes to CICSplex SM EYUPARM values

The **WLMLOADCOUNT** and **WLMLOADTHRSH** EYUPARM values are discontinued. You must now specify these attributes in the CSYSDEF and MAS resource tables:

WLMLOADTHRSH is now defined using the **Task load health threshold** attribute in the CSYSDEF resource table. The value can now be modified for an active CICS region using the **CICS system definitions** view or the **MASs known to CICSplex** view found in **CICSplex SM operations views**. The value is also reported in the WLMATARG resource table. The attribute is used to specify a percentage threshold for the task load of a dynamic routing target region, which is calculated by dividing the current task count by the maximum task count. When the load for a target region reaches this threshold, WLM considers the region to be relatively unhealthy, causing higher link weights to be applied to the WLM routing algorithm when evaluating this region. The possible range for the value is from 1 - 100. The default value is 60.

By changing the value of the **Task load health threshold** attribute to an active CICS region, using the MAS resource table, you can change the routing weight factor of that region to make it more, or less, favourable as a dynamic routing target when being evaluated against other target regions in a similar load and health state. Raising the value makes the region more likely to be selected; lowering it has the opposite effect. When the WLMLOADTHRSH value is exceeded, CICSplex SM applies a higher link weight to the overall routing weight evaluation for a target region. Changes to this value are not reflected in the "WLM routing weight for region" displayed in the WLMATARG and WLMAWAOR views, which show only the weight factors applying to the target region in isolation from the overall WLM link weight, which excludes the abend probability factor and (healthy or unhealthy) link weight to a routing region.

Note: If you are using WLMLOADTHRSH EYUPARM, you must now specify the WLMLOADTHRSH EYUPARM as a **Task load health threshold** attribute in your target regions. This specification is a change from the discontinued EYUPARM which you previously specified in the routing regions.

WMLLOADCOUNT is now defined using the **Task load queue mode** attribute in the CSYSDEF resource table. The value can now be modified for an active CICS region using the **CICS system definitions** view or the **MASs known to CICSplex** view found in **CICSplex SM operations views**. The value is also reported in the WLMATARG resource table. This attribute is used by CICSplex SM Workload Manager. It specifies how the queued task load of a dynamic routing target region is to be evaluated, with these values:

- **MAXTASK** specifies that both active and MAXTASK queued tasks are to be included in the task load evaluation for a target region.
- **ALL** specifies that the task load evaluation for a region will include active tasks, tasks queued for the MAXTASK limit, and tasks that are queued because of a TRANCLASS limit.

The default value is ALL.

Related information:

Chapter 5, “Changes to resource definitions,” on page 19

Changes to the resource definitions available in CICS relate to new, changed, or obsolete CICS functions. The changes might involve complete resource definitions or individual attributes. The resource definitions supplied by CICS have corresponding changes, which you can implement by running the UPGRADE function of the CSD utility program (DFHCSDUP).

Chapter 39. Upgrading CICSplex SM API programs

CICSplex SM API programs that were written to run in a MAS at a previous release can be run in a Version 4.1 MAS.

You can either continue to access the data provided by the previous release or access the new data available from Version 4.1. For information about using API programs with different releases of CICSplex SM, see the *CICSplex System Manager Application Programming Guide*.

Part 5. Changes to CICS messages and codes

This section lists messages and abend codes that have been removed, changed, and added for CICS Transaction Server for z/OS, Version 4 Release 1.

Chapter 40. Deleted messages

This section lists messages deleted for CICS Transaction Server for z/OS, Version 4 Release 1.

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

- DFHIS0003
- DFHIS0004
- DFHIS0006
- DFHIS1024
- DFHMQ0212 E
- DFHMQ0213 E
- DFHMQ0214 E
- DFHMQ0216 E
- DFHMQ0217 E
- DFHSJ0504
- DFHSJ0513
- DFHSJ0519
- DFHSJ0520
- DFHSJ0540
- DFHSJ0541
- DFHSJ0701
- DFHSJ0702
- DFHSJ0703
- DFHSJ0704
- DFHSJ0705
- DFHSJ0706
- DFHSJ0707
- DFHSJ0708
- DFHSJ0709
- DFHSJ0801
- DFHSJ0802
- DFHSJ0803
- EYUNL0125W
- EYUNX0042E
- EYUNX0043E

Chapter 41. Changed messages

This section lists messages changed for CICS Transaction Server for z/OS, Version 4 Release 1.

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

Table 11. Messages changed in CICS Transaction Server for z/OS, Version 4 Release 1

Message number	Message text
DFHAM4834E	<i>applid</i> Install of {TDQUEUE PROCESSTYPE LIBRARY URIMAP ATOMSERVICE} <i>resourcename</i> failed because the installed definition is not disabled.
DFHAM4851E	<i>applid</i> Install off DB2ENTRY DB2TRAN DB2CONN LIBRARY ATOMSERVICE <i>hname</i> failed because of a security error.
DFHAM4898E	<i>applid</i> Installation of {TDQUEUE PROCESSTYPE LIBRARY ATOMSERVICE} <i>resourcename</i> failed because of insufficient storage.
DFHAM4921E	<i>applid</i> The installation of CORBASERVER <i>cname</i> has failed because the specified {CORBASERVER STATE SESSBEANTIME CERTIFICATE HOST SHELF JNDIPREFIX} is not valid.
DFHIS1011	<i>date time applid</i> Unable to acquire IPCONN <i>ipconn</i> . An {EXCEPTION DISASTER INVALID KERNERROR PURGED} response to the capability exchange was received, reason={AUTOINSTALL_FAILED INVALID_IPCONN_STATE INVALID_PARTNER_STATE IPCONN_NOT_FOUND ISCE_ERROR ISCE_INVALID_APPLID ISCE_TIMED_OUT ISCE_BAD_RECOV ISCE_BAD_RESPONSE ISCE_ERROR ISCE_HTTP_ERROR ISCE_TIMED_OUT SESSION_OPEN_FAILED SHUTDOWN TCPIP_CLOSED TCPIP_SERVICE_MISMATCH TCPIP_SERVICE_NOT_FOUND TCPIP_SERVICE_NOT_OPEN NO_IPCONN ONE_WAY_IPCONN CAPEX_RACE SECURITY_VIOLATION SEC_SOCKET_ERROR UNKNOWN}.
DFHIS2001	<i>date time applid</i> Client web session <i>sessindex</i> from <i>applid applid</i> accepted for IPCONN <i>ipconn</i> .
DFHIS2009	<i>date time applid</i> Client web session <i>sessindex</i> in IPCONN <i>ipconn</i> from <i>applid applid</i> released.
DFHIS2010	<i>date time applid</i> Server web session <i>sessindex</i> in IPCONN <i>ipconn</i> with <i>applid applid</i> on host <i>hostname</i> , port <i>portnumber</i> released.
DFHMQ0453I	<i>date time applid</i> Status of connection to <i>qmgr-name</i> is {Connecting Pending Connected Quiescing Stopping-Force Disconnected Inactive Unknown}. <i>number</i> tasks are in flight.
DFHPI0119	<i>date time applid</i> The XML Toolkit could not be loaded. Some configurations of the CICS Supplied WS-Security handler are not usable.
DFHPI0400	<i>date time applid tranid</i> The CICS pipeline HTTP transport mechanism failed to send a request because {the request was using an invalid host codepage there was a socket error the URL was invalid the connection was closed a socket request timed out a proxy error was detected there was an HTTP error an invalid media type was used there was an authorization problem there was a problem with the client certificate there was a URIMAP problem SSL is not supported in CICS}.
DFHPI0515	<i>date time applid tranid</i> The CICS Pipeline Manager cannot run a CICS supplied WS-Security handler in pipeline: <i>pipeline</i> . The XML Toolkit was not available.

Table 11. Messages changed in CICS Transaction Server for z/OS, Version 4 Release 1 (continued)

Message number	Message text
DFHPI0720E	<i>date time appliduserid PIPELINE pipeline</i> encountered an error in the configuration file <i>filename</i> at offset <i>X'offset'</i> . Found : <i>element_found</i> yet expected : {< <i>service</i> > < <i>transport</i> > or < <i>service</i> > a transport handler list < <i>service_handler_list</i> > or < <i>terminal_handler</i> > < <i>handler</i> > < <i>program</i> > < <i>handler_parameter_list</i> > < <i>name</i> > < <i>cics_soap_1.1_handler</i> > < <i>cics_soap_1.2_handler</i> > < <i>header_program</i> > < <i>service_handler_list</i> > < <i>default_target</i> > or a default handler list < <i>program_name</i> > < <i>namespace</i> > < <i>localname</i> > < <i>mandatory</i> > true, false, 1 or 0 < <i>terminal_handler</i> > < <i>service_parameter_list</i> > < <i>service</i> >, < <i>transport</i> > or < <i>service_parameter_list</i> > /}.
DFHPI0911E	<i>date time applid userid</i> WEBSERVICE <i>WebService</i> within PIPELINE <i>Pipeline</i> was not created because: { <i>there is insufficient storage</i> <i>there is a directory domain error</i> <i>the specified PIPELINE is not installed</i> <i>a lock cannot be obtained</i> <i>there is a duplicate resource error</i> }.
DFHPI0914E	<i>date time applid userid</i> WEBSERVICE <i>WebService</i> is UNUSABLE because: { <i>the WSBind file was not found</i> <i>CICS is not authorized to read the WSBind file</i> <i>there is insufficient storage to load the WSBind file</i> <i>the HFS read for the WSBind file failed</i> <i>writing the WSBind file to the shelf failed</i> <i>the PIPELINE is incompatible with this WEBSERVICE</i> <i>the CPIR resolution transaction could not be attached</i> <i>the direction of the PIPELINE can't be determined</i> <i>the WSBind file is corrupt</i> <i>the WSBind file has an invalid version number</i> <i>the WSBind file has an out of date version number</i> <i>the WSBind file product number was not recognized</i> <i>the PIPELINE is not a SOAP PIPELINE</i> <i>the PIPELINE does not support SOAP version 1.2</i> <i>the PIPELINE is not configured for SOAP version 1.1</i> }.
DFHPI0997	<i>date time applid tranid pipeline</i> The CICS pipeline manager has encountered an error: { <i>PIPELINE not found</i> <i>PIPELINE not active</i> <i>PIPELINE mode mismatch</i> <i>unhandled node failure</i> <i>context switch failed</i> <i>request stream creation failure</i> <i>request stream transport error</i> <i>target program unavailable</i> <i>channel error</i> <i>channel not found</i> <i>URI not found</i> <i>invalid URI</i> <i>authorization failure</i> <i>program abend</i> <i>unidentified problem</i> <i>timeout occurred</i> <i>no request message</i> <i>there was a problem with file PIDIR</i> <i>attempt to register a WS-AT context twice</i> <i>empty DFHREQUEST container returned from a handler</i> <i>req and resp containers both returned from a handler</i> <i>empty DFHRESPONSE container returned from a handler</i> }.
DFHRL0119 E	<i>applid</i> The CICS resource life-cycle bundle class failed to re-create the BUNDLE resource <i>bundle_name</i> because of failed consistency checks with the manifest <i>manifest_file</i>
DFHSO0123	<i>date time applid</i> Return code <i>rc</i> received from function '{ <i>unknown</i> <i>gsk_environment_init</i> <i>gsk_environment_open</i> <i>gsk_environment_close</i> <i>gsk_secure_socket_init</i> <i>gsk_secure_socket_open</i> <i>gsk_secure_socket_close</i> <i>gsk_secure_socket_read</i> <i>gsk_secure_socket_write</i> <i>gsk_attribute_set_buffer</i> <i>gsk_attribute_set_callback</i> <i>gsk_attribute_set_enum</i> <i>gsk_attribute_set_numeric_value</i> }' of System SSL. Reason: { <i>Unrecognized return code</i> <i>Key database not found</i> <i>Key database access not authorized</i> <i>Invalid password for key database</i> <i>Expired password for key database</i> <i>Stashed password file not found</i> <i>Session timeout value is invalid</i> <i>An I/O error occurred</i> <i>An unknown error occurred</i> <i>Invalid distinguished name</i> <i>No common ciphers negotiated</i> <i>No certificate available</i> <i>Certificate rejected by peer</i> <i>Root certificate authority not supported</i> <i>Unsupported operation</i> <i>Invalid certificate signature</i> <i>SSL protocol violation</i> <i>Not authorized</i> <i>Self-signed certificate</i> <i>Invalid session state</i> <i>Handle creation failed</i> <i>No private key</i> <i>Untrusted Certificate Authority</i> <i>Certificate date invalid</i> <i>Invalid cipher suite</i> <i>Handshake abandoned by peer</i> <i>Cannot open key database</i> <i>Host certificate not yet valid</i> <i>Certificate parsing error</i> <i>Certificate is revoked</i> <i>LDAP server is inactive</i> <i>Unknown Certificate Authority</i> <i>Internal error on partner</i> <i>Unknown alert received</i> <i>Client authentication alert</i> <i>Incorrect key usage</i> <i>Server name not recognized</i> }. Peer: <i>peeraddr</i> , TCPIPSERVICE: <i>tcpipservice</i> .
DFHZC2352	<i>date time applid sysid netname</i> Intersystem parallel connection still active after TC shutdown threshold expired. ((<i>instance</i>) Module DFHZSHU)
DFHZC2401E	<i>date time applid termid tranid</i> RPL Active. <i>sense</i> ((<i>instance</i>) Module name: {DFHZRVS DFHZSDA DFHZSDL DFHZSDS DFHZSES DFHZSKR DFHZRVL DFHZSDR})
DFHZC2405E	<i>date time applid termid tranid</i> Node <i>netname</i> not activated. <i>sense</i> ((<i>instance</i>) Module name: {DFHZSIM DFHZSYX DFHZSIX})

Table 11. Messages changed in CICS Transaction Server for z/OS, Version 4 Release 1 (continued)

Message number	Message text
DFHZC2411E	<i>date time applid termid tranid nodeid</i> attempted invalid logon. <i>sense ((instance)</i> Module name: {DFHZSCX DFHZBLX DFHZATA DFHZLGX RESERVE DFHTFP})
DFHZC2417E	<i>date time applid termid tranid</i> VTAM Inactive to TCB. <i>sense ((instance)</i> Module name: {DFHZOPX DFHZCLS DFHZOPN DFHZRLP DFHZRST DFHZRVS DFHZRVX DFHZSDA DFHZSDL DFHZSDS DFHZSES DFHZSIM DFHZSKR DFHZSLX DFHZRAC DFHZCLX DFHZRVL DFHZSDR DFHZSIX DFHZTAX DFHZSYX})
DFHZC2419E	<i>date time applid termid tranid</i> Unknown command in RPL. <i>sense ((instance)</i> Module name: {DFHZSSX DFHZSLX DFHZRAC})
DFHZC2422E	<i>date time applid termid tranid</i> ZCP Logic Error. <i>sense ((instance)</i> Module name: {DFHZDET DFHZSIM DFHZERH DFHZNAC DFHZSDS DFHZEV1 DFHZOPN DFHZRVS DFHZSKR DFHZSSX DFHZSLX DFHZRAC DFHZARL DFHZEV2})
DFHZC2432E	<i>date time applid termid tranid</i> Exception response received. <i>sense ((instance)</i> Module name: {DFHZRVX DFHZSSX DFHZRAC})
DFHZC2433E	<i>date time applid termid tranid nodeid</i> Logon has failed because autoinstall is disabled. <i>sense ((instance)</i> Module name: {DFHZLGX DFHZBLX})
DFHZC2447E	<i>date time applid termid tranid</i> A severe error has occurred as a result of a previous failure. <i>sense ((instance)</i> Module name: {DFHZOPN DFHZRVS DFHZSDA DFHZRAC DFHZFRE DFHZRLP DFHZACT DFHZGET})
DFHZC2449E	<i>date time applid termid tranid</i> Bracket Error. <i>sense ((instance)</i> Module name: {DFHZRVX DFHZRAC})
DFHZC2450E	<i>date time applid termid tranid</i> Bid issued but ATI cancelled. <i>sense ((instance)</i> Module name: {DFHZRVX DFHZSSX DFHZRAC})
DFHZC2456E	<i>date time applid termid tranid</i> Exception response received to a command. <i>sense ((instance)</i> Module name {DFHZSYX DFHZRAC})
DFHZC2458E	<i>date time applid termid tranid</i> Exception response received to an exception response send. <i>sense ((instance)</i> Module name: {DFHZRVX DFHZRAC})
DFHZC2488 E	<i>date time applid termid tranid nodeid</i> logon request rejected as terminal recovery is in progress. <i>sense ((instance)</i> Module name: {DFHZLGX DFHZSCX DFHZBLX})
DFHZC3205 E	<i>date time applid</i> Transaction CTIN - virtual terminal <i>termid</i> VTAM netname <i>netname</i> . CICS cannot support the { <i>n.a.</i> <i>combination of client and virtual terminal codepage.</i> <i>client codepage.</i> <i>virtual terminal codepage.</i> }
DFHZC3418 E	<i>date time applid termid tranid</i> System generation error. The <i>netname</i> logon request was rejected. <i>sense ((instance)</i> Module name: {DFHZSCX DFHZBLX DFHZLGX})
DFHZC3419 E	<i>date time applid termid tranid</i> Session failure. The bind parameter for node <i>netname</i> is unacceptable. <i>sense ((instance)</i> Module name: {RESERVE DFHZBLX DFHZSCX})
DFHZC3420 E	<i>date time applid termid tranid</i> Session connection error. Node <i>netname</i> is out of service. <i>sense ((instance)</i> Module name: {DFHZOPN DFHZBLX})
DFHZC3433 E	<i>date time applid termid tranid</i> FMH7 was received on ISC session. Sense code is : xxxxxxxx Error log data is : No error log data received. No error log data available. }xxxxxxx <i>sense ((instance)</i> Module name: {DFHZRVX DFHZRAC DFHZERH})
DFHZC3442 I	<i>date time applid</i> Immediate termination of VTAM sessions requested. <i>sense ((instance)</i> Module name: {DFHZSHU RESERVE DFHZTPX})
DFHZC3444 E	<i>date time applid termid tranid</i> Unexpected condition detected during RECEIVE processing. <i>sense ((instance)</i> Module name: {DFHZRVS DFHZRAC})
DFHZC3461 I	<i>date time applid termid tranid</i> Node <i>netname</i> session started. <i>sense ((instance)</i> Module name: {DFHZOPX DFHZEV1 DFHZEV2})

