IBM Tools Base for z/OS
Version 1 Release 6

IMS Tools Common Services User's Guide and Reference

IBM
About this information

IBM® Tools Base for z/OS® IMS™ Tools Common Services (also referred to as IMS Tools Common Services) is a collection of resources that provide common functionality for use by IMS Tools products.

These topics provide instructions for installing, configuring, and using IMS Tools Common Services.

To use these instructions, you must have already installed IMS Tools Common Services by completing the instructions in the Program Directory for IBM Tools Base for z/OS (GI10-8819), which is included with the product media and is also available on the IMS Tools Product Documentation page.

These topics are designed to help database administrators, system programmers, application programmers, and system operators perform the following tasks:

- Understand the capabilities of the functions that are associated with IMS Tools Common Services
- Install and operate IMS Tools Common Services
- Customize your IMS Tools Common Services environment
- Diagnose and recover from IMS Tools Common Services problems
- Use IMS Tools Common Services with other IMS products

To use these topics, you should have a working knowledge of:

- The z/OS operating system
- ISPF
- SMP/E
- IMS

Always refer to the IMS Tools Product Documentation web page for complete product documentation resources:

http://www-01.ibm.com/support/docview.wss?uid=swg27020942

The IMS Tools Product Documentation web page includes:

- Links to IBM Knowledge Center for the user guides ("HTML")
- PDF versions of the user guides ("PDF")
- Program Directories for IMS Tools products
- Recent updates to the user guides, referred to as "Tech docs" ("See updates to this information!")
- Technical notes from IBM Software Support, referred to as "Tech notes"
- White papers that describe product business scenarios and solutions
Part 1. IMS Tools Common Services overview

IBM Tools Base for z/OS IMS Tools Common Services (also referred to as IMS Tools Common Services) is a collection of resources that provide common functionality for use by IMS Tools products.

The topic in this section provides you with an overview of the IMS Tools Common Services.

Topics:

- Chapter 1, “IMS Tools Common Services overview,” on page 3
Chapter 1. IMS Tools Common Services overview

IBM Tools Base for z/OS IMS Tools Common Services (also referred to as IMS Tools Common Services) is a collection of resources that provide common functionality for use by IMS Tools products.

Topics:
- “What’s new in IMS Tools Common Services” on page 4
- “IMS Tools Common Services modules” on page 5
- “Service updates and support information” on page 6
- “Product documentation and updates” on page 7
- “Accessibility features” on page 9
What's new in IMS Tools Common Services

This topic summarizes the technical changes for this edition.

New and changed information is indicated by a vertical bar (|) to the left of a change. Editorial changes that have no technical significance are not noted.

**SC19-4371-02 - July 2019 - Second edition (V1.6)**
- The Resource Manager Structure utility has been added. You can use this batch utility to query and delete resources in the Resource Manager (RM) structure used by the IMS systems that are running in an IMSpex. For details, see [Part 5, “IMS Tools Resource Manager Structure utility reference,” on page 107](#).
- PH05724: A new message, FOI002I, has been added for the IMS Tools Online System Interface.

**SC19-4371-01 - October 2016 - First edition (V1.6)**
- Refreshed for Tools Base V1.6
IMS Tools Common Services modules

IMS Tools Common Services consists of the IMS Tools Generic Exits, IMS Tools Online System Interface, the IMS Tools Catalog Interface, and the Resource Manager Structure utility.

**IMS Tools Generic Exits**

The IMS Tools Generic Exits are a collection of exit routines that provide the ability to call multiple exit routines from a single exit point in an IMS environment.

**IMS Tools Online System Interface (TOSI)**

IMS Tools Online System Interface is a command interface that allows IMS Tools to interface with all supported versions of IMS.

**IMS Tools Catalog Interface**

IMS Tools Catalog Interface is a common interface used by IMS Tools products to process the IMS catalog directory.

**Resource Manager Structure utility**

The Resource Manager Structure utility is a batch utility that queries or deletes resources in the Resource Manager (RM) structure used by the IMS systems that are running in an IMSplex.
Service updates and support information

Service updates and support information for this product, including software fix packs, PTFs, frequently asked questions (FAQs), technical notes, troubleshooting information, and downloads, are available from the web.

To find service updates and support information, see the following website:

Product documentation and updates

IMS Tools information is available at multiple places on the web. You can receive updates to IMS Tools information automatically by registering with the IBM My Notifications service.

Information on the web

Always refer to the IMS Tools Product Documentation web page for complete product documentation resources:

http://www-01.ibm.com/support/docview.wss?uid=swg27020942

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- Technical notes from IBM Software Support, referred to as "Tech notes"
- White papers that describe product business scenarios and solutions

IBM Redbooks® publications that cover IMS Tools are available from the following web page:

http://www.redbooks.ibm.com

The IBM Information Management System website shows how IT organizations can maximize their investment in IMS databases while staying ahead of today's top data management challenges:

https://www.ibm.com/software/data/ims/

Receiving documentation updates automatically

To automatically receive emails that notify you when new technote documents are released, when existing product documentation is updated, and when new product documentation is available, you can register with the IBM My Notifications service. You can customize the service so that you receive information about only those IBM products that you specify.

To register with the My Notifications service:

2. Enter your IBM ID and password, or create one by clicking [register now](http://www.ibm.com/support/mysupport).
3. When the My Notifications page is displayed, click Subscribe to select those products that you want to receive information updates about. The IMS Tools option is located under [Software > Information Management](http://www.ibm.com/support/mysupport).
4. Click Continue to specify the types of updates that you want to receive.
5. Click Submit to save your profile.
How to send your comments

Your feedback helps IBM to provide quality information. Send any comments that you have about this book or other IMS Tools documentation to comments@us.ibm.com. Include the name and version number of the product and the title and number of the book. If you are commenting on specific text, provide the location of the text (for example, a chapter, topic, or section title).
Accessibility features

Accessibility features help a user who has a physical disability, such as restricted mobility or limited vision, to use a software product successfully.

The major accessibility features in this product enable users to perform the following activities:

- Use assistive technologies such as screen readers and screen magnifier software. Consult the assistive technology documentation for specific information when using it to access z/OS interfaces.
- Customize display attributes such as color, contrast, and font size.
- Operate specific or equivalent features by using only the keyboard. Refer to the following publications for information about accessing ISPF interfaces:
  - z/OS ISPF User’s Guide, Volume 1
  - z/OS TSO/E Primer
  - z/OS TSO/E User’s Guide

These guides describe how to use the ISPF interface, including the use of keyboard shortcuts or function keys (PF keys), include the default settings for the PF keys, and explain how to modify their functions.
Part 2. IMS Tools Generic Exits reference

The IMS Tools Generic Exits are a collection of exit routines that provide the ability to call multiple exit routines from a single exit point in an IMS environment.

Information about the IMS Tools Generic Exits is provided in the following topics:

Topics:
- Chapter 3, “Configuring IMS Tools Generic Exits,” on page 17
- Chapter 4, “Generic Logger exit overview and usage,” on page 19
- Chapter 5, “Generic Logger exit messages (GLX),” on page 27
- Chapter 6, “Generic Logger exit user abend codes,” on page 33
- Chapter 7, “Generic Partner exit overview and usage,” on page 35
- Chapter 8, “Generic Partner exit messages (GPR),” on page 43
- Chapter 9, “Generic Partner exit user abend codes,” on page 47
- Chapter 10, “Generic MSC exit overview and usage,” on page 49
- Chapter 11, “Generic MSC exit messages (GEX),” on page 57
- Chapter 12, “Generic MSC exit user abend codes,” on page 61
- Chapter 13, “Generic QSN exit overview and usage,” on page 63
- Chapter 14, “Generic QSN exit messages (GEXQ),” on page 71
- Chapter 15, “Generic QSN exit user abend codes,” on page 75
Chapter 2. Guidelines for using IMS Tools Generic Exits

The IMS Tools Generic Exits are a collection of exit routines that provide the ability to call multiple exit routines from a single exit point in an IMS environment.