Table 11. Messages changed in CICS Transaction Server for z/OS, Version 4 Release 1 (continued)

Message number	Message text
DFHZC3480E	<i>date time applid termid tranid</i> Session could not be started due to insufficient CICS nucleus function - ISC not loaded. <i>sense ((instance) Module name: {DFHZSIM DFHZBLX DFHZLGX})</i>
DFHZC3482E	<i>date time applid tranid</i> Logon from node <i>nodeid</i> rejected. Insufficient storage for autoinstall request. <i>sense ((instance) Module name: {DFHZLGX DFHZBLX DFHZSCX})</i>
DFHZC3499E	<i>date time applid</i> OS Getmain failure in module DFH <i>modname</i> with return code <i>X'return_code'</i> while attempting to process message DFHZC <i>message_number</i> . <i>sense ((instance) Module name: {DFHZLEX DFHZSHU DFHZSCX DFHZSYX DFHZTPX DFHZRAC DFHZATA DFHZLGX})</i>
DFHZC4904E	<i>date time applid termid tranid</i> Bracket FSM error. <i>sense ((instance) Module name: {DFHZRLP DFHZSDL DFHZSLX DFHZRAC})</i>
DFHZC4905E	<i>date time applid termid tranid</i> Chain FSM error. <i>sense ((instance) Module name: {DFHZRLP DFHZDET DFHZERH DFHZSDL DFHZSLX DFHZRAC})</i>
DFHZC4906E	<i>date time applid termid tranid</i> Contention FSM error. <i>sense ((instance) Module name: {DFHZDET DFHZRAC DFHZRLP DFHZCLS})</i>
DFHZC4919E	<i>date time applid termid tranid</i> Invalid indicators received. <i>sense ((instance) Module name: {DFHZARL DFHZARER})</i>
DFHZC4920E	<i>date time applid termid tranid</i> Invalid data received. <i>sense ((instance) Module name: {DFHZERH DFHZARL DFHZARER})</i>
DFHZC4922E	<i>date time applid termid tranid</i> Single session shutdown with DRAIN=CLOSE. <i>sense ((instance) Module name: {DFHZRAC DFHZGDA DFHZERH})</i>
DFHZC4924E	<i>date time applid termid tranid</i> Bind security password missing or invalid. <i>sense ((instance) Module name: {DFHZOPX DFHZBLX DFHZSCX})</i>
DFHZC4925E	<i>date time applid termid tranid</i> Inconsistent attach security required. <i>sense ((instance) Module name: {DFHZOPX DFHZOPN})</i>
DFHZC4926E	<i>date time applid termid tranid</i> Bind security encryption error. <i>sense ((instance) Module name {DFHZE1 DFHZE2})</i>
DFHZC4937E	<i>date time applid</i> SAF request for LU6.2 bind has been rejected. Return Codes from the Security Manager are: RF= <i>X'rf'</i> and R0= <i>X'r0'</i> <i>sense ((instance) Module name: {DFHZOPN DFHZE1 DFHZE2})</i>
DFHZC4938E	<i>date time applid</i> SAF request for LU6.2 bind has failed with ESM return code RF= <i>X'rf'</i> and reason code R0= <i>X'r0'</i> <i>sense ((instance) Module name: {DFHZOPN DFHZE1 DFHZE2})</i>
DFHZC4941E	<i>date time applid</i> Bind time failure. LU6.2 profile locked. <i>sense ((instance) Module name: {DFHZOPN DFHZE1 DFHZE2})</i>
DFHZC4942E	<i>date time applid</i> Bind time failure. Expired LU6.2 profile found. <i>sense ((instance) Module name: {DFHZOPN DFHZE1 DFHZE2})</i>

Chapter 42. New messages

This section lists new messages for CICS Transaction Server for z/OS, Version 4 Release 1.

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

Table 12. New messages in CICS Transaction Server for z/OS, Version 4 Release 1

Message number	Message text
DFHAM4936 E	<i>Applid</i> The installation of BUNDLE <i>Resourcename</i> failed because the manifest found in the bundle root directory was not valid.
DFHAM4937 E	<i>Applid</i> The installation of BUNDLE <i>Resourcename</i> failed because a manifest was not found in the bundle root directory.
DFHAM4938 W	<i>Applid</i> BUNDLE <i>Resourcename</i> has been installed as disabled because one or more of its associated resources failed to install.
DFHAM4939 E	<i>Applid</i> The installation of ATOMSERVICE <i>Resourcename</i> failed due to a configuration error.
DFHAM4940 E	<i>Applid</i> Install of MQCONN <i>Mqconn-name</i> failed because an MQCONN is already installed and is in use.
DFHAM4941 E	<i>Applid</i> The installation of {ATOMSERVICE} <i>Resourcename</i> failed because the { <i>configfile</i> <i>Bindfile</i> } does not exist.
DFHAM4942 E	<i>Applid</i> The installation of {ATOMSERVICE} <i>Resourcename</i> failed because CICS does not have authority to access the { <i>configfile</i> <i>Bindfile</i> }.
DFHAM4943 E	<i>Applid</i> The installation of {ATOMSERVICE} <i>Resourcename</i> failed because the associated { <i>configfile</i> <i>Bindfile</i> } is invalid.
DFHAM4944 E	<i>Applid</i> JVMSERVER <i>Resourcename</i> has been installed with less threads than requested on its definition.
DFHAM4945 E	<i>Applid</i> JVMSERVER <i>Resourcename</i> has been installed as disabled with a threadlimit of 0.
DFHAM4946 E	<i>Applid</i> The installation of { <i>bundle</i> } <i>Resourcename</i> failed because CICS does not have authority to access the manifest found in the bundle root directory.
DFHAP0702	<i>Applid</i> An abend (code <i>Abcode</i>) has occurred in exit program <i>Progname</i> at exit point <i>Xxxxxxxx</i> because a backlevel XPI call has been made.
DFHAP0703	<i>Applid</i> An abend (code <i>Abcode</i>) has occurred in exit program <i>Progname</i> at exit point <i>Xxxxxxxx</i> because a backlevel XPI call has been made.
DFHAP0708	<i>Applid</i> An abend (code <i>Abcode</i>) has occurred in task related user exit program <i>Progname</i> because a backlevel XPI call has been made.
DFHAP1301	<i>Date time applid</i> Language Environment has detected a corruption of its control blocks. Transaction <i>Transaction</i> currently executing.
DFHAP1600	<i>Date time applid</i> An attempt to start a JVM for the JVMSERVER resource <i>Jvmserver</i> has failed. Reason code {{JVMPROFILE_ERROR OPEN_JVM_ERROR JNI_CREATE_NOT_FOUND SETUP_CLASS_NOT_FOUND TERMINATION_CLASS_NOT_FOUND CREATE_JVM_FAILED CHANGE_DIRECTORY_CALL_FAILED STDOUT/STDERR_ACCESS_FAILED ERROR_LOCATING_MAIN_METHOD ATTACH_JNI_THREAD_FAILED SETUP_CLASS_TIMEDOUT ENCLAVE_INIT_FAILED ERROR_CODE_UNRECOGNIZED}. }.
DFHAP1601	<i>Date time applid</i> An exception has been thrown by the main method of the JVM belonging to the JVMSERVER resource <i>Jvmserver</i> .

Table 12. New messages in CICS Transaction Server for z/OS, Version 4 Release 1 (continued)

Message number	Message text
DFHAP1602	<i>Date time applid</i> An error occurred while terminating the JVM belonging to the JVMSERVER resource <i>Jvmserver</i> . Reason code { <i>termination_class_not_found</i> <i>Error_locating_main_method</i> <i>Error_code_unrecognized</i> <i>Termination_class_timed_out</i> }.
DFHAP1603	<i>Date time applid</i> An exception has been thrown by the main method of a termination class, which was running in the JVM belonging to the JVMSERVER resource <i>Jvmserver</i> .
DFHBR0509	<i>Date time applid</i> You are approaching or have reached the maximum number of times a Link3270 bridge routing region can be started.
DFHCA4800 I	<i>Date time applid</i> New group <i>Grpname</i> created.
DFHCA4801 I	<i>Date time applid</i> New list <i>Lstname</i> created.
DFHCA4802 E	<i>Date time applid</i> <i>Name</i> is an invalid name.
DFHCA4803 E	<i>Date time applid</i> Install failed because an existing definition for file <i>Filename</i> could not be deleted.
DFHCA4805 E	<i>Date time applid</i> Unable to perform operation: <i>Name</i> is locked to applid <i>Applid</i> , opid <i>Opid</i> to prevent updating.
DFHCA4806 E	<i>Date time applid</i> Group name <i>Grpname</i> exists as a list name.
DFHCA4808 E	<i>Date time applid</i> Object already exists in this group.
DFHCA4809 E	<i>Date time applid</i> Date/time fields do not match (object updated by another user).
DFHCA4810 E	<i>Date time applid</i> Object not found (deleted by another user).
DFHCA4811 E	<i>Date time applid</i> <i>Name1</i> does not contain <i>Name2</i> .
DFHCA4812 W	<i>Date time applid</i> Install of library <i>Libname</i> encountered a data set { <i>allocation</i> <i>Concatenation</i> <i>Open</i> } failure. The library is installed but disabled.
DFHCA4813 W	<i>Date time applid</i> Install of library <i>Libname</i> encountered an MVS abend. The library is installed but disabled.
DFHCA4814 E	<i>Date time applid</i> List name <i>Listname</i> exists as a group name.
DFHCA4815 E	<i>Date time applid</i> group <i>Grpname</i> not found in this list.
DFHCA4816 E	<i>Date time applid</i> unable to install group <i>Grpname</i> - group not found.
DFHCA4817 E	<i>Date time applid</i> install of library <i>Libname</i> failed with an MVS abend. The library is not installed.
DFHCA4819 E	<i>Date time applid</i> group already exists in this list.
DFHCA4820 S	<i>Date time applid</i> unable to perform request - CSD full.
DFHCA4823 S	<i>Date time applid</i> unable to perform request - DFHCSD not open.
DFHCA4824 S	<i>Date time applid</i> unable to perform request - insufficient function in file definition for DFHCSD.
DFHCA4825 S	<i>Date time applid</i> unable to perform request - file control has returned an INVREQ response.
DFHCA4828 E	<i>Date time applid</i> group <i>Grpname</i> not found.
DFHCA4829 S	<i>Date time applid</i> storage violation. CSD primary control record not updated.
DFHCA4830 E	<i>Date time applid</i> <i>Restype Resname</i> already exists in the target group.
DFHCA4831 E	<i>Date time applid</i> the new name <i>Name</i> is longer than the four characters allowed for <i>Restype</i> names.
DFHCA4832 E	<i>Date time applid</i> unable to open TDQUEUE <i>Tdqname</i> because the dfhintra data set is not open.
DFHCA4833 E	<i>Date time applid</i> a security error has occurred while attempting to install TDQUEUE <i>Tdqname</i> . The definition has not been installed.

Table 12. New messages in CICS Transaction Server for z/OS, Version 4 Release 1 (continued)

Message number	Message text
DFHCA4834 E	Date time applid install of {TDQUEUE PROCESSTYPE LIBRARY URIMAP ATOMSERVICE JVMSEVER} Resourcename failed because the installed definition is not disabled.
DFHCA4836 E	Date time applid install of db2conn Db2conn-name failed because a db2conn is already installed and is in use.
DFHCA4837 E	Date time applid install of { DB2ENTRY Db2tran }Name failed because a db2conn is not installed.
DFHCA4838 E	Date time applid install of DB2ENTRY Db2entry-name failed because an existing definition could not be deleted. The existing definition is not disabled.
DFHCA4839 E	Date time applid list Listname not found.
DFHCA4840 W	Date time applid group Grpname not appended - group already exists in target list.
DFHCA4841 E	Date time applid install failed because definition of Restype Resname is in use by task no. Taskno (transaction id. Tranid).
DFHCA4842 E	Date time applid install failed because Restype Resname is currently in use.
DFHCA4843 W	Date time applid Ttttttt Nnnnnnnn is internally locked to opid Opid applid Applid.
DFHCA4850 E	Date time applid install of DB2TRAN Db2tran-name failed because DB2ENTRY Db2entry-name to which it refers has not been installed.
DFHCA4851 E	Date time applid install of { DB2ENTRY Db2tran Db2conn Library Atomservice }Name failed because of a security error.
DFHCA4852 W	Date time applid Restype name Resname begins with 'dfh'. Such names are reserved and may be redefined by CICS.
DFHCA4853 E	Date time applid install of DB2TRAN Db2tran-name failed because another DB2TRAN is installed with the same transid.
DFHCA4854 W	Date time applid the specified {group List} contains Objtype objects but no Restype found.
DFHCA4857 W	Date time applid the specified {group List} contains more than one Objtype.
DFHCA4858 S	Date time applid unable to perform request - DFHCSD not enabled.
DFHCA4859 S	Date time applid unable to perform request - the csdstrno operand in the system initialization table (sit) is too small.
DFHCA4860 W	Date time applid the specified list contains DB2ENTRY or DB2TRAN definitions before a DB2CONN definition.
DFHCA4863 I	Date time applid Name is now locked. No group or list of that name exists.
DFHCA4866 E	Date time applid unable to perform operation: Name is IBM protected.
DFHCA4867 E	Date time applid file name DFHCSD is reserved and must not be modified.
DFHCA4869 E	Date time applid single resource install of Restype Resname in group Grpname is not allowed.
DFHCA4871 W	Date time applid file Filename has been installed but set Filename failed.
DFHCA4872 S	Date time applid unable to connect to CICS catalog.
DFHCA4873 S	Date time applid unable to disconnect the CICS catalog.
DFHCA4874 E	Date time applid install of {TSMODEL Enqmodel} Rsrce-name1 failed because {prefix Enqname} Attribute-name already exists in {TSMODEL Enqmodel} Rsrce-name2.
DFHCA4875 E	Date time applid unable to perform operation: Name is currently being updated by applid Applid opid Opid - please retry later.
DFHCA4876 W	Date time applid partner Partnername specifies netname Netname which is not found in any connection definition that specifies access method = z/OS Communications Server.
DFHCA4877 W	Date time applid partner Partnername specifies a netname and profile for which there is no common implied sessions definition.

Table 12. New messages in CICS Transaction Server for z/OS, Version 4 Release 1 (continued)

Message number	Message text
DFHCA4878 E	Date time applid install of {IPCONN} Resourcename failed because one with this name is already installed and is in use.
DFHCA4879 W	Date time applid {group List} Name has been partially installed.
DFHCA4880 S	Date time applid unable to perform operation - not allowed by file attributes for DFHCSD.
DFHCA4881 I	Date time applid group Name deleted.
DFHCA4883 I	Date time applid list Listname deleted.
DFHCA4884 S	Date time applid Restype name Resname is reserved by CICS.
DFHCA4885 E	Date time applid install of IPCONN Resourcename failed. Duplicate applid Applid found.
DFHCA4887 I	Date time applid unrecognized resource type found in the CSD file and has been ignored.
DFHCA4888 I	Date time applid group Groupname removed from list Listname.
DFHCA4889 E	Date time applid install of {journalmodel Tsmode Tcpipservice Corbaserver IPCONN Urimap} Resourcename failed because Attribute Attname is invalid.
DFHCA4890 E	Date time applid install of TDQUEUE Tdqname failed because the type has not been specified.
DFHCA4891 W	Date time applid Restype name Resname begins with 'c'. Such names are reserved and may be redefined by CICS.
DFHCA4892 W	Date time applid install for group Grpname has completed with errors.
DFHCA4893 I	Date time applid install for group Grpname has completed successfully.
DFHCA4894 E	Date time applid install of {enqmodel} Rsrcename1 failed because installed {enqmodel} Rsrcename2 is not disabled.
DFHCA4895 E	Date time applid install of TSMODEL Resourcename in group Groupname failed because ts was started using an assembled tst without the migrate option.
DFHCA4896 E	Date time applid install of TDQUEUE Tdqname failed because the queue is not closed.
DFHCA4897 W	Date time applid The definition of {TDQUEUE Tcpipservice} Resourcename specified {opentime=initial Status=open} but the open failed.
DFHCA4898 E	Date time applid Installation of {TDQUEUE Processtype Library Atomservice} Resourcename failed because of insufficient storage.
DFHCA4899 E	Date time applid TDQUEUE Tdqname cannot be replaced because the existing definition is for a different queue type.
DFHCA4901 E	Date time applid Install of REQUESTMODEL Resourcename1 failed because a duplicate pattern already exists in Resourcename2.
DFHCA4902 E	Date time applid Install of { corbaserver Requestmodel }Resourcename failed because it is not a valid{ corbaserver Requestmodel }for this level of CICS.
DFHCA4903 E	Date time applid Install for TCPIPSERVICE Tcpipservice has failed because the service is open.
DFHCA4904 W	Date time applid Opening TCPIPSERVICE Tcpipservice has failed because port Portno is already in use.
DFHCA4905 E	Date time applid Install failed for Resource. Option Opt is not available on this system.
DFHCA4906 W	Date time applid Opening TCPIPSERVICE Tcpipservice has failed because port Portno is not authorized.
DFHCA4907 W	Date time applid Opening TCPIPSERVICE Tcpipservice has failed because the {IP address Host} is not known.
DFHCA4908 E	Date time applid Install of DOCTEMPLATE Doctemplate1 failed because templatename(Template) already exists in DOCTEMPLATE Doctemplate2.
DFHCA4909 E	Date time applid Install of DOCTEMPLATE Doctemplate failed. Ddname(Ddname) not found.

Table 12. New messages in CICS Transaction Server for z/OS, Version 4 Release 1 (continued)

Message number	Message text
DFHCA4910 E	<i>Date time applid</i> Install of DOCTEMPLATE <i>Doctemplate</i> failed. Member(<i>Membername</i>) not found in <i>Dname</i> .
DFHCA4911 W	<i>Date time applid</i> Transaction <i>Tranid</i> installed but at least one of alias, taskreq or xtranid failed to be replaced because it exists as a primary transaction.
DFHCA4912 E	<i>Date time applid</i> Install of Resource <i>Resourcenam</i> e failed because <i>Attribute</i> is invalid for this release.
DFHCA4913 E	<i>date time applid</i> Install of <i>{IPCONN}</i> <i>resourcenam</i> e failed because a CONNECTION resource with this name and a different APPLID is already installed.
DFHCA4914 E	<i>date time applid</i> Install of <i>resourcetype resourcenam</i> e failed. The specified <i>targetresource</i> is unusable.
DFHCA4915 E	<i>date time applid</i> Install of <i>resourcetype resourcenam</i> e failed. Open for data set <i>dsname</i> has abended.
DFHCA4916 E	<i>date time applid</i> TCPIP SERVICE <i>tcpipservice</i> has not been opened because the MAXSOCKETS limit has been reached.
DFHCA4917 W	<i>Date time applid</i> { <i>corbaserver</i> <i>Tcpipservice</i> <i>IPCONN</i> <i>Urimap</i> } <i>Resourcenam</i> e was installed with a reduced set of cipher codes.
DFHCA4918 E	<i>Date time applid</i> The installation of{ <i>corbaserver</i> <i>Tcpipservice</i> <i>IPCONN</i> <i>Urimap</i> } <i>Resourcenam</i> e has failed because its requested cipher list was rejected.
DFHCA4920 E	<i>Date time applid</i> The installation of{ <i>corbaserver</i> <i>Djar</i> <i>Pipeline</i> <i>Webservice</i> <i>Library</i> <i>Bundle</i> } <i>Resourcenam</i> e has failed because it is a duplicate of one which already exists.
DFHCA4921 E	<i>Date time applid</i> The installation of <i>corbaserver Cname</i> has failed because the specified { <i>corbaserver</i> <i>State</i> <i>Sessbeantime</i> <i>Certificate</i> <i>Host</i> <i>Shelf</i> <i>Jndiprefix</i> } is not valid.
DFHCA4922 E	<i>Date time applid</i> The installation of{ <i>corbaserver</i> <i>Djar</i> } <i>Resourcenam</i> e has failed because the ej resource resolution transaction, CEJR, could not attach.
DFHCA4923 E	<i>Date time applid</i> The installation of DJAR <i>Dname</i> has failed because the specified <i>corbaserver Cname</i> does not exist.
DFHCA4924 E	<i>Date time applid</i> The installation of DJAR <i>Dname</i> has failed because the specified { <i>corbaserver</i> <i>State</i> <i>Hfsfile</i> <i>Djar</i> } is not valid.
DFHCA4925 E	<i>Date time applid</i> The installation of <i>corbaserver Cname</i> has failed because at least one of its associated <i>tcpipservices</i> has not been installed.
DFHCA4926 E	<i>Date time applid</i> The installation of DJAR <i>Dname</i> has failed because the specified <i>corbaserver Cname</i> is not in a valid state.
DFHCA4927 E	<i>Date time applid</i> The installation of{ <i>corbaserver</i> <i>Djar</i> } <i>Resourcenam</i> e has failed because its <i>hfsfile</i> is a duplicate of one which already exists.
DFHCA4928 E	<i>Date time applid</i> Install of { <i>TCPIP SERVICE</i> <i>Corbaserver</i> <i>IPCONN</i> <i>Urimap</i> } <i>Resourcenam</i> e failed because the specified certificate is { <i>expired</i> <i>Not yet current</i> <i>Not owned by this CICS</i> <i>Not trusted</i> }.
DFHCA4929 E	<i>Date time applid</i> { <i>URIMAP</i> }(<i>Resourcenam</i> e) was not installed because of conflicting attributes.
DFHCA4930 E	<i>Date time applid</i> <i>URIMAP(Urimap1)</i> not installed because it maps the same URI as <i>Urimap2</i> .
DFHCA4931 E	<i>Date time applid</i> The installation of <i>WEBSERVICE Resourcenam</i> e failed because the associated { <i>wsbind file</i> <i>Pipeline</i> } does not exist.
DFHCA4932 E	<i>Date time applid</i> The installation of { <i>pipeline</i> <i>Webservice</i> } <i>Resourcenam</i> e failed because the { <i>hfsfile</i> <i>Pipeline</i> } setup was not correct.
DFHCA4933 E	<i>Date time applid</i> The installation of <i>pipeline Resourcenam</i> e failed because the <i>WSDIR</i> file specified is not accessible.

Table 12. New messages in CICS Transaction Server for z/OS, Version 4 Release 1 (continued)

Message number	Message text
DFHCA4934 E	<i>Date time applid</i> The installation of URIMAP <i>Resourcename</i> failed because hostcodepage <i>Hcodepage</i> is not valid in combination with character set <i>Charset</i> .
DFHCA4935 E	<i>Date time applid</i> install of {TCPIPSERVICE Corbaserver IPCONN Urimap} <i>Resourcename</i> failed because the keyring has no default certificate.
DFHCA4936 E	<i>Date time applid</i> The installation of bundle <i>Resourcename</i> failed because the manifest found in the bundle root directory was not valid.
DFHCA4937 E	<i>Date time applid</i> The installation of bundle <i>Resourcename</i> failed because a manifest was not found in the bundle root directory.
DFHCA4938 W	<i>Date time applid</i> bundle <i>Resourcename</i> has been installed as disabled because one or more of its associated resources failed to install.
DFHCA4939 E	<i>Date time applid</i> The installation of ATOMSERVICE <i>Resourcename</i> failed due to a configuration error.
DFHCA4940 E	<i>Date time applid</i> install of MQCONN <i>Mqconn-name</i> failed because an MQCONN is already installed and is in use.
DFHCA4941 E	<i>Date time applid</i> The installation of {ATOMSERVICE} <i>Resourcename</i> failed because the { <i>configfile</i> <i>Bindfile</i> } does not exist.
DFHCA4942 E	<i>Date time applid</i> The installation of {ATOMSERVICE} <i>Resourcename</i> failed because CICS does not have authority to access the { <i>configfile</i> <i>Bindfile</i> }.
DFHCA4943 E	<i>Date time applid</i> The installation of {ATOMSERVICE} <i>Resourcename</i> failed because the associated { <i>configfile</i> <i>Bindfile</i> } is invalid.
DFHCA4944 W	<i>Date time applid</i> JVMSERVER <i>Resourcename</i> has been installed with less threads than requested on its definition.
DFHCA4945 W	<i>Date time applid</i> JVMSERVER <i>Resourcename</i> has been installed as disabled with a THREADLIMIT of 0.
DFHCA4946 W	<i>Date time applid</i> The installation of { <i>bundle</i> } <i>Resourcename</i> failed because CICS does not have authority to access the manifest found in the bundle root directory.
DFHCA4999 E	<i>Date time applid</i> install of <i>Resourcetype</i> resources is not supported.
DFHCA5137 E	<i>Date time applid</i> <i>Netname</i> <i>tranid</i> group <i>Grpname</i> not found in list <i>Listid</i>
DFHCA5559 W	<i>Date time applid</i> host conflicts with <i>ipaddress</i> . Host takes precedence.
DFHCA5560 W	<i>Date time applid</i> <i>port_attribute</i> conflicts with port number found in host attribute.
DFHCC0105	<i>Applid</i> the { <i>local</i> <i>Global</i> } catalog is incorrectly defined. Expected: <i>keylen</i> = <i>Req_keylen</i> , <i>lrecl</i> = <i>Req_lrecl</i> . Defined: <i>keylen</i> = <i>Def_keylen</i> , <i>lrecl</i> = <i>Def_lrecl</i> .
DFHCC0106	<i>Applid</i> insufficient MVS storage for { <i>cc</i> <i>Gc</i> } domain anchor block. Bytes requested= <i>Bytes</i> .
DFHDB2212	The DB2 subsystem ID <i>db2id</i> specified for the CICS-DB2 attachment cannot be found. The attachment facility cannot start.
DFHDS0007	<i>Applid</i> module <i>Module</i> has detected a { <i>suspend resume area overflow</i> <i>Architecture limit</i> } (code <i>X'code'</i>). CICS will be terminated. .}
DFHDU0218	No PROBDISC parameters supplied to DFHDUMPX.
DFHEC0001	<i>Applid</i> an abend (code <i>Aaa/bbbb</i>) has occurred at offset <i>X'offset'</i> in module <i>Modname</i> .
DFHEC0002	<i>Applid</i> a severe error (code <i>X'code'</i>) has occurred in module <i>Modname</i> .
DFHEC0004	<i>Applid</i> a possible loop has been detected at offset <i>X'offset'</i> in module <i>Modname</i> .
DFHEC1000	<i>Date time applid</i> invalid parameter list passed to EC component module <i>Modname</i> .
DFHEC1001	<i>Date time applid</i> Event binding <i>Evbname</i> installed successfully.
DFHEC1002	<i>Date time applid</i> Event binding <i>Evbname</i> discarded successfully.

Table 12. New messages in CICS Transaction Server for z/OS, Version 4 Release 1 (continued)

Message number	Message text
DFHEC1003	Date time applid The CICS event capture component failed to create the EVENTBINDING resource <i>Evbname</i> for reason <i>Reason</i> .
DFHEC1004	Date time applid event processing found invalid data address <i>X'address'</i> while capturing data for CAPTURESPEC <i>Csname</i> of EVENTBINDING <i>Evbname</i> in capture data item <i>Description</i> at offset <i>Offset</i> with length <i>Length</i> .
DFHEC1005	Date time applid event processing found invalid data address <i>X'address'</i> while filtering events for CAPTURESPEC <i>Csname</i> of EVENTBINDING <i>Evbname</i> in filter item <i>Description</i> at offset <i>Offset</i> with length <i>Length</i> .
DFHEC1006I	Applid event processing status is { <i>started</i> <i>draining</i> <i>stopped</i> }.
DFHEC1007	Date time applid event processing found invalid packed data <i>x'data'</i> while filtering events for CAPTURESPEC <i>Csname</i> of EVENTBINDING <i>Evbname</i> in filter item <i>Description</i> at offset <i>Offset</i> with length <i>Length</i> .
DFHEC1008	Date time applid event processing found invalid zoned data <i>X'data'</i> while filtering events for CAPTURESPEC <i>Csname</i> of EVENTBINDING <i>Evbname</i> in filter item <i>Description</i> at offset <i>Offset</i> with length <i>Length</i> .
DFHEC1009	Date time applid the CICS event capture component found an inconsistency in one or more values during install of EVENTBINDING <i>Evbname</i> for reason <i>Reason</i> .
DFHEC2100	Applid program DFHECRP cannot be found.
DFHEC3100	Date time applid an error (code <i>X'code'</i>) has occurred during creation of capture specification <i>Cs_name</i> in event binding <i>Evb_name</i> .
DFHEC3101	Date time applid invalid or unsupported codepage (<i>Codepage</i>) found in capture specification <i>Cs_name</i> in event binding <i>Evb_name</i> .
DFHEC3102	Date time applid invalid API command (<i>Command</i>) specified in capture specification <i>Cs_name</i> in event binding <i>Evb_name</i> .
DFHEC3103	Date time applid invalid comparison operator (<i>Code</i>) specified in capture specification <i>Cs_name</i> in event binding <i>Evb_name</i> .
DFHEC3104	Date time applid { <i>Pre_API</i> <i>Post_API</i> } event point command in capture specification <i>Cs_name</i> in event binding <i>Evb_name</i> is not supported.
DFHEC3105	Date time applid invalid data type (<i>Datatype</i>) was specified in capture specification <i>Cs_name</i> in event binding <i>Evb_name</i> .
DFHEC3106	Date time applid invalid capture data source (<i>Source</i>) in capture specification <i>Cs_name</i> in event binding <i>Evb_name</i> .
DFHEC3107	Date time applid invalid eibaid value (<i>Aiddata</i>) specified in context filter for capture specification <i>Cs_name</i> in event binding <i>Evb_name</i> .
DFHEC3108	Date time applid invalid keyword (<i>Keyword</i>) specified in event capture specification <i>Cs_name</i> in event binding <i>Evb_name</i> .
DFHEC3110	date time applid Invalid filter length of 0 specified in event capture specification <i>Cs_name</i> in event binding <i>Evb_name</i> .
DFHEC4007 E	Applid start transid <i>Tranid</i> Failed with response code <i>Response</i> and reason code <i>Reason</i> .
DFHEC4008	Date time applid <i>tranid</i> EP Adapter failed to emit an event to queue <i>queuename</i> . WRITEQ TS returned with condition <i>resp</i> .
DFHEC4111	Date time applid <i>tranid</i> Call to WebSphere MQ function <i>Function</i> returned with reason code <i>Reason_code</i> . Transaction terminated.
DFHEC4112	Applid WebSphere MQ support for CICS event processing WebSphere MQ adapter is not available.
DFHEC4117	Date time applid <i>tranid</i> the event's size of <i>Buffer_length</i> bytes exceeds message queue's <i>Queuename</i> maximum message length of <i>Max_msg_length</i> bytes. Transaction terminated.