The IMS Tools Generic Exits are delivered in the IBM Tools Base for z/OS and are prerequisites for multiple IMS tools. The IMS Tools Generic Exits are shared with multiple IMS tools and contain the common code components that are listed in the following table.

Table 1. IMS Tools Generic Exits common code components and their product prefixes

<table>
<thead>
<tr>
<th>Component name</th>
<th>Product prefix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generic Logger exit</td>
<td>GLX</td>
</tr>
<tr>
<td>Generic Partner exit</td>
<td>GPR</td>
</tr>
<tr>
<td>Generic MSC exit (Generic Transaction Manager and Multiple Systems Coupling Message Routing and Control User exit)</td>
<td>GEX</td>
</tr>
<tr>
<td>Generic QSN exit (Generic Queue Space Notification exit)</td>
<td>GEXQ</td>
</tr>
</tbody>
</table>

The exits that are contained in the Tools Base supersedes and replaces all previous versions. Any IMS tools product that uses the generic exits contain a REQ(HAHN110), which signals to SMP/E that this FMID must already be installed, or that its installation is required at the same time the IMS tool product is installed.

Always refer to the appropriate Program Directory for any IMS tools product to determine the prerequisites for installing and operating the product.

Exit control flow

During the initialization process, IMS calls the IMS Tools Generic Exits. The generic exits then call other exits that are defined in their PROCLIB members.

The exit control flow during IMS initialization is summarized in the following figure:
For example, to configure IMS Tools Online System Interface (TOSI), you must specify FOIPPU0 in the Generic Partner exit (GPR) PROCLIB member. When the Generic Partner exit is called during the IMS initialization process, the Generic Partner exit calls the FOIPPU0 exit, and TOSI is initialized.

**IMS Tools Generic Exits activation overview**

The following steps describe how to enable the IMS Tools Generic Exits:

1. Allocate `smphlq.SGLXLOAD` to IMS control region `/STEPLIB`.
2. APF-authorize `smphlq.SGLXLOAD`.
3. Configure the Generic Partner exit PROCLIB to point to all DFSPPUE0 exits in your IMS environment.
4. Configure the Generic Logger exit PROCLIB to point to all DFSFLGX0 exits in your IMS environment.
5. Configure the Generic MSC exit PROCLIB to point to all DFSMSCE0 exits in your IMS environment.
6. Configure the Generic QSN exit PROCLIB to point to all DFSQSSP0 exits in your IMS environment.
7. Restart IMS.

**Disabling specific generic exits**

Depending on which IMS tools products that you use, you might not need to use all of the generic exits in the Tools Generic exits common code. To disable a generic exit, do not configure the required PROCLIB member for that particular generic exit.

During IMS initialization, if a particular PROCLIB member is not found, that generic exit is disabled.

**Important:** Before you disable a generic exit, ensure that the exit is not being used by another IMS tools product. If you disable a generic exit that is being used by another IMS tools product, that tool will not be able to operate.
Migration considerations for IMS Tools Generic Exits

If you are using IMS Tools Generic Exits in an environment containing multiple IMS tools products at mixed version and release levels, you must always install and run the highest level of IMS Tools Generic Exits that is available.

The latest version of the IMS Tools Generic Exits is fully compatible with prior releases of IMS Tools products and common code.
Chapter 3. Configuring IMS Tools Generic Exits

Information about configuring the exit routines in IMS Tools Generic Exits and other Tools Base components for IMS is provided in IBM Tools Base for z/OS Configuration for IMS.

You can also download a PDF version of this information from the IMS Tools Product Documentation page.
Chapter 4. Generic Logger exit overview and usage

The IMS Tools Generic Logger exit (also referred to as the Generic Logger exit with product prefix GLX) enables multiple copies of the IMS logger exit routine (DFSFLGX0) to exist and to be driven within a single IMS environment. The Generic Logger exit drives other logger exit routines.

Topics:

- “Generic Logger exit overview” on page 20
- “Generic Logger exit definitions” on page 22
- “Global processing parameters” on page 25
**Generic Logger exit overview**

The Generic Logger exit (product prefix GLX) enables multiple copies of the IMS logger exit routine (DFSFLGX0) to exist and to be driven within a single IMS environment. The Generic Logger exit drives other logger exit routines.

The Generic Logger exit can be used with several IMS Tools products to perform product initialization and log record processing. You can also have your own logger exit routine.

When you install the Generic Logger exit, you can use multiple logger exit routines that are named DFSFLGX0 for an online environment. For a batch environment, you must use unique logger exit routine names, and the name cannot be DFSFLGX0.

The Generic Logger exit has its own runtime libraries and installation process. It calls other logger exit routines during initialization, buffer write, and termination processing so that each function can perform specific processing.

The Generic Logger exit is designed to operate on any hardware and software configuration that supports the required versions of IMS. For detailed specifications, refer to the appropriate Program Directory for the IMS Tool that you are using.

**Exit control flow**

During the initialization process, IMS calls the IMS Tools Generic Exits. The generic exits then call other exits that are defined in their PROCLIB members.

The exit control flow during IMS initialization is summarized in the following figure:

![Exit control flow](image-url)

*Figure 2. Exit control flow*

For example, to configure IMS Sysplex Manager, you must specify GJEFLGX0 in the Generic Logger exit (GLX) PROCLIB member. When GJEFLGX0 is added to the GLX PROCLIB member, the Generic Logger exit calls GJEFLGX0 after the IMS initialization process calls the Generic Logger exit.
Coexistence with other logger exits

The Generic Logger exit drives all other logger exits under each IMS control region. In the //STEPLIB concatenation, placing the Generic exit routine DFSFLGX0 (alias GLXILGX0) as the first copy of the DFSFLGX0 is recommended.

If the Generic Logger exit cannot be at the beginning in the //STEPLIB concatenation because of another exit that must be first, the Generic Logger exit can be placed anywhere in the //STEPLIB under the following condition:

- The DFSFLGX0 that is before the Generic Logger exit must pass control to the Generic Logger exit.

The Generic Logger exit can then call the remaining logger exits that have been defined in the exit list.

Important: Ensure that you do not include the DFSFLGX0 in front of the Generic Logger exit in the exit list. Otherwise, a recursive call occurs, which causes a loop.

An exit can determine if it was called by the Generic Logger exit by checking for a literal, as shown in the following code. The literal is pointed by the register 14 + x'4'.

```
BALR R14,R15      CALL USER EXIT
B  PASTID        SKIP ID
DC  CL16'GENERIC EXITS' EYECATCHER
PASTID DS 0H
```

Generic Logger exit activation

To activate this exit, set up the required member that is described in "Generic Logger exit definitions" on page 22.

If you do not need this exit, do not configure it.

If no exit definitions are found, one of the following conditions occurs:

- If the Generic Logger exit is NOT first in //STEPLIB, the exit returns to its caller without passing control to the next DFSFLGX0 in the //STEPLIB stack.
- If the Generic Logger exit is first in //STEPLIB, the exit transfers control to the next DFSFLGX0 in the //STEPLIB stack and then removes itself from the IMS control region. The Generic Logger exit is not called by IMS again.

In both of the previous conditions, the Generic Logger exit is disabled.

Important: Before you disable a generic exit, ensure that the exit is not being used by another IMS tools product. If you disable a generic exit that is being used by another IMS tools product, that tool will not be able to operate.
Generic Logger exit definitions

The Generic Logger exit requires you to define a set of logger exit routines. If these definitions are not set, the Generic Logger exit issues an error message and continues processing based on the setting of the INITFAIL parameter. No logger exit routine can be invoked unless a set of logger exit routines have been defined.