Table 12. New messages in CICS Transaction Server for z/OS, Version 4 Release 1 (continued)

Message number	Message text
DFHEC4120	<i>date time applid tranid</i> The HTTP EP Adapter failed to emit event for capture specification <i>csname</i> in event binding <i>evbname</i> using URIMAP <i>urimap_name</i> . <i>function</i> returned with response code <i>resp</i> reason code <i>resp2</i> .
DFHEC4121	<i>date time applid tranid</i> The HTTP EP Adapter failed to emit an event for capture specification <i>csname</i> in event binding <i>evbname</i> using URIMAP <i>urimap_name</i> . Server responded with HTTP status code <i>http_status_code</i> .
DFHEC4122	<i>date time applid tranid</i> The HTTP EP Adapter failed to emit event for capture specification <i>csname</i> in event binding <i>evbname</i> using URIMAP <i>urimap_name</i> . <i>function</i> returned with response code <i>resp</i> reason code <i>resp2</i> .
DFHEC4123	<i>date time applid tranid</i> The HTTP EP Adapter failed to emit an event for capture specification <i>csname</i> in event binding <i>evbname</i> using URIMAP <i>urimap_name</i> . Server responded with HTTP status code <i>http_status_code</i> .
DFHEP0001	<i>Applid</i> An abend (code <i>Aaa/bbbb</i>) has occurred at offset <i>X'offset'</i> in module <i>Modname</i> .
DFHEP0002	<i>Applid</i> A severe error (code <i>X'code'</i>) has occurred in module <i>Modname</i> .
DFHEP0101I	<i>Applid</i> Event processing domain initialization has started.
DFHEP0102I	<i>Applid</i> Event processing domain initialization has ended.
DFHEP0113	CEPM is stopping event processing after a severe error.
DFHEP0114	<i>date time applid tranid</i> The EP adapter user ID of <i>adapter_userid</i> is revoked, not valid, or not defined. Event discarded.
DFHEP0115	<i>Applid</i> Event processing event dispatcher task limit reached.
DFHEP0116	<i>Applid</i> Event processing event dispatcher task limit relieved.
DFHEP0117	<i>date time applid tranid</i> The EP adapter transaction ID of <i>adapter_tranid</i> is disabled or undefined. Event discarded.
DFHEP0118	<i>Date time applid tranid</i> The EP adapter transaction ID of <i>Adapter_tranid</i> is remote. Transaction terminated.
DFHEP0119	<i>date time applid tranid</i> Event processing global event queue depth: <i>number_events_queued</i> High Water Mark: <i>events_queued_hwm</i> .
DFHEP0120	<i>date time applid tranid</i> The EPADAPTER transaction ID <i>adapter_tranid</i> is defined to start the wrong program for this type of adapter. An event from EVENTBINDING <i>evbname</i> has been discarded.
DFHEP0121	<i>date time applid</i> Synchronous event emission by EPADAPTER <i>epadapter</i> failed for an event from EVENTBINDING <i>evbname</i> . The UOW will be backed out.
DFHEP1000	<i>date time applid</i> Invalid parameter list passed to EP domain module <i>modname</i> .
DFHEP1001	<i>date time applid</i> EPADAPTER <i>adaptername</i> installed successfully.
DFHEP1002	<i>date time applid</i> EPADAPTER <i>adaptername</i> discarded successfully.
DFHEP2001	<i>date time applid</i> The CICS event processing domain failed to create EPADAPTER resource <i>adapter</i> in BUNDLE <i>bundle</i> because the EP adapter, which is of type <i>adapterType</i> and emission mode <i>emitmode</i> , <i>requires a program name.</i> <i>, does not support transactional events.</i> <i>, requires a transaction ID.</i> <i>, is invalid or unrecognised.</i> <i>, has an invalid or unsupported event format.</i> <i>, has an unsupported combination of attributes.</i> }
DFHEP2002	<i>date time applid</i> The CICS event processing domain failed to create the EPADAPTER resource <i>adaptername</i> in BUNDLE <i>bundle</i> because the <i>{EP adapter name is invalid.</i> <i>XML data for the EP adapter could not be parsed.</i> <i>eventDispatcher is missing or invalid.</i> <i>configuration data is too long.</i> }
DFHEP2003	<i>date time applid</i> The CICS event processing domain failed to create the EPADAPTER resource <i>adaptername</i> in BUNDLE <i>bundle</i> because the <i>{LOCALCCSID SIT parameter is not supported:</i> <i>EP adapter schema level is not supported:</i> <i>error_data</i> .

Table 12. New messages in CICS Transaction Server for z/OS, Version 4 Release 1 (continued)

Message number	Message text
DFHEP2005	<i>date time applid</i> The CICS event processing domain found an inconsistency in the advanced options during install of EPADAPTER <i>adaptername</i> with emission mode <i>emitmode</i> and type <i>adapterType</i> . The <i>option</i> option is ignored.
DFHEX0005	Jobname: <i>Jobname</i> , stepname: <i>Stepname</i> , procname <i>Procname</i> , sysid in smf: <i>Sysid</i> , applid: <i>Applid</i> , transid: <i>Transid</i> .
DFHFC0209	<i>applid</i> User exit XFCRLSCO is allowing non-RLS file <i>filename</i> to bypass the RLS coexistence checks.
DFHFC0210	<i>applid</i> User exit XFCRLSCO is allowing RLS file <i>filename</i> to bypass the RLS coexistence checks.
DFHFC6039	<i>Date time applid</i> CICS has been invoked by vsam rls to process a <i>Reason</i> of data set <i>Dsname</i> .
DFHII1039 E	<i>Date time applid</i> Failure establishing connection to host <i>Host</i> as unauthenticated connections are not supported. An attempt to establish a CSIV2 secure connection failed because: { <i>CSIV2 security is not supported in the server the server does not support the use of ssl/tls the server does not support client certification a required capability is not supported by the server the server requires something not supported by CICS the server does not support identity assertion the server does not support principal assertion the server does not support gssup exported names</i> }.
DFHII1040 E	<i>Date time applid</i> A CSIV2 connection has been refused because: { <i>it was not an establishcontext message it contained authorization tokens it used an unsupported identity type the identity type was not recognized it specified more than one authorization tokens an authorization token was too long</i> }.
DFHIS0100	<i>Applid</i> Unable to start is domain because transaction CISC cannot be attached.
DFHIS1032	<i>Date time applid</i> Unable to acquire IPCONN <i>IPCONN</i> . Applid <i>Networkid.applid</i> is the same as the local applid.
DFHIS1033	<i>Date time applid</i> BIS processing error (code <i>X'errorcode'</i>) occurred during release of <i>Sesstype</i> IPIC session in IPCONN <i>IPCONN</i> .
DFHIS1034	<i>Date time applid</i> Conversation <i>Convid</i> no longer pending on IPCONN <i>IPCONN</i> .
DFHIS1035	<i>Date time applid</i> Unable to send a { <i>start cancel transaction routing</i> } request using IPCONN <i>IPCONN</i> . Partner region does not support this function over IPIC.
DFHIS1036	<i>Date time applid</i> Unable to process local queue for IPCONN <i>IPCONN</i> . IPCONN connected to system that does not support starts over IPIC.
DFHIS1037	<i>Date time applid</i> Log data sent on IPCONN <i>IPCONN</i> is: 'data'.
DFHIS1038 E	<i>Date time applid</i> Invalid host address <i>ipaddr</i> .
DFHIS1039	<i>Date time applid</i> IPIC secondary socket request for <i>Networkid.Applid</i> has failed because a matching IPCONN could not be found.
DFHIS1040	<i>Date time applid</i> Unable to schedule transaction CRSR for IPCONN <i>ipconn</i> .
DFHIS1041	<i>Date time applid</i> Identity propagation error has occurred while using IPCONN <i>ipconn</i> and transaction ID <i>transid</i> .
DFHIS3040 E	<i>date time applid</i> Deletion of IPCONN <i>ccccccc</i> failed. Its AID-Chains are not empty.
DFHIS3041	<i>date time applid nnnn</i> AIDs { <i>canceled force-canceled</i> } for IPCONN <i>conname</i> . <i>nnnn</i> AIDs remain.
DFHKE0106	<i>Applid</i> GETMAIN failed in module <i>Modname</i> , r15= <i>Mvscode</i> . CICS will terminate.
DFHKE0997	<i>Applid</i> DFHKESTX driven for cleanup on an essential TCB with completion code <i>Code</i> . Unable to recover.

Table 12. New messages in CICS Transaction Server for z/OS, Version 4 Release 1 (continued)

Message number	Message text
DFHLD0731	<i>Applid</i> data set <i>Dsname</i> Could not be allocated for library <i>Libname</i> because CICS could not determine that the data set is valid for a dynamic library. Reason: { <i>locate error. Locate macro</i> <i>Obtain error. Obtain macro</i> <i>Not enough working storage. Loader svc</i> <i>CICS internal error. Loader svc</i> }return code: <i>X'rc'</i>
DFHLD0732	<i>Applid</i> Data set <i>Dsname</i> Could not be allocated for library <i>Libname</i> because it is not valid for a dynamic library. Reason: { <i>not dasd volume</i> <i>Not partitioned organization</i> <i>Record format is not set to unspecified</i> }.
DFHLG0195	Log gap warning up to block id <i>X'data1'</i>
DFHLG0196	STCK of block after gap (<i>Time format</i>): <i>X'data1'</i>
DFHLG0197	The CICS LOGR subsystem has detected an error. This might be caused by incorrect JCL.
DFHME0141	Message <i>Msgno</i> not issued by <i>Module</i> because MVS WTOR short on storage.
DFHML0001	<i>Applid</i> an abend (code <i>Aaa/bbbb</i>) has occurred at offset <i>X'offset'</i> in module <i>Modname</i> .
DFHML0002	<i>Applid</i> a severe error (code) has occurred in module .
DFHML0100	<i>Date time applid tranid</i> Call to z/OS XML system services parser for function <i>Function</i> failed with return code <i>X'return_code'</i> and reason code <i>X'reason_code'</i> .
DFHML0500	<i>Date time applid Userid Tranid</i> XMLTRANSFORM <i>Xmltransform_name</i> for { <i>bundle</i> <i>Atomservice</i> } <i>Owner_name</i> has been added.
DFHML0501	<i>Date time applid Userid Tranid</i> XMLTRANSFORM <i>Xmltransform_name</i> for { <i>bundle</i> <i>Atomservice</i> } <i>Owner_name</i> has been deleted.
DFHML0502	<i>Date time applid Userid Tranid</i> XMLTRANSFORM <i>Xmltransform_name</i> for { <i>bundle</i> <i>Atomservice</i> } <i>Owner_name</i> has been { <i>enabled</i> <i>Disabled</i> }.
DFHML0503	<i>Date time applid Userid Tranid</i> XMLTRANSFORM <i>Xmltransform_name</i> for { <i>bundle</i> <i>Atomservice</i> } <i>Owner_name</i> cannot be installed as a duplicate XMLTRANSFORM resource with the same name already exists.
DFHML0504	<i>Date time applid Userid Tranid</i> XMLTRANSFORM <i>Xmltransform_name</i> for { <i>bundle</i> <i>Atomservice</i> } <i>Owner_name</i> cannot be { <i>enabled</i> <i>Disabled</i> <i>Discarded</i> } because it is in the { <i>enabling</i> <i>Enabled</i> <i>Disabling</i> <i>Disabled</i> <i>Discarding</i> <i>Permanently disabled</i> <i>Unknown</i> } state.
DFHML0505	<i>Date time applid Userid Tranid</i> XMLTRANSFORM <i>Xmltransform_name</i> for { <i>bundle</i> <i>Atomservice</i> } <i>Owner_name</i> has an unsupported runtime level.
DFHML0506	<i>Date time applid Trannum</i> XMLTRANSFORM <i>Xmltransform_name</i> Cannot link to program <i>Program_name</i> because { <i>the program abended</i> <i>There is a problem with the resource definition</i> <i>The program cannot be loaded</i> <i>An unspecified problem occurred</i> }.
DFHML0507	<i>Date time applid Trannum</i> Validation of XML data for XMLTRANSFORM <i>Xmltransform_name</i> failed. The validation process returned the following message: ' <i>Message</i> '.
DFHML0508	<i>Date time applid Trannum</i> Validation of XML data for XMLTRANSFORM <i>Xmltransform_name</i> was successful.
DFHML0509	<i>Date time applid Userid Tranid</i> XMLTRANSFORM <i>xmltransform_name</i> for { <i>BUNDLE</i> <i>ATOMSERVICE</i> } <i>Owner_name</i> cannot be installed as one or more invalid characters exist in the resource name.
DFHML0510	<i>date time applid userid tranid</i> XMLTRANSFORM <i>xmltransform_name</i> for { <i>BUNDLE</i> <i>ATOMSERVICE</i> } <i>owner_name</i> is incompatible with the LOCALCCSID.
DFHM0209 E	<i>Date time applid</i> Unable to inquire on MQCONN. Eibfn= <i>X'eibfn'</i> eibresp= <i>Eibresp</i> eibresp2= <i>Eibresp2</i> eibrcode= <i>X'eibrcode'</i> .
DFHM0210 E	<i>Date time applid</i> Unable to inquire on MQINI. Eibfn= <i>X'eibfn'</i> eibresp= <i>Eibresp</i> eibresp2= <i>Eibresp2</i> eibrcode= <i>X'eibrcode'</i> .

Table 12. New messages in CICS Transaction Server for z/OS, Version 4 Release 1 (continued)

Message number	Message text
DFHMQ0218 W	Date time applid Obsolete INITPARM for program dfhmqprm detected. All dfhmqprm INITPARM values are ignored.
DFHMQ0303 E	Date time applid tranid module Modname could not be found.
DFHMQ0317	Date time applid CICS-MQ command is invalid. No MQCONN is installed.
DFHMQ0320I	Date time applid The CICS-MQ adapter cannot find mqname Id.
DFHMQ0324 I	Date time applid All queue managers in queue sharing group Qsg-name are inactive.
DFHMQ0325 I	Date time applid Call to CICS svc for CICS-MQ function failed.
DFHMQ0792 I	Date time applid tranid Trannum routemem=Routemem
DFHMQ2064	Date time applid Resynchronization outstanding for queue manager Qmgr1 after CICS-MQ group attach has connected to queue manager Qmgr2.
DFHMQ2100	Applid Program DFHMQRP cannot be found.
DFHMQ2101	Date time applid Terminal Userid tranid MQCONN Mqconn-name has been added.
DFHMQ2102	Date time applid Terminal Userid tranid MQCONN Mqconn-name has been replaced.
DFHMQ2103	Date time applid Terminal Userid tranid MQCONN Mqconn-name has been deleted.
DFHMQ2107	Date time applid Terminal Userid tranid MQINI Mqini-name has been added.
DFHMQ2108	Date time applid Terminal Userid tranid MQINI Mqini-name has been replaced.
DFHMQ2109	Date time applid Terminal Userid tranid MQINI Mqini-name has been deleted.
DFHPA1947	applid A PSDINT value greater than zero was specified with PSTYPE=NOPS. PSDINT has been reset to 0.
DFHPI0116	Date time applid A one-way request has been received as a WebSphere MQ persistent message, but the provider pipeline has abended or backed out changes to recoverable resources. The BTS process Processname of processtype Processtype has completed with status abended and this process can be re-tried or used to provide information for reporting the failure.
DFHPI0117	Date time applid BTS process Processname of processtype Processtype, which has completed with status abended, has been cancelled. A provider pipeline started with a persistent WebSphere MQ message has abended or backed out, but a response has been sent to the requester.
DFHPI0118	Applid CICS has attempted to use BTS processes to support pipelines started with WebSphere MQ persistent messages. This attempt failed. CICS will continue, using channel based containers for the pipeline, but there is a risk of data loss in the event of a system failure. Ensure that BTS processtype, repository and local request queue are correctly defined and installed.
DFHPI0119	Date time applid the XML toolkit could not be loaded. Some configurations of the CICS supplied WS-security handler are not usable.
DFHPI0450	Date time applid tranid The CICS transport mechanism in the pipeline was unable to successfully handle the request because of an invalid URI.
DFHPI0451	Date time applid tranid The CICS transport manager DFHPITS encountered an error while trying to link to program Program_name.
DFHPI0452	date time applid tranid The CICS transport manager encountered an error while trying to locate URIMAP with HOST=localhost and PATH=urimap_path.
DFHPI0453	date time applid tranid The CICS transport manager encountered an error while trying to use URIMAP urimap_name.
DFHPI0454	date time applid tranid The CICS transport manager encountered an error while trying to use provider pipeline pipeline_name.

Table 12. New messages in CICS Transaction Server for z/OS, Version 4 Release 1 (continued)

Message number	Message text
DFHPI0455	<i>date time applid tranid</i> The CICS transport manager encountered an error while trying to use requester pipeline <i>pipeline_name</i> .
DFHPI0456	<i>date time applid tranid</i> The CICS transport manager encountered an error with the input data being greater than the maximum COMMAREA length.
DFHPI0457	<i>date time applid tranid</i> The CICS transport manager was unable to successfully handle the request because of the missing <i>targetServiceUri</i> parameter in the URI.
DFHPI0514	<i>Date time applid tranid</i> The CICS pipeline manager has failed to find the required credentials in a request. An element <i>Local_name</i> , in namespace: <i>Namespace</i> , was expected.
DFHPI0727	<i>date time applid userid</i> PIPELINE <i>pipeline</i> cannot be installed as it requires support for ICRX based identity tokens and these are not supported by the platform.
DFHPI0732	<i>Date time applid</i> A request to rollback unit of work - <i>X'uwoid'</i> has been received from a remote WS-AT coordinating transaction.
DFHPI0733	<i>Date time applid</i> A transaction timed out while waiting for a prepare message from a remote WS-AT coordinator. The unit of work - <i>X'uwoid'</i> will be rolled back.
DFHPI0801I E	<i>Date time applid</i> A one way message has been found in an atomic transaction message exchange for transaction <i>Tran</i> .
DFHPI0917 W	<i>date time applid userid</i> WEBSERVICE <i>webservice</i> might perform unpredictably as the PIPELINE <i>pipeline</i> is non-SOAP.
DFHPI0999	<i>Date time applid tranid</i> The CICS pipeline manager has encountered a problem with file DFHPIDIR: { <i>the file was not found</i> <i>The file key length was too small</i> <i>The file record size was too small</i> <i>The file is full</i> <i>The file control record is full</i> <i>File recovery mode was not backout</i> <i>There was an internal error</i> <i>File failed to open or connect</i> }.
DFHPI1000	<i>Date time applid</i> The outbound router program, DFHPIRT, has detected an invalid URI in the DFHWS-STSACTION container. The URI was ' <i>Uri</i> '.
DFHPI1020E	<i>Date time applid tranid</i> The CICS handling program for the http://www.ibm.com/xmlns/prod/CICS/bundle/SCACOMPOSITE resource type failed to create resource <i>Resource_name</i> in the bundle resource <i>Bundle_name</i> because CICS failed to parse the SCDL resource definition <i>Scdl_path_name</i> specified in bundle root directory <i>Bundle_root</i> . { <i>the SCDL is not valid.</i> <i>Failed to convert the SCDL.</i> }
DFHPI2000 E	<i>Date time applid tranid</i> The installation of SCACOMPOSITE <i>Resource_name</i> in the bundle resource <i>Bundle_name</i> did not complete successfully. { <i>a WEBSERVICE wsbind file was not found.</i> <i>A WEBSERVICE name was a duplicate.</i> <i>A URIMAP has an invalid path.</i> <i>A URIMAP has a duplicate path.</i> <i>A binding combination was invalid.</i> <i>A binding did not provide required values.</i> <i>A service required for wiring was not found.</i> <i>A reference required for wiring was not found.</i> <i>A wire target was already wired.</i> <i>A service or reference name was a duplicate.</i> }
DFHPI2001 E	<i>Date time applid tranid</i> The installation of SCACOMPOSITE <i>Resource_name</i> in the bundle resource <i>Bundle_name</i> did not complete successfully. The bindfile could not be read. Bindfile: <i>Bindfile_name</i> ,binding: <i>Binding_name</i> .
DFHPI2002 E	<i>Date time applid tranid</i> The installation of SCACOMPOSITE <i>Resource_name</i> in the bundle resource <i>Bundle_name</i> did not complete successfully. A duplicate WEBSERVICE name was used in a binding. Webservice: <i>Webservice_name</i> ,binding: <i>Binding_name</i> .
DFHPI2003 E	<i>Date time applid tranid</i> The installation of SCACOMPOSITE <i>Resource_name</i> in the bundle resource <i>Bundle_name</i> did not complete successfully. A duplicate URIMAP path was used in a binding. Path: <i>Path_name</i> ,binding: <i>Binding_name</i> .
DFHPI2004 E	<i>Date time applid tranid</i> The installation of SCACOMPOSITE <i>Resource_name</i> in the bundle resource <i>Bundle_name</i> did not complete successfully. A invalid URIMAP path was used in a binding. Path: <i>Path_name</i> ,binding: <i>Binding_name</i> .
DFHPI2005 E	<i>Date time applid tranid</i> The installation of SCACOMPOSITE <i>Resource_name</i> in the bundle resource <i>Bundle_name</i> did not complete successfully. A binding attempted to wire to a target with an incompatible binding type. Target: <i>Target</i> ,binding: <i>Binding_name</i> .

Table 12. New messages in CICS Transaction Server for z/OS, Version 4 Release 1 (continued)

Message number	Message text
DFHPI2006 W	<i>Date time applid tranid</i> The installation of SCACOMPOSITE <i>Resource_name</i> in the bundle resource <i>Bundle_name</i> did not complete successfully. A wired binding did not provide a required value. Value type:{ <i>pipeline</i> <i>Uri</i> <i>Bindfile</i> } ,binding: <i>Binding_name</i> .
DFHPI2007 E	<i>Date time applid tranid</i> The installation of SCACOMPOSITE <i>Resource_name</i> in the bundle resource <i>Bundle_name</i> did not complete successfully. A wired binding targeted a service which could not be found. Target: <i>Target_name</i> ,binding <i>Binding_name</i> .
DFHPI2008 E	<i>Date time applid tranid</i> The installation of SCACOMPOSITE <i>Resource_name</i> in the bundle resource <i>Bundle_name</i> did not complete successfully. A wired binding targeted a reference which could not be found. Target: <i>Target_name</i> ,binding: <i>Binding_name</i> .
DFHPI2009 E	<i>Date time applid tranid</i> The installation of SCACOMPOSITE <i>Resource_name</i> in the bundle resource <i>Bundle_name</i> did not complete successfully. A wired binding targeted a service or reference which had already been wired. Target: <i>Target_name</i> ,binding: <i>Binding_name</i> .
DFHPI2011 E	<i>date time applid tranid</i> The installation of SCACOMPOSITE <i>resource_name</i> in the BUNDLE resource <i>bundle_name</i> did not complete successfully. No services or references could be found in the composite implementation <i>impl_comp</i> .
DFHPI2012 E	<i>date time applid tranid</i> The installation of SCACOMPOSITE <i>resource_name</i> in the BUNDLE resource <i>bundle_name</i> did not complete successfully. The prerequisite composite implementation <i>impl_comp</i> could not be found.
DFHPI2015 E	<i>Date time applid tranid</i> a attempt to directly invoke a service <i>Service_name</i> failed. { <i>the service is internal.</i> <i>The service cannot be invoked directly.</i> <i>The composite that defines the service is disabled.</i> <i>The service uses the web services binding.</i> }
DFHPI2016 E	<i>date time applid tranid</i> The installation of SCACOMPOSITE <i>resource_name</i> in the BUNDLE resource <i>bundle_name</i> did not complete successfully. A Web service binding was used to wire an internal reference to a service. Binding: <i>binding_name</i> .
DFHPI2018 E	<i>date time applid tranid</i> The installation of SCACOMPOSITE <i>resource_name</i> in the BUNDLE resource <i>bundle_name</i> did not complete successfully. The resource name must be the same as the composite name. Composite name: <i>composite_name</i> .
DFHPI2019 E	<i>date time applid tranid</i> The installation of SCACOMPOSITE <i>resource_name</i> in the BUNDLE resource <i>bundle_name</i> did not complete successfully. The SCDL encoding is invalid.
DFHPI2020 E	<i>date time applid tranid</i> The installation of SCACOMPOSITE <i>resource_name</i> in the BUNDLE resource <i>bundle_name</i> did not complete successfully. The SCDL is invalid.
DFHPI2021 W	<i>date time applid tranid</i> The installation of SCACOMPOSITE <i>resource_name</i> in the BUNDLE resource <i>bundle_name</i> might not complete successfully. { <i>A composite name was not provided.</i> <i>An internal reference name was not provided.</i> <i>An internal reference target was not provided.</i> <i>An internal service name was not provided.</i> <i>An external reference name was was not provided.</i> <i>An external reference promote was not provided.</i> <i>An external reference target was not provided.</i> <i>An external service name was not provided.</i> <i>An external service promote was not provided.</i> }
DFHPI2022 W	<i>date time applid tranid</i> The SCACOMPOSITE <i>resource_name</i> in the BUNDLE resource <i>bundle_name</i> defined an unsupported attribute in the SCDL. Attribute:{ <i>policySets.</i> <i>requires.</i> <i>Composite</i> <i>Service</i> <i>Reference</i> <i>Component</i> <i>Implementation</i> <i>Binding</i> }: <i>element_name</i> .
DFHPI2023 E	<i>date time applid tranid</i> The installation of SCACOMPOSITE <i>resource_name</i> in the BUNDLE resource <i>bundle_name</i> did not complete successfully. The mapping modes of { <i>reference</i> <i>service</i> } <i>element_name</i> and { <i>reference</i> <i>service</i> } <i>element_name</i> must be identical.
DFHPI2024	<i>date time applid tranid</i> BUNDLE resource <i>bundle_name</i> cannot be enabled because one or more resources in the BUNDLE were not created successfully.
DFHPI2025 W	<i>date time applid tranid</i> An INVOKE SERVICE call failed because it used an unwired reference. Reference: <i>reference_name</i> , Scope: <i>scope_name</i> .

Table 12. New messages in CICS Transaction Server for z/OS, Version 4 Release 1 (continued)

Message number	Message text
DFHPI2026 E	<i>date time applid tranid</i> The installation of SCACOMPOSITE <i>resource_name</i> in the BUNDLE resource <i>bundle_name</i> did not complete successfully. The prerequisite composite implementation <i>impl_comp</i> does not have any components defined.
DFHPI2027 E	<i>date time applid tranid</i> The installation of SCACOMPOSITE <i>resource_name</i> in the BUNDLE resource <i>bundle_name</i> did not complete successfully. The composite name is a duplicate of an existing composite.
DFHPI9033 E	Duplicate elements with the same name in the same scope are not supported. The duplicated name is <i>Name</i> .
DFHPI9034 W	Schema type <i>Type</i> is being restricted to a total of <i>Value</i> digits.
DFHPI9035 E	XML schema element cannot be found in document <i>Document</i> .
DFHPI9036 W	Abstract data types are not supported. Problems may be experienced with type <i>Type</i> in element <i>Element</i> .
DFHPI9037 E	XML schema model groups are not supported within <choice> structures. Problem found in type <i>Type</i> .
DFHPI9038 E	The number of options for an enumerated set of options exceeds the maximum supported value of 255.
DFHPI9039 E	Substitution groups within xsd:choice constructs are not supported. The substitution group name is <i>Name</i> .
DFHPI9664 E	The value specified for parameter <i>Parameter</i> is invalid. Valid values are: <i>Values</i> .
DFHPI9665 E	The WSDL binding for operation <i>Operation</i> specifies an invalid message. <i>Messagefound</i> was found, but <i>Messageexpected</i> was expected.
DFHPI9666 E	A complextype can not contain more than one 'any' type. Problem found in type: ' <i>Type</i> '.
DFHPI9667 E	The supplied WSDL contains an 'any' or 'anytype' element. This is only supported when 'pgmint' is set to 'channel'.
DFHPI9668 E	Invalid value specified for the XML-only parameter. Valid values are: true or false.
DFHPI9669 E	Global XML element <i>Element</i> not found.
DFHPI9670 E	No global XML elements or types have been processed.
DFHPI9671 E	Mismatch between WS-Addressing action and soap action for operation <i>Operation</i> .
DFHPI9672 E	Mismatch between WS-Addressing endpoint reference address and port address.
DFHPI9673 E	Mismatch between WS-Addressing endpoint reference address and endpoint address.
DFHPI9674 E	Non-abstract global XML type <i>Type</i> not found.
DFHPI9675 E	Multiple WS-Addressing endpoint references exist.
DFHPI9676 E	The supplied WSDL contains constructs that are only supported when 'PGMINT' is set to 'CHANNEL'.
DFHPI9677 E	Invalid WS-Addressing endpoint reference element <i>Element</i> .
DFHPI9679 E	Invalid WS-Addressing endpoint reference element, 'address' element not found.
DFHPI9680 W	The minimum-runtime-level is less than 3.0. The WS-Addressing content in the WSDL is ignored.
DFHPI9681 E	Invalid value specified for the 'WSADDR-EPR-ANY' parameter. Valid values are: 'TRUE' or 'FALSE'.
DFHPI9682 W	Container names beginning 'DFH' should not be used in channel description documents. The problem is for container ' <i>containerName</i> '.
DFHPI9683 W	Bundle directory <i>Dirname</i> already exists and may contain files that are inconsistent with the new bundle manifest file.

Table 12. New messages in CICS Transaction Server for z/OS, Version 4 Release 1 (continued)

Message number	Message text
DFHPI9684 W	The value of the XSDBIND parameter indicates a directory name of <i>Dirname</i> . This is ignored as the xsdbind file is being generated into a bundle.
DFHPI9800 E	The service registry client has not been initialized.
DFHPI9801 E	A document with a matching name, namespace and version already exists within the registry. The publish step was not run.
DFHPI9802 E	The setting of the registry endpoint was not successful.
DFHPI9803 W	Greater than 250 custom properties have been defined; the first 250 are used.
DFHPI9804 E	When retrieving a document from a registry a fault was returned with message <i>Faultmessage</i> .
DFHPI9805 E	An attempt to retrieve a document from a registry failed with reason <i>Failreason</i> .
DFHPI9806 E	The WSDL file was not found at the specified location.
DFHPI9807 E	The WSDL file can not be read in the CCSID specified.
DFHPI9808 E	The WSDL file could not be used due to an ioexception.
DFHPI9809 E	When querying a registry a fault was returned with message <i>Faultmessage</i> .
DFHPI9810 E	An attempt to query a registry failed with reason <i>Failreason</i> .
DFHPI9811 I	The document <i>Docname</i> has been found in the registry with unique identifier <i>Docuri</i> .
DFHPI9812 W	Multiple documents matching the query have been found. The first will be used.
DFHPI9813 E	When publishing to a registry a fault was returned with message <i>Faultmessage</i> .
DFHPI9814 E	An attempt to publish to a registry failed with reason <i>Failreason</i> .
DFHPI9815 I	Starting <i>Requesttype</i> Web service request.
DFHPI9816 I	Response received for <i>Requesttype</i> Web service request.
DFHPI9817 I	The WSRR-SERVER location is <i>Wsrrserver</i> .
DFHPI9818 I	Custom property set with name <i>Propertyname</i> and value <i>Propertyvalue</i> .
DFHPI9819 I	Starting write of file <i>Filename</i> .
DFHPI9820 E	An ioexception occurred when attempting to write file <i>Filename</i> .
DFHPI9821 E	No document matched name <i>Filename</i> , namespace <i>Xmlns</i> , and version <i>Version</i> .
DFHPI9822 E	The parameter <i>Parametername</i> has an invalid value of <i>Value</i> .
DFHPI9823 W	Publishing of WSDL 2.0 documents to WSRR is not supported. The document <i>Documentname</i> has not been published.
DFHRD0128 I	<i>date time applid terminal userid tranid</i> INSTALL BUNDLE(<i>bundle-name</i>)
DFHRD0129 I	<i>date time applid terminal userid tranid</i> INSTALL ATOMSERVICE(<i>atomservice-name</i>)
DFHRD0130 I	<i>date time applid terminal userid tranid</i> INSTALL MQCONN(<i>mqconn-name</i>)
DFHRD0131 I	<i>date time applid terminal userid tranid</i> INSTALL JVMSERVER(<i>jvmserver-name</i>)
DFHRL0001	<i>Applid</i> An abend (code <i>Aaa/bbbb</i>) has occurred at offset <i>X'offset'</i> in module <i>Modname</i> .
DFHRL0002	<i>Applid</i> A severe error (code <i>X'code'</i>) has occurred in module <i>Modname</i> .
DFHRL0101 E	<i>date time applid tranid</i> The CICS resource life-cycle manager encountered an error while trying to link to program <i>program_name</i> . { <i>The program abended. The program was not defined. The program was not enabled. The program was not loadable. No further details are available.</i> }
DFHRL0102 E	<i>date time applid tranid</i> The CICS resource life-cycle manager failed to create the resource <i>resource_name</i> and returned with reason <i>reason</i> .

Table 12. New messages in CICS Transaction Server for z/OS, Version 4 Release 1 (continued)

Message number	Message text
DFHRL0103 E	<i>date time applid tranid</i> The CICS resource life-cycle manager failed to create the BUNDLE resource <i>bundle_name</i> because the manifest <i>manifest_file</i> specified in the bundle root directory was not found.
DFHRL0104 E	<i>date time applid tranid</i> The CICS resource life-cycle manager failed to create the BUNDLE resource <i>bundle_name</i> because CICS is not authorized to read the resource <i>path_name</i> defined in the bundle manifest.
DFHRL0105 E	<i>date time applid tranid</i> The CICS resource life-cycle manager failed to create the BUNDLE resource <i>bundle_name</i> because the resource <i>path_name</i> defined in the bundle manifest was not found.
DFHRL0106 E	<i>date time applid tranid</i> The CICS resource life-cycle manager failed to create the BUNDLE resource <i>bundle_name</i> because CICS is not authorized to read the manifest <i>manifest_file</i> in the root directory of the bundle.
DFHRL0107 I	<i>date time applid userid</i> The CICS resource life-cycle manager has started to create the BUNDLE resource <i>bundle_name</i> .
DFHRL0108 I	<i>date time applid tranid</i> The CICS resource life-cycle manager is in the process of creating the BUNDLE resource <i>bundle_name</i> and the BUNDLE is in the <i>state</i> state.
DFHRL0109 I	<i>date time applid tranid</i> The CICS resource life-cycle manager has created the BUNDLE resource <i>bundle_name</i> and the BUNDLE is in the <i>state</i> state.
DFHRL0110 E	<i>date time applid tranid</i> The CICS resource life-cycle manager has failed to create the BUNDLE resource <i>bundle_name</i> .
DFHRL0111 E	<i>date time applid tranid</i> The CICS resource life-cycle manager failed to create the resource <i>resource_name</i> because the resource type <i>resource_type</i> has not been registered.
DFHRL0112 E	<i>date time applid tranid</i> The encoding of the manifest <i>manifest_name</i> in the root directory of the bundle <i>bundle_name</i> is not valid.
DFHRL0113 E	<i>date time applid tranid</i> The CICS resource life-cycle manager failed to create the BUNDLE resource <i>bundle_name</i> because CICS failed to parse the manifest <i>manifest_name</i> specified in the bundle root directory. { <i>The manifest is not valid. Failed to convert the manifest.</i> }
DFHRL0114 W	<i>date time applid tranid</i> The CICS resource life-cycle manager detected a missing import for BUNDLE resource <i>resource_name</i> . Import name: <i>import_name</i> type: <i>import_type</i> .
DFHRL0115 W	<i>date time applid tranid</i> The attempt to { <i>enable disable discard</i> } the BUNDLE <i>bundle_name</i> failed because one or more its defined resources are in an { <i>ENABLED UNUSABLE</i> } state.
DFHRL0116 E	<i>applid</i> The CICS resource life-cycle bundle class failed to re-create the BUNDLE resource <i>bundle_name</i> because the manifest <i>manifest_file</i> specified in the bundle was not found.
DFHRL0117 E	<i>applid</i> The CICS resource life-cycle bundle class failed to re-create the BUNDLE resource <i>bundle_name</i> because CICS is not authorized to read the manifest <i>manifest_file</i> .
DFHRL0118 E	<i>applid</i> The CICS resource life-cycle bundle class has failed to re-create the BUNDLE resource <i>bundle_name</i> .
DFHRL0119 E	<i>applid</i> The CICS resource life-cycle bundle class failed to re-create the BUNDLE resource <i>bundle_name</i> because of failed consistency checks with the manifest <i>manifest_file</i> .
DFHRL0120 W	<i>date time applid tranid</i> The import of resource <i>resource_name</i> of type <i>type_name</i> failed as the resource was not available in an enabled state.
DFHRL0121 W	<i>date time applid tranid</i> The CICS resource life-cycle manager detected that a composite name was not provided in the BUNDLE resource <i>bundle_name</i> .
DFHRM0402	<i>date time applid</i> UOWID:X'luowid' found.
DFHRM0403	<i>date time applid</i> UOWID:X'luowid' recovered for resolution, current status: <i>uowstatus</i> , tasknum: <i>tasknum</i> , tranid: <i>tranid</i> , Net UOWID: <i>networkuowid</i>