Generic Logger exit supports the following two formats for the logger exit routine list:

- A PROCLIB member that contains BPE-style control card input. This format is recommended in online environments.
- A load module format that you create by assembling and link editing definition macros. This format is recommended in batch environments so that existing JCL does not require changes.

By supporting both formats, the Generic Logger exit provides the maximum flexibility in both the batch and online environments. In addition, two naming patterns for the definitions are supported so that you can use both IMS-specific definitions and global definitions for cloned IMS environments:

- For global definitions that are not specific to any IMS system, the name is GLXEXIT0.
- For IMS-specific definitions, the name follows the pattern: GLXxxxx0, where xxxx is the IMS ID.

Both the PROCLIB member and load library member names use the same pattern.

When Generic Logger exit initializes, the following search order is used to locate the exit routine definitions:

1. PROCLIB member GLXxxxx0
2. Load module member GLXxxxx0
3. PROCLIB member GLXEXIT0
4. Load module member GLXEXIT0

The first member that is located is used for the exit routine definitions. No other members are processed.

If no exit routine definition member is found or if the member is found but contains no definitions, the Generic Logger exit issues messages and continues processing based on the setting of the INITFAIL parameter.

PROCLIB member definitions

If you choose to define logger exit routines by using a PROCLIB member, each exit routine must be defined by using a BPE-format control card.

The order of the statements in the member determines the order in which the exit routines are called. This member can be in any data set within the //PROCLIB DD concatenation in the IMS control region JCL.

The following example shows the format of the control card:

```
EXITDEF(TYPE(LOGR) EXITNAME(exit-name) LOADLIB(load-library))
```

The following rules apply to the control card:
Each exit routine that is to be called must be specified in a separate EXITDEF() statement.

The TYPE() keyword must be LOGR for this feature.

The name of the exit routine is specified with the EXITNAME() keyword and must match a member name in the specified load library.

The load library in which the exit routine resides is specified with the LOADLIB() keyword and must specify a cataloged load library that is APF-authorized and to which the IMS control region has access.

The Generic Logger exit tests the load library to ensure that it is APF-authorized. If the load library is not APF-authorized, the exit routine is not called, and error messages are issued. Processing continues based on the global statement specification.

The following sample shows a Generic Logger exit definition member for an IMS control region that includes IMS Sysplex Manager and a customized logger exit routine:

```
EXITDEF(TYPE(LOGR) EXITNAME(GJEIINT0) LOADLIB(IMSSM.LOADLIB))
EXITDEF(TYPE(LOGR) EXITNAME(DFSFLGX0) LOADLIB(USER.LOADLIB))
```

When the Generic Logger exit initializes, it loads each exit routine and calls it for initialization, in the order that is specified in the member. During normal processing, the Generic Logger exit calls each exit routine, in order, for buffer write processing. During termination, the Generic Logger exit calls each exit routine, in order, for termination processing.

**LOAD module definitions**

If you use the load module method for defining exit routine definitions, you can create an input member by using the GLXIEXIT macro.

You then assemble and link edit the member, and place it in a load library that can be found in the //JOBLIB or //STEPLIB concatenation. The order of the statements in this member determines the order in which the exit routines are called.

The following example shows the format of the macro definition:

```
GLXIEXIT FUNC=BEGIN, IMSID=iiii

label
GLXIEXIT FUNC=DEFINE, TYPE=LOGR,
   EXITNAME=exit-name, LOADLIB=load-library
GLXIEXIT FUNC=END
```

The following rules apply to the macro definition:

- The load module must be linked as a non-reentrant module.
- If the load module is GLXEXIT0 (non-IMS specific, global exit definitions), the IMSID= keyword must be omitted.
- Each exit routine that is to be called must be specified in a separate GLXIEXIT statement.
- The TYPE= keyword must be LOGR for this feature.
- The name of the exit routine is specified with the EXITNAME= keyword and must match a member name in the specified load library.
- The load library in which the exit routine resides is specified with the LOADLIB= keyword and must specify a cataloged load library that is APF-authorized and to which the IMS control region has access.
The following sample shows a Generic Logger exit global definition load module GLXEXIT0 for a cloned IMS environment that includes IMS Sysplex Manager and a customized logger exit routine:

```
GLXEXIT FUNC=BEGIN
EXIT1 GLXEXIT FUNC=DEFINE, TYPE=LOGR, EXITNAME=GJEIINT0,
LOADLIB=IMSSM.LOADLIB
EXIT2 GLXEXIT FUNC=DEFINE, TYPE=LOGR, EXITNAME=DFSFLGX0,
LOADLIB=USER.LOADLIB
GLXEXIT FUNC=END
```

The following sample shows a Generic Logger exit IMS-specific exit definition load module GLXIMS10 for an IMS control region with an IMSid of IMS1 that includes IMS Sysplex Manager, a vendor-supplied logger exit routine, and a customized logger exit routine:

```
GLXEXIT FUNC=BEGIN, IMSID=IMS1
EXIT1 GLXEXIT FUNC=DEFINE, TYPE=LOGR, EXITNAME=GJEIINT0, LOADLIB=IMSSM.LOADLIB
EXIT2 GLXEXIT FUNC=DEFINE, TYPE=LOGR, EXITNAME=DFSFLGX0, LOADLIB=VENDOR.LOADLIB
EXIT3 GLXEXIT FUNC=DEFINE, TYPE=LOGR, EXITNAME=DFSFLGX0, LOADLIB=USER.LOADLIB
GLXEXIT FUNC=END
```

When the Generic Logger exit initializes, it loads each exit routine and calls it for initialization, in the order that is specified in the member. During normal processing, the Generic Logger exit calls each exit routine, in order, for buffer write processing. During termination, the Generic Logger exit calls each exit routine, in order, for termination processing.
Global processing parameters

In addition to defining the logger exit routines, you can optionally use global processing parameters to control the Generic Logger exit processing in error situations. You specify these parameters in the PROCLIB member or in the load module named GLXOPT0.

Three situations can occur in which you can drive the Generic Logger exit processing:

- When the Generic Logger exit is initializing and setup errors are detected, such as a missing exit routine definition member, control card errors, or when no exit routines are defined
- When processing an exit routine definition during initialization and the exit routine cannot be located or loaded, or the load library is not APF-authorized
- During invocation of an exit routine, an error occurs in the exit routine that causes an abend

In any of these cases, you can use a global parameter to make the Generic Logger exit generate an abend for the job or perform recovery processing and continue.

The following search order is used to locate the global options:
1. PROCLIB member GLXOPT0
2. Load module member GLXOPT0

If no global options definition member is found, or the member is found and contains no definitions or contains invalid definitions, the IMS Generic Logger exit routine issues warning messages, sets the options to default values, and continues processing.

The following example shows the format of the global parameter when it is specified in the PROCLIB member:

```
GLOBAL(INITFAIL(ABEND | WARNING)
EXITINIT(ABEND | TERMEXIT)
EXITPROC(ABEND | TERMEXIT))
```

The following example shows the format of the global parameter when it is specified in the load module:

```
GLXIGLBL INITFAIL=ABEND | WARNING,
EXITINIT=ABEND | TERMEXIT,
EXITPROC=ABEND | TERMEXIT
```

**INITFAIL parameter**

The INITFAIL parameter drives processing when an error occurs while attempting to initialize the Generic Logger exit.

The following errors can occur:

- The Generic Logger exit copy of DFSFLGX0 was not the first copy of DFSFLGX0 invoked.
- No exit definitions were found.
- Errors were detected in the exit definitions.