Table 12. New messages in CICS Transaction Server for z/OS, Version 4 Release 1 (continued)

Message number	Message text
DFHRM0404	<i>date time applid</i> UOWID:X'luowid' is resolved, status: <i>uowstatus</i> , tasknum: <i>tasknum</i> , tranid: <i>tranid</i> , Net UOWID: <i>networkuowid</i>
DFHRM0405	<i>date time applid</i> Keypoint recovered. All relevant UOWs have been identified. Scan continuing for full recovery.
DFHRS0001	<i>Applid</i> An abend (code <i>Aaa/bbbb</i>) has occurred at offset X' <i>offset</i> ' in module <i>Modname</i> .
DFHRS0002	<i>Applid</i> A severe error (code X' <i>code</i> ') has occurred in module <i>Modname</i> .
DFHSJ0004	<i>applid</i> A possible loop has been detected at offset X' <i>offset</i> ' in module <i>modname</i> .
DFHSJ0207	<i>date time applid</i> CICS is running Java version <i>version</i> .
DFHSJ0910	<i>date time applid userid</i> JVMSERVER <i>jvmserver</i> has been created.
DFHSJ0911	<i>date time applid userid</i> JVMSERVER <i>jvmserver</i> was not created because { <i>there is insufficient storage. there is a directory domain error. a lock cannot be obtained. there is a duplicate resource error.</i> }
DFHSJ0912	<i>date time applid userid</i> JVMSERVER <i>jvmserver</i> was successfully discarded.
DFHSJ0913	<i>date time applid userid</i> JVMSERVER <i>jvmserver</i> is being discarded.
DFHSJ0914 E	<i>date time applid userid</i> JVMSERVER <i>jvmserver</i> is DISABLED because { <i>the JVM server was not found. CICS is not authorized to read the JVM profile. the CJSR transaction could not be attached. there is insufficient storage available. the activate mode failed. the add of the TP tcb failed. the change mode to the TP tcb failed. the Language Environment Enclave was not created. there was a runtime options failure. there was a failure updating the JVMProfile table. there were insufficient threads available.</i> }
DFHSJ0915	<i>date time applid userid</i> JVMSERVER <i>jvmserver</i> is now enabled and is ready for use.
DFHSJ0916 W	<i>date time applid userid</i> the requested thread limit for JVMSERVER <i>jvmserver</i> exceeds the maximum available. The thread limit is set to the maximum available.
DFHSJ0917	<i>date time applid userid</i> JVMSERVER <i>jvmserver</i> is disabled.
DFHSJ0918	<i>date time applid userid</i> JVMSERVER <i>jvmserver</i> is being disabled.
DFHSJ1001	<i>date time applid userid</i> An attempt to attach a thread to JVMSERVER <i>jvmserver</i> has failed. Return code: <i>return_code</i> .
DFHSJ1002	<i>date time applid userid</i> The class <i>classname</i> that was specified to be run in JVMSERVER <i>jvmserver</i> cannot be found.
DFHSJ1003	<i>date time applid userid</i> An attempt to locate the <i>method_name</i> method in class <i>classname</i> has failed, for JVMSERVER <i>jvmserver</i> .
DFHSJ1004	<i>date time applid userid</i> An exception has been thrown by the <i>method_name</i> method of class <i>classname</i> running in JVMSERVER <i>jvmserver</i> .
DFHSJ1005	<i>date time applid userid</i> An attempt to detach a thread from JVMSERVER <i>jvmserver</i> has failed. Return code: <i>return_code</i> .
DFHSJ1006	<i>date time applid userid</i> An attempt to attach to JVMSERVER <i>jvmserver</i> has failed because { <i>the channel name used is invalid the JVMSERVER name is missing the JVMSERVER name is too long the userclass name is missing the user channel is invalid the XML in the PIPELINE configuration file is invalid the JVMSERVER does not exist the JVMSERVER is not enabled the wrapper class cannot be found the transaction abended the attach of the thread failed the wrapper method was not found the detach of the thread failed the JVM threw an exception the DFH-HANDLERPLIST container is missing the thread was forced to terminate abnormally the thread could not be created the JVMSERVER failed to start the OSGi service</i> }.
DFHSO0118	<i>applid</i> The GETHOSTBYADDR call to resolve IP address <i>IP_ADDRESS</i> to a host name took over 3 seconds to complete.

Table 12. New messages in CICS Transaction Server for z/OS, Version 4 Release 1 (continued)

Message number	Message text
DFHSO0130	DATE TIME APPLID A TCP/IP accept call has failed. The TCPIPSERVICE <i>Tcpipservice</i> on port <i>Portnumber</i> at IP address <i>Ipaddress</i> will be closed. The values returned are <i>bpx_return_value</i> (<i>Bpx_return_value</i>), <i>bpx_return_code</i> (<i>Bpx_return_code</i>), and <i>bpx_reason_code</i> (<i>Bpx_reason_code</i>).
DFHSO0133	<i>date time applid</i> TCPIPSERVICE <i>tcpipservice</i> has been installed.
DFHSO0134A	<i>applid</i> TCPIPSERVICE <i>ttttttt</i> was not restored because its certificate is invalid.
DFHUS0100	<i>applid</i> CICS is unable to listen for ENF event 71. Changing a users RACF attributes will only take effect after the USERDELAY timeout.
DFHWB0763	<i>date time applid tranid</i> The URIMAP associated with the HTTP request is disabled. Host IP address: <i>hostaddr</i> . Client IP address: <i>clientaddr</i> .
DFHWB0764	<i>date time applid tranid</i> An attempt was made to use URIMAP <i>urimap</i> which is disabled.
DFHWU0910	<i>applid</i> Instruction address <i>X'aaaaaaa'</i> , offset <i>X'offset'</i> in CSECT <i>csect</i> .
DFHWU0911	<i>applid</i> EC Mode PSW at time of abend: <i>PSW1 PSW2 PSW3 PSW4</i>
DFHWU0912	<i>applid</i> Execution key: <i>key</i> , abend reason code <i>X'reason'</i> .
DFHWU0913	<i>applid</i> Execution mode: <i>mode</i> . BEAR: <i>X'bear'</i> .
DFHWU0914	<i>applid</i> Registers <i>R1-R2</i> : <i>REG1VAL REG2VAL</i>
DFHWU0915	<i>applid</i> Branch to low address; using <i>R14</i> for PSW.
DFHWU0916	<i>applid</i> Storage around PSW at time of abend
DFHWU0917	<i>applid offset location data1 data2 data3 data4</i>
DFHWU0918	<i>applid</i> Abend while dumping storage; PSW probably not valid.
DFHWU0919	<i>applid</i> Transaction: <i>tran</i> . Task: <i>task</i> .
DFHWU0920	<i>applid</i> Abend recovery completed successfully.
DFHWU4001	The URI that has been specified has exceeded the maximum allowable length of 256 bytes.
DFHWU4002	The body of the HTTP request was not specified.The body of the HTTP request was not specified.
DFHWU4003	An unknown query parameter was specified in the URI. name: <i>parmname</i> value: <i>parmvalue</i>
DFHWU4005	The result cache token was missing from the URI.
DFHWU4006	The resource name was missing from the URI.
DFHWU4007	The body of the HTTP request was not specified correctly.
DFHWU4008	An action was specified in the HTTP body that was not valid. ACTION value: <i>action</i>
DFHWU4009	The record index was specified for a non-cached result. RECORDINDEX value: <i>recordindex</i>
DFHWU4010	The record index specified in the URI was not valid. RECORDINDEX value: <i>recordindex</i>
DFHWU4011	The record count specified in the URI was not valid. RECORDCOUNT value: <i>recordcount</i>
DFHWU4012	Extraneous data was detected at the end of the URI. EXTRADATA value: <i>data</i>
DFHWU4013	Multiple CRITERIA expressions were found in the URI.
DFHWU4014	Multiple PARAMETER expressions were found in the URI.
DFHWU4016	Multiple NODISCARD expressions were found in the URI.
DFHWU4017	NODISCARD is valid only for HTTP GET requests.
DFHWU4018	<i>applid</i> Abend while dumping storage; PSW probably not valid.
DFHWU4019	PARAMETER is not valid for HTTP POST requests.
DFHWU4020	Multiple SUMMONLY expressions were found in the URI.

Table 12. New messages in CICS Transaction Server for z/OS, Version 4 Release 1 (continued)

Message number	Message text
DFHWU4021	CRITERIA is not valid for result cache operations. CRITERIA value: <i>criteria</i>
DFHWU4022	PARAMETER is not valid for result cache operations. PARAMETER value: <i>parameter</i>
DFHWU4025	A specified attribute was not valid for this resource.
DFHWU4026	The DEFVER attribute was not specified or was specified with a value of zero.
DFHWU4027	A value of a specified attribute was out-of-range or not valid.
DFHWU4029	The result cache token specified exceeded its maximum allowable length. CACHETOKEN value: <i>cachetoken</i>
DFHWU4030	The resource name was not specified in the URI.
DFHWU4031	Multiple ORDERBY expressions were found in the URI.
DFHWU4032	ORDERBY is valid only for HTTP GET requests.
DFHWU4300	The result cache token specified in the URI does not belong to the user who made the request.
DFHWU4301	It is not possible to run requests in this environment. This region is not configured correctly.
DFHWU4302	The requested record count will exceed the current default warning count limit. <i>current_record_count</i> value: <i>currcount</i> <i>default_warning_count</i> value: <i>warncount</i>
DFHWU4400	The resource specified in the URI could not be found.
DFHWU4401	The result cache record specified could not be found.
DFHWU4402	The result cache specified could not be found.
DFHWU4500	A method has been specified that is not valid for the URI sent to the CICS management client interface. METHOD value: <i>method</i>
DFHWU5000	There was insufficient GCDSA storage available to complete the request.
DFHWU5001	The CICS management client interface server has gone Short On Storage BELOW the bar.
DFHWU5002	An internal error has occurred in the CICS management client interface.
DFHW20001	APPLID AN ABEND (CODE AAA/B BBB) HAS OCCURRED AT OFFSET X'OFFSET' IN MODULE MODNAME.
DFHW20002	APPLID A SEVERE ERROR (CODE X'CODE') HAS OCCURRED IN MODULE MODNAME.
DFHW20004	APPLID A POSSIBLE LOOP HAS BEEN DETECTED AT OFFSET X'OFFSET' IN MODULE MODNAME.
DFHW20006	APPLID INSUFFICIENT STORAGE TO SATISFY GETMAIN(CODE X'CODE') IN MODULE MODNAME. MVS CODE MVSCODE.
DFHW20100I	APPLID WEB2.0 DOMAIN INITIALIZATION HAS STARTED.
DFHW20101I	APPLID WEB2.0 DOMAIN INITIALIZATION HAS ENDED.
DFHW20110	<i>date time applid userid</i> ATOMSERVICE <i>atomservice</i> has been created.
DFHW20111	<i>date time applid userid</i> ATOMSERVICE <i>atomservice</i> was successfully discarded.
DFHW20120	<i>date time applid</i> Configuration file <i>filename</i> is being analyzed for ATOMSERVICE <i>atomservice</i> .
DFHW20121	<i>date time applid</i> Configuration file <i>filename</i> for ATOMSERVICE <i>atomservice</i> was not found.
DFHW20122	<i>date time applid</i> The XML in the configuration file for ATOMSERVICE <i>atomservice</i> is not well-formed. Response codes from the XML System Services parser are (X' <i>return-code</i> ', X' <i>reason-code</i> ').
DFHW20123	<i>date time applid</i> Configuration error for ATOMSERVICE <i>atomservice</i> . Namespace URI <i>ns-uri</i> is not recognized.

Table 12. New messages in CICS Transaction Server for z/OS, Version 4 Release 1 (continued)

Message number	Message text
DFHW20124	<i>date time applid</i> Configuration error for ATOMSERVICE <i>atomservice</i> . XML element <i>element</i> is not recognized.
DFHW20125	<i>date time applid</i> Configuration error for ATOMSERVICE <i>atomservice</i> . The XML root element is not valid.
DFHW20126	<i>date time applid</i> Configuration error for ATOMSERVICE <i>atomservice</i> . Child element <i>prefix1:element1</i> is not valid within element <i>prefix2:element2</i> .
DFHW20127	<i>date time applid</i> Configuration error for ATOMSERVICE <i>atomservice</i> . Attribute <i>prefix1:attr1</i> is not valid on element <i>prefix2:element2</i> .
DFHW20128	<i>date time applid</i> Configuration error for ATOMSERVICE <i>atomservice</i> . Attribute <i>prefix1:attr1</i> on element <i>prefix2:element2</i> has incorrect value <i>attrval</i> .
DFHW20129	<i>date time applid</i> Configuration error for ATOMSERVICE <i>atomservice</i> . Required attribute <i>prefix1:attr1</i> was not found on element <i>prefix2:element2</i> .
DFHW20130	<i>date time applid</i> Configuration error for ATOMSERVICE <i>atomservice</i> . Required element <i>prefix1:element1</i> with attributes <i>!attrib-list</i> was not found within element <i>prefix2:element2</i> .
DFHW20131	<i>date time applid</i> Configuration error for ATOMSERVICE <i>atomservice</i> . Child element <i>prefix1:element1</i> occurs multiple times within element <i>prefix2:element2</i> .
DFHW20133	<i>date time applid</i> Configuration error for ATOMSERVICE <i>atomservice</i> . The value of the attribute <i>attr1</i> on element <i>prefix2:element2</i> does not match the value of the attribute <i>attr3</i> in the ATOMSERVICE definition.
DFHW20141	<i>date time applid</i> The bind file <i>filename</i> for ATOMSERVICE <i>atomservice</i> was not found.
DFHW20142	<i>date time applid</i> CICS is not authorized to access {CONFIGFILE BINDFILE} <i>filename</i> for ATOMSERVICE <i>atomservice</i> .
DFHW20151	<i>date time applid</i> Service program <i>service-prog</i> terminated abnormally with abend code <i>abcode</i> processing <i>req-method</i> for ATOMSERVICE <i>atomserv</i> .
DFH5137 E	Group <i>Grpname</i> not found in list <i>listid</i>
DFH5297 E	<i>command</i> is no longer supported.
DFH5559 W	Host conflicts with <i>ipaddress</i> . Host takes precedence.
DFH5560 W	Command not executed. <i>Port_attribute</i> conflicts with port number found in host attribute.

Chapter 43. New abend codes

CICS Transaction Server for z/OS, Version 4 Release 1 has these new abend codes.

New abend codes in CICS Transaction Server for z/OS, Version 4 Release 1

Table 13. New abend codes in CICS Transaction Server for z/OS, Version 4 Release 1

Abend code	Abend text
AALA	An error (INVALID, DISASTER, or unexpected EXCEPTION response) has occurred on a call to the Atomservice Manager. The domain that detected the original error provides a trace entry and possibly a system dump (depending on the options specified in the dump table).
AALC	An error (INVALID, DISASTER, or unexpected EXCEPTION response) has occurred on a call to the JVM server resource manager. The domain that detected the original error provides a trace entry and possibly a system dump (depending on the options specified in the dump table).
AAM4	An error (INVALID, DISASTER, or unexpected EXCEPTION response) has occurred on a call to the Resource Lifecycle Manager. The domain that detected the original error provides a trace entry and possibly a system dump (depending on the options specified in the dump table).
ACRQ	An attempt has been made to route unsupported function across an IPIC connection. If message DFHIS1035 is issued immediately before the ACRQ abend, the ACRQ abend is caused by an attempt to route to a backlevel release. If message DFHIS1035 is not issued, the ACRQ abend is caused by an attempt to route an APPC device.
AECA	An attempt has been made to run one of the CICS internal EP adapter transactions, CEPQ or CEPT, as a user transaction.
AECC	An error occurred while emitting an event. This problem is likely to have been caused by an error in the specification of the event or in the configuration of the EP adapter.
AECO	An unexpected error occurred while emitting an event.
AECY	The task was purged before a request to the storage manager (SM) domain was able to complete successfully. The domain that first detected the purged condition will have provided an exception trace.
AECZ	An error (INVALID, DISASTER or unexpected EXCEPTION response) has occurred on a call to the storage manager (SM) domain. The domain that detected the original error will have provided an exception trace, a console message and, possibly, a system dump (depending on the options specified in the dump table).
AEPD	An unexpected error occurred while dispatching events.
AEPM	An attempt was made to attach a CICS EP dispatcher task, but the transaction was not attached internally by CICS.
AEPO	An unexpected error occurred in the EP dispatcher event queue server task.
AFDK	A file control update request was made against an NSR file while transaction isolation was active for the task. Using NSR files with transaction isolation active is not supported. The TRANISO system initialization parameter is YES and the transaction definition has ISOLATE set to YES.
AIPM	The transaction was connected to another transaction in another CICS system by means of an IPIC link. This other transaction has abnormally stopped.

Table 13. New abend codes in CICS Transaction Server for z/OS, Version 4 Release 1 (continued)

Abend code	Abend text
AIPN	IP interconnectivity program DFHISLQP has been initiated incorrectly, probably by entering a transaction ID that refers to it, CISQ, at a terminal. This program must be initiated only by CICS internal processes.
AIPO	IP interconnectivity program DFHISLQP has been initiated with incorrect attach parameters by CICS internal processes. This initiation be the result of a configuration error or a storage overwrite.
AIPP	IP interconnectivity program DFHISLQP received an INVALID, DISASTER, or EXCEPTION response from a call to the intersystems communication (IS) domain to process requests that are locally queued for an IPCONN.
AIPR	IP interconnectivity program DFHISLQP received an PURGED response from a call to the intersystems communication (IS) domain to acquire or release an IPCONN.
ALIL	CICS has tried to change to an OPEN TCB on which to run the JAVA, XPLINK, or OPENAPI program, but the change mode was unsuccessful. CICS might be short-on-storage and have insufficient storage to allow creation of the new TCB.
AKEJ	A backlevel XPI call has been detected by the kernel (KE) domain.
ASJO	The JVM server resolution transaction CJSR, has encountered an internal error. The CICS system transaction CJSR provides support for initializing new JVM servers. If this fails, it is likely that there is an underlying error with the CICS system.
AW2A	The DFHW2A Web 2.0 alias program ran in a transaction that was not attached by CICS Web support. This is typically caused by attempting to issue the CW2A transaction directly from a terminal. This is not supported.
AW2B	The CICS-supplied Atom service routines use the transaction work area to contain the responses that are returned to the Atom feed manager. The service routine has determined that the transaction work area is too small to contain the required responses.
AXFN	The user domain module, DFHUSAD, has returned a condition not expected by DFHXFX.
AXFV	The user domain module, DFHUSAD, has returned a condition not expected by DFHXFX.

Chapter 44. Deleted abend codes

These abend codes are discontinued in CICS Transaction Server for z/OS, Version 4 Release 1.

Deleted abend codes in CICS Transaction Server for z/OS, Version 4 Release 1

Table 14. Deleted abend codes in CICS Transaction Server for z/OS, Version 4 Release 1

Abend code	Abend text
AMQL	DFHMQCON issued a call to CICS enqueue domain to create an enqueue pool for use in later CICS-MQ adapter processing, but the call to enqueue domain failed.

Part 6. Appendixes

Notices

This information was developed for products and services offered in the U.S.A. IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

IBM World Trade Asia Corporation
Licensing
2-31 Roppongi 3-chome, Minato-ku
Tokyo 106, Japan

The following paragraph does not apply in the United Kingdom or any other country where such provisions are inconsistent with local law:

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore this statement may not apply to you.

This publication could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Licensees of this program who want to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact IBM United Kingdom Laboratories, MP151, Hursley Park, Winchester, Hampshire, England, SO21 2JN.

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Programming License Agreement, or any equivalent agreement between us.

Trademarks

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at Copyright and trademark information at www.ibm.com/legal/copytrade.shtml.

Java and all Java-based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates.

Microsoft, Windows, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Bibliography

CICS books for CICS Transaction Server for z/OS

General

CICS Transaction Server for z/OS Program Directory, GI13-0536
CICS Transaction Server for z/OS What's New, GC34-6994
CICS Transaction Server for z/OS Upgrading from CICS TS Version 2.3, GC34-6996
CICS Transaction Server for z/OS Upgrading from CICS TS Version 3.1, GC34-6997
CICS Transaction Server for z/OS Upgrading from CICS TS Version 3.2, GC34-6998
CICS Transaction Server for z/OS Installation Guide, GC34-6995

Access to CICS

CICS Internet Guide, SC34-7021
CICS Web Services Guide, SC34-7020

Administration

CICS System Definition Guide, SC34-6999
CICS Customization Guide, SC34-7001
CICS Resource Definition Guide, SC34-7000
CICS Operations and Utilities Guide, SC34-7002
CICS RACF Security Guide, SC34-7003
CICS Supplied Transactions, SC34-7004

Programming

CICS Application Programming Guide, SC34-7022
CICS Application Programming Reference, SC34-7023
CICS System Programming Reference, SC34-7024
CICS Front End Programming Interface User's Guide, SC34-7027
CICS C++ OO Class Libraries, SC34-7026
CICS Distributed Transaction Programming Guide, SC34-7028
CICS Business Transaction Services, SC34-7029
Java Applications in CICS, SC34-7025

Diagnosis

CICS Problem Determination Guide, GC34-7034
CICS Performance Guide, SC34-7033
CICS Messages and Codes, SC34-7035
CICS Diagnosis Reference, GC34-7038
CICS Recovery and Restart Guide, SC34-7012
CICS Data Areas, GC34-7014
CICS Trace Entries, SC34-7013
CICS Supplementary Data Areas, GC34-7015
CICS Debugging Tools Interfaces Reference, GC34-7039

Communication

CICS Intercommunication Guide, SC34-7018
CICS External Interfaces Guide, SC34-7019

Databases

CICS DB2 Guide, SC34-7011
CICS IMS Database Control Guide, SC34-7016

CICSplex SM books for CICS Transaction Server for z/OS

General

CICSplex SM Concepts and Planning, SC34-7044
CICSplex SM Web User Interface Guide, SC34-7045

Administration and Management

CICSplex SM Administration, SC34-7005
CICSplex SM Operations Views Reference, SC34-7006
CICSplex SM Monitor Views Reference, SC34-7007
CICSplex SM Managing Workloads, SC34-7008
CICSplex SM Managing Resource Usage, SC34-7009
CICSplex SM Managing Business Applications, SC34-7010

Programming

CICSplex SM Application Programming Guide, SC34-7030
CICSplex SM Application Programming Reference, SC34-7031

Diagnosis

CICSplex SM Resource Tables Reference, SC34-7032
CICSplex SM Messages and Codes, GC34-7035
CICSplex SM Problem Determination, GC34-7037

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
CICS Family: Interproduct Communication, SC34-6853
CICS Family: Communicating from CICS on System/390, SC34-6854
CICS Transaction Gateway for z/OS Administration, SC34-5528
CICS Family: General Information, GC33-0155
CICS 4.1 Sample Applications Guide, SC33-1173
CICS/ESA 3.3 XRF Guide, SC33-0661

Accessibility

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.

Index

A

abend codes, deleted 215
abend codes, new 213
ABSTIME 15
ACTTHRDTCBS
 CEMT INQUIRE DISPATCHER 50
ACTTHRDTCBS option
 INQUIRE DISPATCHER
 command 32
AFDK abend 149
Application Associated Data exit,
 new 73
application programming interface
 ASKTIME (changed) 10
 changed commands 10, 15
 CONVERTTIME (changed) 10
 DELETE (made threadsafe) 15
 DOCUMENT CREATE (changed) 10
 DOCUMENT SET (changed) 10
 ENDBR (made threadsafe) 15
 EXTRACT TCPIP(changed) 10
 EXTRACT WEB(changed) 10
 FORMATTIME (changed) 10
 GET CONTAINER CHANNEL
 (changed) 10
 JCICS support 17
 made threadsafe 15
 new commands 14
 PUT CONTAINER CHANNEL
 (changed) 10
 QUERY SECURITY (changed) 10
 READ (changed) 10
 READ (made threadsafe) 15
 READNEXT (changed) 10
 READNEXT (made threadsafe) 15
 READPREV (changed) 10
 READPREV (made threadsafe) 15
 RESETBR (changed) 10
 RESETBR (made threadsafe) 15
 REWRITE (made threadsafe) 15
 STARTBR (changed) 10
 STARTBR (made threadsafe) 15
 UNLOCK (made threadsafe) 15
 VERIFY PASSWORD (changed) 10
 WAIT JOURNALNAME (made
 threadsafe) 15
 WAIT JOURNALNUM (made
 threadsafe) 15
 WEB CONVERSE (changed) 10
 WEB EXTRACT (changed) 10
 WEB OPEN (changed) 10
 WEB PARSE URL(changed) 10
 WEB READ HTTPHEADER
 (changed) 10
 WEB RETRIEVE (changed) 10
 WEB SEND (changed) 10
 WRITE (changed) 10
 WRITE (made threadsafe) 15
 WRITE JOURNALNAME (made
 threadsafe) 15

application programming interface
 (continued)
 WRITE JOURNALNUM (made
 threadsafe) 15
 WSACONTEXT BUILD (changed) 10
 WSACONTEXT GET (changed) 10
application programs
 compiler support 109
APPLID system initialization
 parameter 5
ASKTIME 15
ASKTIME command 10
ATMINGRP, new BAS object 163
ATOM
 CEMT INQUIRE URIMAP 55
Atom feed SupportPac CA8K 141
ATOMDEF, new BAS object 163
ATOMSERVICE
 CEMT INQUIRE URIMAP 54
ATOMSERVICE attribute
 URIMAP definition 23
ATOMSERVICE option
 INQUIRE URIMAP command 37
ATOMSERVICE resource definition 22
AUTHENTICATE
 CEMT INQUIRE URIMAP 53
AUTHENTICATE option
 INQUIRE URIMAP command 37

B

BASICAUTH
 CEMT INQUIRE URIMAP 53
BUNDDEF, new BAS object 163
BUNDLE resource definition 22
BUNINGRP, new BAS object 163
Business Transaction Services (BTS)
 upgrading 113

C

CA8K SupportPac 141
CADDRLENGTH option
 EXTRACT TCPIP command 10
CEMN, changes 63
CEMT
 upgrading 49
CEMT commands
 DISCARD ATOMSERVICE (new) 60
 DISCARD BUNDLE (new) 60
 DISCARD EVENTBINDING
 (new) 60
 DISCARD JVMSERVER (new) 60
 DISCARD MQCONN (new) 60
 INQUIRE ATOMSERVICE (new) 60
 INQUIRE BUNDLE (new) 61
 INQUIRE CLASSCACHE
 (changed) 49
 INQUIRE DISPATCHER
 (changed) 49

CEMT commands (continued)
 INQUIRE EVENTBINDING (new) 61
 INQUIRE EVENTPROCESS (new) 61
 INQUIRE IPCONN (changed) 49
 INQUIRE JVM (changed) 49
 INQUIRE JVMSERVER (new) 61
 INQUIRE MONITOR (changed) 49
 INQUIRE MQCONN (new) 61
 INQUIRE MQINI (new) 61
 INQUIRE PROGRAM (changed) 49
 INQUIRE SYSTEM (changed) 49
 INQUIRE URIMAP (changed) 49
 INQUIRE VTAM (changed) 49
 INQUIRE WORKREQUEST
 (changed) 49
 INQUIRE XMLTRANSFORM
 (new) 61
 SET ATOMSERVICE (new) 61
 SET BUNDLE (new) 61
 SET DISPATCHER (changed) 49
 SET EVENTBINDING (new) 61
 SET EVENTPROCESS (new) 61
 SET JVMPOOL (changed) 49
 SET JVMSERVER (new) 61
 SET MONITOR (changed) 49
 SET MQCONN (new) 61
 SET PROGRAM (changed) 49
 SET XMLTRANSFORM (new) 61
CEMT DISCARD ATOMSERVICE
 command 60
CEMT DISCARD BUNDLE
 command 60
CEMT DISCARD EVENTBINDING
 command 60
CEMT DISCARD JVMSERVER
 command 60
CEMT DISCARD MQCONN
 command 60
CEMT INQUIRE ATOMSERVICE
 command 60
CEMT INQUIRE BUNDLE command 61
CEMT INQUIRE EVENTBINDING
 command 61
CEMT INQUIRE EVENTPROCESS
 command 61
CEMT INQUIRE IPCONN command 49
CEMT INQUIRE JVMSERVER
 command 61
CEMT INQUIRE MONITOR
 command 49
CEMT INQUIRE MQCONN
 command 61
CEMT INQUIRE MQINI command 61
CEMT INQUIRE SYSTEM command 49
CEMT INQUIRE URIMAP command 49
CEMT INQUIRE VTAM command 49
CEMT INQUIRE WORKREQUEST
 command 49
CEMT INQUIRE XMLTRANSFORM
 command 61

CEMT SET ATOMSERVICE
 command 61

CEMT SET BUNDLE command 61

CEMT SET EVENTBINDING
 command 61

CEMT SET EVENTPROCESS
 command 61

CEMT SET JMVSERVER command 61

CEMT SET MONITOR command 49

CEMT SET MQCONN command 61

CEMT SET XMLTRANSFORM
 command 61

CEMT, changes 49

changed CEMT commands 49, 57

changed global user exit programs
 XRSINDI 70

changed messages 189

changed system initialization
 parameters 5

changes
 affecting the SPI 27
 to user-replaceable programs 77

CICS Web support
 upgrading 141

CICS_HOME system initialization
 parameter 6

CICS-MQ transaction (CKQC) 63

CICS-supplied transactions
 CEPD 67
 CEPM 67
 changed CEMT commands 49
 changed CEMT commands, resource
 signature 57
 changes to CEMN 63
 changes to CEMT 49
 changes to CRTE 64
 CICS-supplied transactions
 DFH\$CAT1 CLIST 67
 CISB 67
 CISX 67
 CJGC 67
 CJPI 67
 CJSR 67
 CPIR 67
 CPIS 67
 CRLR 67
 CRTP 67
 CWXU 67
 new CEMT commands 60
 new RACF category 1
 transactions 67
 obsolete CEMT command options 49
 upgrading 49, 63

CICS-WebSphere MQ adapter 135, 138,
 139

CICS-WebSphere MQ connection 135,
 138, 139

CICSPlex SM
 connecting to previous releases 167
 new BAS definition objects 163

CICSPlex SM transactions 165
 upgrading 165

CKQC transaction 63

class paths for JVM 122

CLIENTADDR option
 EXTRACT TCPIP command 10

CLIENTIPADDR option
 INQUIRE ASSOCIATION
 command 29

CLIENTLOC option
 CLIENTLOC command 29, 33

CLINTCP system initialization
 parameter 6

CLNTADDR6NU option
 EXTRACT TCPIP command 10

CLNTIP6ADDR option
 INQUIRE WORKREQUEST
 command 40, 56

CLNTIPFAMILY option
 EXTRACT TCPIP command 11
 INQUIRE ASSOCIATION
 command 29
 INQUIRE WORKREQUEST
 command 39, 55

compiler support 109

COMPRESS
 CEMT INQUIRE MONITOR 52

COMPRESSST
 CEMT INQUIRE MONITOR 52

COMPRESSST option
 INQUIRE MONITOR command 35

CONFDATA system initialization
 parameter 5

control tables
 upgrading 25

CONVERTTIME 15

CONVERTTIME command 10

CORBASERVER definition
 HOST attribute 19

CREATE TCPIPSERVICE command 27

CRLSERVER system initialization
 parameter 6

CRTE, changes 64

CSD
 sharing between releases 106

CSD, upgrading 104

SCAN function 105

CVDA values
 ATOM
 INQUIRE URIMAP command 38
 BASIC
 INQUIRE URIMAP command 37
 HOSTNAME
 WEB EXTRACT or EXTRACT
 WEB command 12
 WEB PARSE URL command 13
 IPV4
 EXTRACT TCPIP command 11
 WEB EXTRACT or EXTRACT
 WEB command 12
 WEB PARSE URL command 13
 IPV6
 EXTRACT TCPIP command 11
 WEB EXTRACT or EXTRACT
 WEB command 12
 WEB PARSE URL command 13
 NOAUTHENTIC
 INQUIRE URIMAP command 37
 NOTAPPLIC
 EXTRACT TCPIP command 11
 WEB EXTRACT or EXTRACT
 WEB command 12