You can set the INITFAIL parameter to either of the following settings:
INITFAIL=ABEND
   This setting causes the Generic Logger exit to issue an error message and
   return to IMS with RC=12.

INITFAIL=WARNING
   This setting causes the Generic Logger exit to issue warning messages and
   return control to IMS with RC=0 to allow it to continue processing. In this
   case, no logger exit routines are invoked during IMS processing.
   INITFAIL=WARNING is the default setting.

EXITINIT parameter
   The EXITINIT parameter drives processing when an error occurs while attempting
   to locate or load the exit routine during the Generic Logger exit initialization or if
   the load library is not APF-authorized.

   You can set the EXITINIT parameter to either of the following settings:

EXITINIT=ABEND
   This setting causes the Generic Logger exit to issue an error message and
   return to IMS with RC=12.

EXITINIT=TERMEXIT
   This setting causes the Generic Logger exit to issue an error message for
   the exit routine, set the exit routine to inactive, and continue processing.
   No further action is taken for inactive exit routines.
   EXITINIT=TERMEXIT is the default setting.

EXITPROC parameter
   The EXITPROC parameter drives the processing when an error occurs within the
   exit routine while it is processing.

   You can set the EXITPROC parameter to either of the following settings:

EXITPROC=ABEND
   This setting causes the Generic Logger exit to issue an error message and
   return to IMS with RC=12.

EXITPROC=TERMEXIT
   This setting causes the Generic Logger exit to issue an error message for
   the exit routine, set the exit routine to inactive, and continue processing.
   No further action is taken for inactive exit routines.
   EXITPROC=TERMEXIT is the default setting.
Chapter 5. Generic Logger exit messages (GLX)

The IMS Tools Generic Logger exit (GLX) issues messages that can help you understand the state of the exit and help you resolve errors.

Message format

IMS Tools Generic Logger exit (GLX) messages adhere to the following format:

GLXnnnnxx

Where:

GLX Indicates that the message was issued by IMS Tools Generic Logger exit (GLX)

nnnn Indicates the message identification number

x Indicates the severity of the message:

A Indicates that operator intervention is required before processing can continue.

E Indicates that an error occurred, which might or might not require operator intervention.

I Indicates that the message is informational only.

W Indicates that the message is a warning to alert you to a possible error condition.

Each message also includes the following information:

Explanation:
The Explanation section explains what the message text means, why it occurred, and what its variables represent.

System action:
The System action section explains what the system will do in response to the event that triggered this message.

User response:
The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

GLX2901E UNABLE TO LOCATE IMS SSCD

Explanation: During initialization processing, the Generic Logger exit routine was unable to locate the IMS SSCD control block.

System action: The IMS control region stops abnormally.

User response: Review the IMS control region job log for other messages that are associated with the abend. Retain any diagnostic information and contact IBM Software Support.

GLX2902E IMS RELEASE NOT SUPPORTED

Explanation: During Generic Logger exit routine initialization processing, it was determined that the IMS release that is associated with the IMS control region is not supported by the Generic Logger exit routine.

System action: The IMS control region stops abnormally.

User response: Review the Generic Logger exit routine documentation for a list of supported IMS releases.
GLX2903E  LOAD FAILED FOR GLX MODULE

name

Explanation: The Generic Logger exit routine cannot locate the module that is specified in name.

System action: The IMS control region stops abnormally.

User response: Ensure that the Generic Logger exit routine has been correctly installed in the //JOBLIB or //STEPLIB.

GLX2904E  BATCH ENVIRONMENT EXPECTED BUT NOT PRESENT

Explanation: The Generic Logger exit routine has determined that it should be running in a batch environment, but a batch environment is not present. This is an internal processing error.

System action: The IMS control region stops abnormally.

User response: Retain any diagnostic information and contact IBM Software Support.

GLX2905E  GENERIC LOGGER EXIT INITIALIZATION FAILED

Explanation: The Generic Logger exit routine has failed to initialize.

System action: Processing continues, based on the INITFAIL keyword setting.

User response: Review the IMS control region job log for other messages that are associated with the error.

GLX2906E  INVALID CALL TYPE FOR DFSFLGX0

Explanation: The Generic Logger exit routine has detected an invalid call to the initialization routine (GLXIINTX). This is an internal processing error.

System action: The IMS control region stops abnormally.

User response: Ensure that the Generic Logger exit routine has been installed correctly in the //JOBLIB or //STEPLIB. Retain any diagnostic information and contact IBM Software Support.

GLX2907E  DUPLICATE INITIALIZATION CALL FOR DFSFLGX0

Explanation: The Generic Logger exit routine has detected a duplicate initialization call to the initialization routine (GLXIINTX). This is an internal processing error.

System action: The IMS control region stops abnormally.

User response: Ensure that the Generic Logger exit routine has been correctly installed in the //JOBLIB or //STEPLIB.

GLX2908E  MVS NAME TOKEN SERVICE FAILED FOR name, RC=nnnn, RSN=nnnn

Explanation: During the initialization process, the Generic Logger exit routine issued a request to obtain a name token from z/OS, but the request failed with the return code and reason code that are included in the error message.

System action: Processing continues, based on the INITFAIL keyword setting.

User response: Retain any diagnostic information and contact IBM Software Support.

GLX2909E  ERROR action PROCLIB MEMBER member, REASON=reason

Explanation: An error occurred while processing the Generic Logger exit routine PROCLIB member that was specified. The action taken might be READING or PARSING. The possible reasons for the error are:

- NOSTG (no storage available to perform read)
- OPENFAIL (open failed for IMS PROCLIB data set)
- NOTFIXED (IMS PROCLIB data set format is not FIXED)
- READFAIL (read failed for IMS PROCLIB data set)
- NOTFOUND (specified PROCLIB member cannot be found)

Invalid input data is detected by the parsing module and is assigned to the following reason codes:

X'40'
An invalid keyword was detected in the input data.

X'44'
An unknown positional parameter was encountered in the input.

X'48'
A keyword parameter was specified with an equal sign (KEYWORD=), but the keyword was defined as having a sublist of values. Sublists can be specified only in parentheses and an equal sign can be used only if a keyword has a single value.

X'4C'
The input ended before the entire sublist or keyword was parsed.

X'50'
A keyword was encountered (KEYWORD or KEYWORD=), but a value was expected.

X'54'
An input number that was being parsed was out of the range that is allowed for its output field length.
For decimal numbers, the numbers must be less than or equal to 255 for 1-byte fields, 65535 for 2-byte fields, 16777215 for 3-byte fields, and 2147483647 for 4-byte fields. For hex numbers, the number cannot have digits that are more than two times the number of bytes in the output field.

X'58'
A parameter value that is defined as decimal contains non-decimal digits.

X'5C'
A parameter value that is defined as hex contains non-hex digits.

X'60'
A parameter value that is defined as a key value parameter has an unknown key value.

X'64'
A keyword parameter is present multiple times, but it is not defined as being repeatable.

X'68'
A parameter that is defined with REQUIRED=YES was not found in the input data.

X'6C'
A character parameter value is longer than the defined output field length, and truncation is not allowed.

System action: Processing continues, based on the INITFAIL keyword setting.

User response: Review the Generic Logger exit routine installation information to ensure that the PROCLIB member member has been specified correctly.

GLX2910E • GLX2915E

GLX2910E  LOGGER EXIT name INITIALIZATION FAILED.

Explanation: An error occurred during the initialization of the logger exit routine name.

System action: Processing continues based on the INITFAIL keyword setting.

User response: Review other messages that are associated with this error. If the problem persists, contact the provider of the logger exit routine for support.

GLX2911W  MISSING OR INVALID EXIT

Explanation: During initialization, the Generic Logger exit routine found no logger exit routine that was defined, or one was defined incorrectly.

System action: Processing continues based on the INITFAIL keyword setting.

User response: If no exit routines were defined (the PROCLIB member is empty), define the logger exit routines by using a PROCLIB member or a load module. If the exit definition is invalid, see the Generic Logger exit routine setup and usage information, and then redefine the exit routine.

If you want to disable the Generic Logger exit, remove the empty PROCLIB member. When an exit is not configured, it is disabled.

GLX2912E  DUPLICATE EXIT DEFINITION

Explanation: The Generic Logger exit routine has found duplicate logger exit routine definitions in a PROCLIB member or load module.

System action: Processing continues based on the INITFAIL keyword setting.

User response: Check the PROCLIB member or load module and delete the duplicate logger exit routine definition.

GLX2913E  ERROR LOADING EXIT DEFINITION MODULE name

Explanation: An error occurred when the Generic Logger exit routine attempted to load the exit definition module.

System action: The IMS control region stops abnormally.

User response: Ensure that the exit definition module exists in the //STEPLIB or //JOBLIB concatenation.

GLX2913W  NO EXIT DEFINITION FOUND

Explanation: No logger exit definition was found by Generic Logger exit.

System action: Generic Logger exit will unregister itself from IMS and search for next logger exit in //STEPLIB or //JOBLIB. If one is found, control is passed to it.

User response: Make sure that you do not have more than one Logger exit in your IMS environment. If you have more than one Logger exit, you must adjust your configuration to have Generic Logger exit drive all existing Logger exits.

GLX2915E  ERROR LOADING EXIT name FROM LOADLIB=name

Explanation: An error occurred when the Generic Logger exit routine attempted to load the exit routine from the load library name. The exit routine might not exist in the library, or the library is not APF-authorized.

System action: Processing continues, based on the EXITINIT keyword setting.

User response: Ensure that the exit routine exists and that the load library is APF-authorized.
**GLX2917W**  KEYWORD=name IS NOT VALID. DEFAULT VALUE WILL BE USED

**Explanation:** The Generic Logger exit routine found that an invalid value was specified for the keyword.

**System action:** Processing continues. The default value is set for the keyword.

**User response:** Correct the error and resubmit the job.

---

**GLX2918E**  DYNAMIC ALLOCATION FAILED FOR name RC=mnnn, RSN=mnnn, INFO=mnnn

**Explanation:** The Generic Logger exit routine failed to dynamically allocate the load library. The dynamic allocation return code RC=mnnn and reason code RSN=mnnn are included in the message.

**System action:** Processing continues based on the EXITINIT keyword setting.

**User response:** Check the SVC 99 return code and reason code. Correct the error and resubmit the job. If the problem persists, contact IBM Software Support.

---

**GLX2919E**  DYNAMIC DEALLOCATION FAILED FOR name RC=mnnn, RSN=mnnn, INFO=mnnn

**Explanation:** The Generic Logger exit routine failed to dynamically deallocate the load library. The dynamic deallocation return code RC=mnnn and reason code RSN=mnnn are included in the message.

**System action:** Processing continues based on the EXITINIT keyword setting.

**User response:** Check the SVC 99 return code and reason code. Correct the error and resubmit the job. If the problem persists, contact IBM Software Support.

---

**GLX2920E**  name IS NOT APF-AUTHORIZED. INIT FOR EXIT name FAILED.

**Explanation:** The load library name is not APF-authorized. Initialization for the logger exit routine name failed.

**System action:** Processing continues based on the EXITINIT keyword setting.

**User response:** Ensure the load library is APF-authorized and resubmit the job.

---

**GLX2921E**  GLX DRIVER GLXILGXX NOT FOUND

**Explanation:** The Generic Logger exit routine driver routine GLXILGXX was not found.

**System action:** The IMS control region stops abnormally.

**User response:** Ensure that the Generic Logger exit routine has been correctly installed in the //JOBLIB or //STEPLIB.

---

**GLX2923E**  IMS GENERIC LOGGER ESTAE CREATE FAILED, RC=####

**Explanation:** The Generic Logger exit routine failed to create its ESTAE recovery environment.

**System action:** The IMS control region stops abnormally.

**User response:** Retain any diagnostic information and contact IBM Software Support.

---

**GLX2924I**  GLXILGX0 NOT LOADED BY IMS

**Explanation:** The Generic Logger exit routine DFSFLGX0 was not the first logger exit routine found in the IMS execution library concatenation.

**System action:** Processing continues, based on the INITFAIL keyword setting.

**User response:** Ensure that the Generic Logger exit routine DFSFLGX0 is the first logger exit routine in the //STEPLIB or //JOBLIB of the IMS control region JCL.

---

**GLX2925E**  ERROR OPENING LOAD LIB name

**Explanation:** An error occurred when the Generic Logger exit routine attempted to open load library name.

**System action:** Processing continues based on the EXITINIT keyword setting.

**User response:** Retain any diagnostic information and contact IBM Software Support.

---

**GLX2926I**  Informational Messages

**Explanation:** These messages include several types of informational messages that display and describe the Generic Logger exit routine processing.

**System action:** The IMS control region continues normally.

**User response:** None. This message is informational.

---

**GLX2927E**  ERROR GETTING ITASK ECB FOR ESTAE ROUTINE

**Explanation:** The Generic Logger exit routine failed to obtain the ECB under which it is running. This is an internal processing error.

**System action:** The IMS control region stops abnormally.

**User response:** Retain any diagnostic information and contact IBM Software Support.
### GLX2928E  IMS GENERIC LOGGER EXIT
**TERMINATED DUE TO ERROR**

**Explanation:** An Generic Logger exit routine component has terminated due to an error.

**System action:** The Generic Logger exit routine is disabled. IMS logger exit routines are no longer driven.

**User response:** Review the IMS control region job log for other messages that are associated with this error. If the problem persists, retain any diagnostic information and contact IBM Software Support.

---

### GLX2930E  EXIT *name* TERMINATED DUE TO ERROR

**Explanation:** The logger exit routine *name* has been terminated due to an error.

**System action:** The Generic Logger exit routine can no longer drive the *name* logger exit routine.

**User response:** Review other messages that are associated with this error and correct the logger exit routine, if possible. If the problem persists, contact the provider of the logger exit routine for support.

---

### GLX2931E  EXIT *name* NAME NOT UNIQUE

**Explanation:** This error occurs in a batch environment when the Generic Logger exit routine determines that logger exit routine *name* is not unique and cannot be successfully loaded.

**System action:** The Generic Logger exit routine processes this error according to the setting of the EXITINIT keyword.

**User response:** Ensure that all logger exit routines are uniquely named for the batch environment and resubmit the job.
Chapter 6. Generic Logger exit user abend codes

The IMS Tools Generic Logger exit (GLX) issues user abend codes that can help you with troubleshooting.

Generic Logger exit uses only one abend code: 3333.

For each abend code, the following information is provided where applicable:

**Explanation:**
The Explanation section explains what the abend code means, why it occurred, and what its variable entry fields are (if any).

**System action:**
The System action section explains what the system will do next.

**User response:**
The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

---

3333  
**Explanation:** An error occurred while the Generic Logger exit routine was being processed. Additional error messages are issued that indicate the cause of the error. The following abend subcodes provide more information about the error:

- **X'65'**
  LOCATE SCD FAILED
- **X'66'**
  IMS RELEASE NOT SUPPORTED
- **X'67'**
  LOAD GLXIINTX FAILED
- **X'68'**
  INVALID ENVIRONMENT
- **X'69'**
  GLXILGXX NOT LOADED
- **X'C9'**
  LOAD GLXIIX10 FAILED
- **X'CA'**
  LOAD GLXICHKX FAILED
- **X'CB'**
  LOAD GLXILGXX FAILED
- **X'CC'**
  GLXILGX0 NOT LOADED BY IMS
- **X'CD'**
  DUPLICATE INIT CALL
- **X'CE'**
  INVALID CALL
- **X'CF'**
  MVS™ NAME TOKEN SERVICES FAILED
- **X'D0'**
  ERROR READING PROCLIB MEMBER
- **X'D1'**
  ERROR PARSING PROCLIB MEMBER
- **X'D2'**
  CREATE ESTAE FAILED
- **X'D3'**
  LOAD GLXIESTX FAILED
- **X'D4'**
  NO EXIT DEFINITIONS
- **X'D5'**
  DUPLICATE EXIT DEFINITIONS
- **X'D6'**
  LOAD GLXILODX FAILED
- **X'D7'**
  GET ITASK ECB FAILED
- **X'D8'**
  ALLOCATE LOADLIB FAILED
- **X'D9'**
  LOAD EXIT FAILED
- **X'DA'**
  OPEN LOADLIB FAILED
- **X'DB'**
  LOADLIB NOT APF-AUTHORIZED
- **X'DC'**
  GET ITASK ECB FAILED

**System action:** Processing is dependent on the settings.
of the Generic Logger exit routine global processing options.

**User response:** Review the IMS control region job log for error messages that are associated with the problem. Correct the error if possible. If the problem persists, retain any diagnostic information and contact IBM Software Support.
Chapter 7. Generic Partner exit overview and usage

The IMS Tools Generic Partner exit (also referred to as the Generic Partner exit with product prefix GPR) enables multiple copies of the IMS Partner exit, normally named DFSPPUE0 to exist and to be driven within a single IMS environment. The Generic Partner exit drives other Partner exits during IMS initialization so that each can perform its product initialization.

Topics:
- “Generic Partner exit overview” on page 36
- “Generic Partner exit definitions” on page 38
- “Global processing parameters” on page 40
Generic Partner exit overview

The Generic Partner exit (product prefix GPR) enables multiple copies of the IMS Partner exit, normally named DFSPPUE0 to exist and to be driven within a single IMS environment.

The Generic Partner exit drives other partner exits during IMS initialization so that each can perform its product initialization. This feature is necessary because some products (for example, IMS Queue Control Facility and IMS Tools Online Interface) use the partner exit to perform product initialization. You can also have your own partner exit routine.

The Generic Partner exit is a piece of common code is part of IMS Tools Generic Exits, which has its own execution libraries and install process.

The Generic Partner exit is designed to operate on any hardware and software configuration that supports the required versions of IMS. For detailed specifications, refer to the appropriate Program Directory for the IMS Tool that you are using.

Exit control flow

During the initialization process, IMS calls the IMS Tools Generic Exits. The generic exits then call other exits that are defined in their PROCLIB members.

The exit control flow during IMS initialization is summarized in the following figure:

For example, to configure IMS Tools Online System Interface (TOSI), you must specify FOIPPUE0 in the Generic Partner exit (GPR) PROCLIB member. When the Generic Partner exit is called during the IMS initialization process, the Generic Partner exit calls the FOIPPUE0 exit, and TOSI is initialized.

Coexistence with other partner exits

The Generic Partner exit drives all other partner exits under each IMS control region. In the //STEPLIB concatenation, placing the Generic Partner routine DFSPPUE0 (alias GPRIPUE0) as the first copy of the DFSPPUE0 is recommended.
If the Generic Partner exit cannot be at the beginning in the //STEPLIB concatenation because of another exit that must be first, the Generic Partner exit can be placed anywhere in the //STEPLIB under the following condition:

- The DFSPPUE0 that is before the Generic Partner exit must pass control to the Generic Partner exit.

The Generic Partner exit can then call the remaining partner exits that have been defined in the exit list.

**Important:** Ensure that you do not include the DFSPPUE0 in front of the Generic Partner exit in the exit list. Otherwise, a recursive call occurs, which causes a loop.

An exit can determine if it was called by the Generic Partner exit by checking for a literal, as shown in the following code. The literal is pointed by the register 14 + x'4'.

```asm
BALR R14,R15          CALL USER EXIT
B PASTID             SKIP ID
DC CL16'GENERIC EXITS' EYECATCHER
PASTID DS OH
```

**Generic Partner exit activation**

To activate this exit, set up the required member that is described in "Generic Partner exit definitions" on page 38.

If you do not need this exit, do not configure it.

If no exit definitions are found, one of the following conditions occurs:

- If the Generic Partner exit is NOT first in //STEPLIB, the exit returns to its caller without passing control to the next DFSPPUE0 in the //STEPLIB stack.

- If the Generic Partner exit is first in //STEPLIB, the exit transfers control to the next DFSPPUE0 in the //STEPLIB stack and then removes itself from the IMS control region. The Generic Partner exit is not called by IMS again.

In both of the previous conditions, the Generic Partner exit is disabled.

**Important:** Before you disable a generic exit, ensure that the exit is not being used by another IMS tools product. If you disable a generic exit that is being used by another IMS tools product, that tool will not be able to operate.
Generic Partner exit definitions

The Generic Partner exit requires you to define a set of partner exits. If these definitions are not set, the Generic Partner exit issues an error message and continues processing based on the setting of the INITFAIL parameter. No partner exit can be invoked unless a set of partner exit routines have been defined.

The Generic Partner exit supports a BPE-style PROCLIB member for the partner exit list.

The following two naming patterns for the partner exit definitions are supported to provide you the ability to have both IMS specific definitions and global definitions, if you need them.

For IMS specific definitions, the name must follow the pattern of GPRiiii0, where iii is the 4-character, alphanumeric IMS ID. For global definitions that are not specific to any particular IMS, the name will be GPREXIT0. When the Generic Partner exit initializes, the search order it follows to locate the definitions is the order that is presented in the following list:

1. PROCLIB member GPRiiii0
2. PROCLIB member GPREXIT0

The first member that is located is used for exit definitions and no other members are processed. If no exit definition member is found or if a member is found but it contains no definitions, the Generic Partner exit issues messages and continues processing based on the setting of the INITFAIL parameter.

PROCLIB member definitions

Define your Partner exits through a PROCLIB member. Each exit must be defined using the following BPE-format control card. The order of the statements in the member determines the order in which the exits are called. This member can be in any data set within your PROCLIB DD concatenation in the JCL.

The following examples shows the format of the control card:

```
EXITDEF(TYPE(PARTNER) EXITNAME(exit-name) LOADLIB(load-library))
```

The following rules apply to the control card:

- You must specify each exit that is to be called in a separate EXITDEF() statement.
- You must set the TYPE() keyword PARTNER for this feature.
- You must specify the name of the exit with the EXITNAME() keyword and it must match a member name in the specified load library.
- You must specify the load library in which the exit resides with the LOADLIB() keyword and LOADLIB() must specify a cataloged load library which is APF authorized, and to which the IMS control region has access.

The Generic Partner exit tests the load library to ensure that it is APF authorized. If the load library is not APF authorized, the exit is not called, and error messages are issued. Processing continues based on your global statement specification.

The following sample shows a Generic Partner exit definition member for an IMS control region that includes IMS Queue Control Facility, IMS Tools Online Interface, and a customer Partner exit routine:
When the Generic Partner exit initializes, it loads each exit and calls it for initialization in the order that is specified in the definition member.
Global processing parameters

In addition to defining the actual Partner exits, there are global parameters that you can use to control Generic Partner exit processing in error situations. You specify these parameters in the PROCLIB member named GROPT0.

Three situations can occur in which you can drive the Generic Partner exit processing:

- When the Generic Partner exit is initializing and setup errors are detected, such as a missing exit definition member, control card errors, or no exits are defined
- When processing an exit routine definition during initialization and the exit routine cannot be located or loaded, or the load library is not APF-authorized
- During invocation of an exit, an error occurs in the exit routine that causes an abend

In any of these cases, you can use a global parameter to cause the Generic Partner exit to generate an abend for the job or perform recovery processing and continue.

The following example shows the format of the global parameter when it is specified in the PROCLIB member:

```
GLOBAL(INITFAIL(ABEND | WARNING)
   EXITINIT(ABEND | TERMEXIT)
   EXITPROC(ABEND | TERMEXIT))
```

**INITFAIL parameter**

The INITFAIL parameter drives processing when an error is encountered while attempting to initialize the Generic Partner exit.

The following errors can occur:

- The Generic Partner exit copy of DFSPPUE0 was not the first copy of DFSPPUE0 that was invoked.
- No exit definitions were found.
- Errors were detected in the exit definitions.

You can set the INITFAIL parameter to either of the following settings:

**INITFAIL=ABEND**

This setting causes the Generic Partner exit to issue an error message and return to IMS with RC=12.

**INITFAIL=WARNING**

This setting causes the Generic Partner exit to issue warning messages and return to IMS with an RC=0 that allows the Generic Partner exit to continue processing. In this case, no Partner exits are invoked during IMS processing.

**INITFAIL=WARNING** is the default setting.

**EXITINIT parameter**

The EXITINIT parameter drives processing when an error occurs while attempting to locate or load the exit routine during Generic Partner exit initialization or if the load library is not APF authorized.

You can set the EXITINIT parameter to either of the following settings:
EXITINIT=ABEND
This setting causes the Generic Partner exit to issue an error message and return to IMS with RC=12.

EXITINIT=TERMEXIT
This setting causes the Generic Partner exit to issue an error message for the exit, and then continue processing the remaining exits.

EXITINIT=TERMEXIT is the default setting.

EXITPROC parameter
The EXITPROC parameter drives the processing when an error occurs within the exit while it is processing.

You can set the EXITPROC parameter to either of the following settings:

EXITPROC=ABEND
This setting causes the Generic Partner exit to issue an error message and return to IMS with RC=12.

EXITPROC=TERMEXIT
This setting causes the Generic Partner exit to issue an error message for the exit, and then continue calling the remaining exits.

EXITPROC=TERMEXIT is the default setting.
Chapter 8. Generic Partner exit messages (GPR)

The IMS Tools Generic Partner exit (GPR) issues messages that can help you understand the state of the exit and help you resolve errors.

Message format

IMS Tools Generic Partner exit (GPR) messages adhere to the following format:

GPRnnnxx

Where:

GPR Indicates that the message was issued by IMS Tools Generic Partner exit (GPR)

nnnn Indicates the message identification number

x Indicates the severity of the message:

A Indicates that operator intervention is required before processing can continue.

E Indicates that an error occurred, which might or might not require operator intervention.

I Indicates that the message is informational only.

W Indicates that the message is a warning to alert you to a possible error condition.

Each message also includes the following information:

Explanation:
The Explanation section explains what the message text means, why it occurred, and what its variables represent.

System action:
The System action section explains what the system will do in response to the event that triggered this message.

User response:
The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

---

**GPR2901E** UNABLE TO LOCATE IMS SSCD

**Explanation:** Generic Partner exit could not locate IMS SSCD.

**System action:** The IMS control region ends abnormally with a U=3000.

**User response:** Contact IBM Software support and provide dump.

---

**GPR2902E** IMS RELEASE NOT SUPPORTED

**Explanation:** Generic Partner exit is executing in an unsupported IMS release.

**System action:** The IMS control region ends abnormally with a U=3000.

**User response:** Ensure that the Generic Partner exit that is being run is on a supported IMS release.

---

**GPR2903E** LOAD FAILED FOR GPR MODULE **name**

**Explanation:** Generic Partner exit could not locate the named module.
**GPR2905E** • **GPR2911W**

**System action:** The IMS control region ends abnormally with a U=3000.

**User response:** Contact IBM Software support.

**GPR2905E** IMS GENERIC PARTNER EXIT INITIALIZATION FAILED

**Explanation:** Generic Partner exit has failed to initialize.

**System action:** The IMS control region ends abnormally with a U=3000.

**User response:** Examine the previous messages for the reason.

**GPR2908E** MVS NAME TOKEN SERVICE FAILED FOR name, RC=nnnn, RSN=nnnn

**Explanation:** Generic Partner exit has failed to obtain a name token.

**System action:** The IMS control region ends abnormally with a U=3000.

**User response:** Contact IBM Software support.

**GPR2909E** ERROR action PROCLIB MEMBER member, REASON=reason

**Explanation:** An error occurred while processing the IMS Generic Partner exit routine PROCLIB member member that was specified. The action that was taken might be READING or PARSING. The possible reasons for the error are as follow:

- NOSTG- no storage was available to perform the read
- OPENFAIL- the open failed for the IMS PROCLIB data set
- NOTFIXED- the IMS PROCLIB data set format is not FIXED
- READFAIL- the read failed for the IMS PROCLIB data set
- NOTFOUND- the specified PROCLIB member cannot be found

Invalid input data is detected by the parsing module and is assigned to one of the following reason codes:

- **X'40'** A keyword was encountered (KEYWORD or KEYWORD=), but a value was expected instead.
- **X'50'** An input number that was being parsed was out of the range that is allowed for its output field length. For decimal numbers, the numbers must be less than or equal to 255 for 1-byte fields, 65535 for 2-byte fields, 16777215 for 3-byte fields, and 2147483647 for 4-byte fields. For hex numbers, the number cannot have digits that are more than two times the number of bytes in the output field.
- **X'58'** A parameter value that is defined as decimal contains non-decimal digits.
- **X'5C'** A parameter value that is defined as hex contains non-hex digits.
- **X'60'** A parameter value that is defined as a key value parameter has an unknown key value.
- **X'64'** A keyword parameter is present multiple times, but it is not defined as being repeatable.
- **X'68'** A parameter that is defined with REQUIRED=YES was not found in the input data.
- **X'6C'** A character parameter value is longer than the defined output field length, and truncation is not allowed.

**System action:** Processing continues, based on the INITFAIL keyword setting.

**User response:** Review the IMS GPR exit routine installation information to ensure that the PROCLIB member member has been specified correctly.

**GPR2910E** PARTNER EXIT name INITIALIZATION FAILED

**Explanation:** The named exit has failed to initialize.

**System action:** Processing continues based on the EXITINIT keyword setting.

**User response:** Contact the exit provider for support.

**GPR2911W** MISSING OR INVALID EXIT

**Explanation:** Missing or invalid exit definition found.

**System action:** Processing continues based on the INITFAIL keyword setting.

**User response:** If no exit routines were defined (the PROCLIB member is empty), define the partner exit routines by using a PROCLIB member or a load module. If the exit definition is invalid, see the Generic Partner exit routine setup and usage information, and then redefine the exit routine.

If you want to disable the Generic Partner exit, remove
the empty PROCLIB member. When an exit is not configured, it is disabled.

**GPR2912E  DUPLICATE EXIT DEFINITION**

**Explanation:** Duplicate exit definition found.

**System action:** Processing continues based on the INITFAIL keyword setting.

**User response:** Remove duplicate definitions and resubmit the job.

**GPR2913W  NO EXIT DEFINITION FOUND**

**Explanation:** No partner exit definition was found by Generic Partner exit.

**System action:** Generic Partner exit will unregister itself from IMS and search for next partner exit in //STEPLIB or //JOBLIB. If one is found, control is passed to it.

**User response:** Make sure that you do not have more than one Partner exit in your IMS environment. If you have more than one Partner exit, you must adjust your configuration to have Generic Partner exit drive all existing Partner exits.

**GPR2915E  ERROR LOADING EXIT name FROM LOADLIB=name**

**Explanation:** An error occurred while loading the exit from the load library.

**System action:** Processing continues based on the EXITINIT keyword setting.

**User response:** Make sure the exit exists and load library is APF-authorized.

**GPR2916W  GPROPT0 NOT FOUND. DEFAULT GLOBAL OPTIONS WILL BE USED**

**Explanation:** Invalid value was specified for the keyword.

**System action:** Processing continues. Default value is set for the keyword.

**User response:** Correct the error and resubmit the job.

**GPR2917W  keyword=name IS NOT VALID. DEFAULT VALUE WILL BE USED**

**Explanation:** Invalid value was specified for the keyword.

**System action:** Processing continues. Default value is set for the keyword.

**User response:** Correct the error and resubmit the job.

**GPR2918E  DYNAMIC ALLOCATION FAILED FOR name RC=nnnn, RSN=nnnn, INFO=nnnn**

**Explanation:** Dynamic allocation failed for the named library.

**System action:** Processing continues based on the EXITINIT keyword setting.

**User response:** Check meaning of SVC 99 return code and reason code. Correct the error and resubmit the job. If the problem persists, contact IBM Software Support.

**GPR2919E  DYNAMIC DEALLOCATION FAILED FOR name RC=nnnn, RSN=nnnn, INFO=nnnn**

**Explanation:** Dynamic deallocation failed for the named library.

**System action:** Processing continues based on the EXITINIT keyword setting.

**User response:** Check the meaning of SVC 99 return code and the reason code. Correct the error and resubmit the job. If the problem persists, contact IBM Software Support.

**GPR2920E  name IS NOT APF-AUTHORIZED. INIT FOR EXIT name FAILED**

**Explanation:** The named load library is not APF-authorized. Initialization for the named Partner exit failed.

**System action:** Processing continues based on the EXITINIT keyword setting.

**User response:** Correct the error and resubmit the job.

**GPR2923E  IMS GENERIC PARTNER ESTAE CREATE FAILED, RC=####**

**Explanation:** Generic Partner exit failed to create its ESTAE recovery environment.

**System action:** The IMS control region ends abnormally with a U=3000.

**User response:** Contact IBM Software Support.

**GPR2924I  GPRIPUE0 NOT LOADED BY IMS**

**Explanation:** Generic Partner exit DFSPPUE0 was not the first Partner exit in IMS execution library concatenation.

**System action:** The IMS control region ends abnormally with a U=3000.

**User response:** Ensure that the Generic Partner exit, DFSPPUE0 is the first in IMS library concatenation.
GPR2925E  ERROR OPENING LOAD LIB name

Explanation: An error occurred when Generic Partner exit tried to open the named load library.

System action: Processing continues based on the EXITINIT keyword setting.

User response: Contact IBM Software Support.

GPR2926I  Informational Messages

Explanation: Various informational messages showing Generic Partner exit processing.

System action: The IMS control region continues normally.

User response: None. This message is informational.

GPR2927E  ERROR GETTING ITASK ECB FOR ESTAE ROUTINE

Explanation: Generic Partner exit failed to obtain the ECB its executing under.

System action: The IMS control region ends abnormally with a U=3000.

User response: Contact IBM Software Support.

GPR2928E  IMS GENERIC PARTNER EXIT TERMINATED DUE TO ERROR

Explanation: Generic Partner exit component has terminated because of an error.

System action: Generic Partner exit functions are no longer available.

User response: Examine previous error messages for the causes.

GPR2930E  EXIT name TERMINATED DUE TO ERROR

Explanation: The named Partner exit has been terminated because of an error.

System action: The named Partner exit will no longer be driven by Generic Partner exit.

User response: Examine previous error messages for the causes.
Chapter 9. Generic Partner exit user abend codes

The IMS Tools Generic Partner exit (GPR) issues user abend codes that can help you with troubleshooting.

Generic Partner exit uses only one abend code: 3000.

For each abend code, the following information is provided where applicable:

**Explanation:**
The Explanation section explains what the abend code means, why it occurred, and what its variable entry fields are (if any).

**System action:**
The System action section explains what the system will do next.

**User response:**
The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

3000

**Explanation:** An error occurred while the Generic Partner exit routine was being processed. Additional error messages are issued that indicate the cause of the error. The following abend subcodes provide more information about the error:

- **X'65'**
  - LOAD SCD FAILED
- **X'66'**
  - IMS RELEASE NOT SUPPORTED
- **X'67'**
  - LOAD GPRINTX FAILED
- **X'CA'**
  - LOAD GPRICHKX FAILED
- **X'CC'**
  - GPRIPUE0 NOT LOADED BY IMS
- **X'CF'**
  - MVS NAME TOKEN SERVICES FAILED
- **X'D0'**
  - ERROR READING PROCLIB MEMBER
- **X'D1'**
  - ERROR PARSING PROCLIB MEMBER
- **X'D2'**
  - CREATE ESTAE FAILED
- **X'D3'**
  - LOAD GPRIESTX FAILED
- **X'D4'**
  - NO EXIT DEFINITIONS
- **X'D5'**
  - DUPLICATE EXIT DEFINITIONS
- **X'D6'**
  - LOAD GPRILODX FAILED
- **X'D7'**
  - GET ITASK ECB FAILED
- **X'12D'**
  - ALLOCATE LOADLIB FAILED
- **X'12F'**
  - OPEN LOADLIB FAILED
- **X'130'**
  - LOADLIB NOT APF-AUTHORIZED
- **X'191'**
  - GET ITASK ECB FAILED

**System action:** Processing is dependent on the settings of the IMS Generic Partner exit routine global processing options.

**User response:** Review the IMS control region job log for error messages that are associated with the problem. Correct the error if possible. If the problem persists, retain any diagnostic information and contact IBM Software Support.
Chapter 10. Generic MSC exit overview and usage

The IMS Tools Generic Transaction Manager and Multiple Systems Coupling Message Routing and Control User exit (also referred to as the Generic MSC exit with product prefix GEX) enables multiple copies of the IMS MSC exit routine (DFSMSCE0) to exist and to be driven within a single IMS environment. The Generic MSC exit drives other MSC exit routines.

Topics:
- "Generic MSC exit overview" on page 50
- "Generic MSC exit definitions" on page 52
- "Global processing parameters" on page 54
Generic MSC exit overview

The IMS Tools Generic TM and MSC Message Routing exit (also referred to as the Generic MSC exit with product prefix GEX) enables multiple copies of the IMS MSC exit routine (DFSMSCE0) to exist and to be driven within a single IMS environment. The Generic MSC exit drives other MSC exit routines.

The Generic MSC exit can be used with several IMS Tools products to perform transaction routing. You can also have your own MSC exit routine.

The purpose of the Generic MSC exit is to be a driver for other MSC exits. The Generic MSC exit is product-independent and does no product-specific work itself. It calls other MSC exits during IMS processing so each can perform message routing.

The Generic MSC exit is designed to operate on any hardware and software configuration that supports the required versions of IMS. For detailed specifications, refer to the appropriate Program Directory for the IMS Tool that you are using.

Exit control flow

During the initialization process, IMS calls the IMS Tools Generic Exits. The generic exits then call other exits that are defined in their PROCLIB members.

The exit control flow during IMS initialization is summarized in the following figure:

![Exit control flow diagram]

For example, to configure IMS Sysplex Manager, you must specify GJEMSCE0 in the Generic MCS exit (GEX) PROCLIB member. When GJEMSCE0 is added to the GEX PROCLIB member, the Generic MSC exit calls GJEMSCE0 after the IMS initialization process calls the