CVDA values (*continued*)
 RFC3339
 FORMATTIME command 11

D

data conversion
 upgrading 103

DELETE command 15

deleted abend codes 215

deleted messages 187

DFHCNV 141
 upgrading 25

DFHCS DUP
 upgrading 79

DFHCSVCupgrading 119

DFHDCT, obsolete 25

DFHEP, CSD group 24

DFHIRPupgrading 119

DFHJVM DD card 122

DFHJVMCD 122

DFHJVMRO 122

DFHLRQ data set 113
 migrating 113

DFHMCT monitoring control table
 upgrading 25

DFHPDxxx
 upgrading 79

DFHRL, CSD group 24

DFHRS, CSD group 24

DFHSIT, default system initialization
 table 5

DFHSJ8O 122

DFHSTUP
 upgrading 79

DFHTUxxx
 upgrading 79

DFHUEPAR
 upgrading 69

DFHWBCLI 141

DFHWBEP
 upgrading 141

DFHWEB2, CSD group 24

DFHWU, CSD group 25

dfjvmcd.props 122

DNAME option
 INQUIRE ASSOCIATION
 command 29
 INQUIRE ASSOCIATION LIST
 command 31

DNAMELEN option
 INQUIRE ASSOCIATION LIST
 command 31

DOCUMENT CREATE command 10

DOCUMENT SET command 10

DPLLIMIT
 CEMT INQUIRE MONITOR 52
 CEMT SET MONITOR 56

DPLLIMIT option
 INQUIRE MONITOR command 35
 SET MONITOR command 40

E

EDSALIM system initialization
 parameter 5

ENCRYPTION system initialization
 parameter 5
 ENDBR command 15
 enterprise beans
 upgrading 121
 Event JCICS class 17
 EXEC CICS commands
 API commands, changed 10, 15
 API commands, made threadsafe 15
 API commands, new 14
 SPI commands, changed 27
 SPI commands, made threadsafe 48
 SPI commands, new 44
 SPI commands, resource signature 41
 EXEC CICS WEB API
 upgrading 141
 exit programming interface (XPI)
 upgrading 75
 EXTRACT TCPIP command 10
 EXTRACT WEB command 10

F

FCQRONLY system initialization
 parameter 6
 file definitions 149
 FILELIMIT
 CEMT SET MONITOR 56
 FILELIMIT option
 SET MONITOR command 41
 FLAGSET option
 INQUIRE TRACETYPE command 37
 SET TRACETYPE command 41
 FORMATTIME 15
 FORMATTIME command 10

G

GET CONTAINER CHANNEL
 command 10
 global user exits
 changed programs 70
 new programs 73
 upgrading 69

H

HOST
 CEMT INQUIRE CORBASERVER 49
 CEMT INQUIRE IPCONN 50
 CEMT INQUIRE URIMAP 54
 INQUIRE TCPIP SERVICE 52
 HOST attribute
 CORBASERVER definition 19
 IPCONN definition 20
 TCPIP SERVICE definition 27
 URIMAP definition 21
 HOST option
 INQUIRE CORBASERVER
 command 32
 INQUIRE IPCONN command 33
 INQUIRE TCPIP SERVICE
 command 35
 INQUIRE URIMAP command 38
 WEB EXTRACT or EXTRACT WEB
 command 12

HOST option (*continued*)
 WEB OPEN command 13
 WEB PARSE URL command 13
 HOSTTYPE
 CEMT INQUIRE CORBASERVER 49
 CEMT INQUIRE IPCONN 50
 CEMT INQUIRE URIMAP 54
 INQUIRE TCPIP SERVICE 52, 53
 HOSTTYPE option
 INQUIRE CORBASERVER
 command 32
 INQUIRE IPCONN command 33
 INQUIRE TCPIP SERVICE
 command 36
 INQUIRE URIMAP command 38
 WEB EXTRACT or EXTRACT WEB
 command 12
 WEB PARSE URL command 13
 HTTP client open exit, new 73
 HTTP client send exit, new 73
 HttpRequest JCICS class 17, 19
 HttpSession JCICS class 17

I

IBM SDK for z/OS 124, 128, 132
 IBM SDK for z/OS V1.4.2 for Java
 upgrading to V6 124
 IBM SDK for z/OS V5 for Java
 upgrading to V6 128
 IBM SDK for z/OS V6 for Java
 Java 1.4.2 124
 Java 5 124, 128
 Java 6 124, 128
 upgrading 124, 128
 IBM SDK for z/OS V6.0.0 for Java
 upgrading to V6.0.1 132
 IBM SDK for z/OS V6.0.1 for Java
 Java 6.0.1 132
 upgrading 132
 ICVTSD system initialization
 parameter 5

IDNTY
 CEMT SET MONITOR 56
 IDNTYCLASS
 CEMT INQUIRE MONITOR 52
 IDNTYCLASS option
 INQUIRE MONITOR command 35
 SET MONITOR command 41
 IDPROP
 CEMT INQUIRE IPCONN 50
 IDPROP option
 INQUIRE IPCONN command 34
 INQUIRE ASSOCIATION command 27
 INQUIRE CLASSCACHE CEMT
 command 49
 INQUIRE CORBASERVER command 27
 INQUIRE DISPATCHER CEMT
 command 49
 INQUIRE FILE command 48
 INQUIRE IPCONN command 27
 INQUIRE JVM CEMT command 49
 INQUIRE MONITOR CEMT
 command 49
 INQUIRE PROGRAM CEMT
 command 49
 INQUIRE SYSTEM command 27

INQUIRE TCPIP SERVICE command 27
 INQUIRE TERMINAL command 27
 INQUIRE TRACETYPE command 27
 INQUIRE URIMAP command 27
 INQUIRE VTAM command 27
 INQUIRE WEB command 48
 INQUIRE WORKREQUEST
 command 27
 Internet security
 upgrading 141
 interregion communication program
 (DFHIRP) upgrading 119
 IP interconnectivity (IPIC) upgrading 117
 IPCONN definition
 HOST attribute 20
 IPCONN resource definition 22
 IPFAMILY
 CEMT INQUIRE CORBASERVER 49,
 50
 CEMT INQUIRE IPCONN 49, 51, 54
 INQUIRE TCPIP SERVICE 53
 INQUIRE WORKREQUEST
 command 55
 IPFAMILY option
 INQUIRE CORBASERVER
 command 32
 INQUIRE IPCONN command 34
 INQUIRE TCPIP SERVICE
 command 36
 INQUIRE URIMAP command 38
 IPIC connection intersystem queues exit,
 new 73
 IPRESOLVED
 CEMT INQUIRE CORBASERVER 50
 CEMT INQUIRE IPCONN 51
 CEMT INQUIRE URIMAP 54
 INQUIRE TCPIP SERVICE 53
 IPRESOLVED option
 INQUIRE CORBASERVER
 command 32
 INQUIRE IPCONN command 34
 INQUIRE TCPIP SERVICE
 command 36
 INQUIRE URIMAP command 39

J

Java
 upgrading 122
 Java applications
 upgrading 121
 JCICS classes 17
 Event (changed) 17
 HttpRequest (changed) 17, 19
 HttpSession (changed) 17
 TcpipRequest (changed) 17
 JCICS methods 17
 JMSINGRP, new BAS object 163
 JVM
 class paths
 for shared class cache 122
 resettable (no longer used) 122
 shared class cache 122
 upgrading 122
 JVM profiles
 upgrading 121

JVMPROFILEDIR system initialization
parameter 5
JVMSERVER resource definition 22
JVMVDEF, new BAS object 163

L

LOCALCCSID system initialization
parameter 6

M

macro resource definition
upgrading 25
master JVM 122
MAXSSLTCBS system initialization
parameter 6
MAXTHRDTCS
CEMT INQUIRE DISPATCHER 50
MAXTHRDTCS option
INQUIRE DISPATCHER
command 33
MAXXPTCBS system initialization
parameter 6
messages, changed 189
messages, deleted 187
messages, new 193
MILLISECONDS option
FORMATIME command 11
MNIDN system initialization
parameter 6
MNPS
CEMT INQUIRE VTAM 55
monitoring control table, DFHMCT
upgrading 25
MQCINGRP, new BAS object 163
MQCONDEF, new BAS object 163
MQCONN
CEMT INQUIRE SYSTEM 52
MQCONN option
INQUIRE SYSTEM command 35
MQCONN resource definition 22
MRO (multiregion
operation)upgrading 119
MSGCASE system initialization
parameter 5
multiregion operation
(MRO)upgrading 119

N

new abend codes 213
new BAS definition objects
ATMINGRP 163
ATOMDEF 163
BUNDDEF 163
BUNINGRP 163
JMSINGRP 163
JVMVDEF 163
MQCINGRP 163
MQCONDEF 163
new CEMT commands 60
new CSD groups
DFHEP 24
DFHRL 24
DFHRS 24

new CSD groups (*continued*)
DFHWEB2 24
DFHWU 25
new messages 193
new resource definition attributes 22
new resources 22
new system initialization parameters 6
new user-exit programs 73
NOAUTHENTIC
CEMT INQUIRE URIMAP 53
NOCOMPRESS
CEMT INQUIRE MONITOR 52
NOIDENTY
CEMT SET MONITOR 56
NOPS
CEMT INQUIRE VTAM 55
NSR 149

O

ODCLNTIPADDR option
INQUIRE ASSOCIATION
command 29
ODIPFAMILY option
INQUIRE ASSOCIATION
command 30
OO COBOL 109
OS/VS COBOL 109

P

PARTNER
CEMT INQUIRE IPCONN 51
PARTNER option
PARTNER command 34
PORT
CEMT INQUIRE URIMAP 39, 54
PROFILEDIR
CEMT INQUIRE JVMPOOL 51
INQUIRE JVMPOOL command 35
program compatibility, SPI 27
PSTYPE
CEMT INQUIRE VTAM 55
PSTYPE option
INQUIRE VTAM command 39
PSTYPE system initialization
parameter 5
PUT CONTAINER CHANNEL
command 10

Q

QUERY SECURITY command 10

R

READ command 10, 15
READNEXT command 10, 15
READPREV command 10, 15
REALM option
INQUIRE ASSOCIATION
command 30
INQUIRE ASSOCIATION LIST
command 31

REALMLEN option
INQUIRE ASSOCIATION LIST
command 31
REMOTESYSTEM option
INQUIRE TERMINAL command 36
INQUIRE TRANSACTION
command 37
repository data set 113
upgrading 113
RESETBR command 10, 15
resettable JVM
withdrawal 122
resource definition
changes 19
resource definition (online)
upgrading the CSD
SCAN function 105
resource definitions
ATOMSERVICE (new) 22
BUNDLE (new) 22
IPCONN (changed) 22
JVMSERVER (new) 22
MQCONN (new) 22
new attributes 22
new resources 22
URIMAP (changed) 23
REWRITE command 15

S

SADDRLENGTH option
EXTRACT TCPIP command 11
SCEERUN 122
SCEERUN2 122
SDFJAUTH 122
SERVERADDR option
EXTRACT TCPIP command 11
SERVERIPADDR option
INQUIRE ASSOCIATION
command 30
service routine
reusing from CA8K SupportPac 141
SET DISPATCHER CEMT command 49
SET JVMPOOL CEMT command 49
SET MONITOR command 27
SET PROGRAM CEMT command 49
SET TRACETYPE command 27
SET VTAM command 27
SET WEB command 48
SEYUMLIB 153
SEYUPLIB 153
SEYUTLIB 153
shareable application class path 122
shared class cache 122
SIT (system initialization table)
parameters 5
SMF 110 records
upgrading 83
SNPS
CEMT INQUIRE VTAM 55
SOCKETCLOSE
upgrading 141
SRVERCP system initialization
parameter 6
SRVRADDR6NU option
EXTRACT TCPIP command 11

- SRVRIPFAMILY option
 - EXTRACT TCPIP command 11
 - INQUIRE ASSOCIATION command 30
- SSL
 - upgrading 141
- SSLCACHE system initialization parameter 6
- STARTBR command 10, 15
- statistics records 93
- system initialization parameters 5
 - APPLID (changed) 5
 - changed 5
 - CICS_HOME (new) 6
 - CLINTCP (new) 6
 - CONFDATA (changed) 5
 - CRLSERVER (new) 6
 - EDSALIM (changed) 5
 - ENCRYPTION (changed) 5
 - FCQRONLY (new) 6
 - ICVTSD (changed) 5
 - JVMPROFILEDIR (changed) 5
 - LOCALCCSID (new) 6
 - MAXSSLTCBS (new) 6
 - MAXXPTCBS (new) 6
 - MNIDN (new) 6
 - MSGCASE (changed) 5
 - new 6
 - PSTYPE (changed) 5
 - SRVERCP (new) 6
 - SSLCACHE (new) 6
 - UOWNETQL (changed) 5
 - XHFS (new) 6
 - XRES (new) 6
- system initialization table
 - default 5
- system programming interface
 - changed commands 27, 41
 - INQUIRE ASSOCIATION (changed) 27
 - INQUIRE CORBASERVER (changed) 27
 - INQUIRE FILE (made threadsafe) 48
 - INQUIRE IPCONN (changed) 27
 - INQUIRE MONITOR (changed) 27
 - INQUIRE SYSTEM (changed) 27
 - INQUIRE TCPIP SERVICE (changed) 27
 - INQUIRE TERMINAL (changed) 27
 - INQUIRE TRACETYPE (changed) 27
 - INQUIRE URIMAP (changed) 27
 - INQUIRE VTAM (changed) 27
 - INQUIRE WEB (made threadsafe) 48
 - INQUIRE WORKREQUEST (changed) 27
 - made threadsafe 48
 - new commands 44
 - SET MONITOR (changed) 27
 - SET TRACETYPE (changed) 27
 - SET VTAM (changed) 27
 - SET WEB (made threadsafe) 48
- system programming interface (SPI) 27

T

- TARGETSYS option
 - INQUIRE WORKREQUEST command 40, 56
- TcpipRequest JCICS class 17
- TCPIP SERVICE definition
 - HOST attribute 27
- TCPIP SERVICE resource definition
 - upgrading 141
- TCPIPSSLCERT 153
- TIME 15
- trademarks 220
- transactions
 - CICSplex SM 165
 - CKQC 63
- TSQUEUELIMIT
 - CEMT SET MONITOR 57
- TSQUEUELIMIT option
 - SET MONITOR command 41
- TSYSTYPE option
 - INQUIRE WORKREQUEST command 40, 56

U

- UNLOCK command 15
- UOWNETQL system initialization parameter 5
- upgrading CICSplex SM
 - upgrading a CMAS 173
 - upgrading a MAS 179
- upgrading file definitions 149
- upgrading NSR 149
- upgrading the CSD 104
 - SCAN function 105
- URIMAP definition
 - ATOMSERVICE attribute 23
 - HOST attribute 21
 - USAGE attribute 23
- URIMAP resource definition 23
- USAGE
 - CEMT INQUIRE URIMAP 55
- USAGE attribute
 - URIMAP definition 23
- USAGE option
 - INQUIRE URIMAP command 38
- user-replaceable programs 77
 - changed user-replaceable programs 77

V

- VERIFY PASSWORD command 10

W

- WAIT JOURNALNAME command 15
- WAIT JOURNALNUM command 15
- WEB CONVERSE command 10
- WEB EXTRACT command 10
- WEB OPEN command 10
- WEB PARSE URL command 10
- WEB READ HTTPHEADER command 10
- WEB RETRIEVE command 10

- WEB SEND command 10
- worker JVM 122
- WRITE command 10, 15
- WRITE JOURNALNAME command 15
- WRITE JOURNALNUM command 15
- WSACONTEXT BUILD command 10
- WSACONTEXT GET command 10

X

- XAPADMGR, new user exit 73
- XHFS system initialization parameter 6
 - upgrading 141
- XISQUE, new user exit 73
- XRES system initialization parameter 6
 - upgrading 141
- XWBAUTH, new user exit 73
- XWBOPEN, new user exit 73
- XWBSNDO, new user exit 73

Z

- z/OS conversion services 103

Readers' Comments — We'd Like to Hear from You

CICS Transaction Server for z/OS
Version 4 Release 1
Upgrading from CICS TS Version 3.2

Publication No. GC34-6998-03

We appreciate your comments about this publication. Please comment on specific errors or omissions, accuracy, organization, subject matter, or completeness of this book. The comments you send should pertain to only the information in this manual or product and the way in which the information is presented.

For technical questions and information about products and prices, please contact your IBM branch office, your IBM business partner, or your authorized remarketer.

When you send comments to IBM, you grant IBM a nonexclusive right to use or distribute your comments in any way it believes appropriate without incurring any obligation to you. IBM or any other organizations will only use the personal information that you supply to contact you about the issues that you state on this form.

Comments:

Thank you for your support.

Submit your comments using one of these channels:

- Send your comments to the address on the reverse side of this form.
- Send a fax to the following number: +44 1962 816151
- Send your comments via email to: idrctf@uk.ibm.com

If you would like a response from IBM, please fill in the following information:

Name

Address

Company or Organization

Phone No.

Email address



Fold and Tape

Please do not staple

Fold and Tape

PLACE
POSTAGE
STAMP
HERE

IBM United Kingdom Limited
User Technologies Department (MP095)
Hursley Park
Winchester
Hampshire
United Kingdom
SO21 2JN

Fold and Tape

Please do not staple

Fold and Tape



GC34-6998-03

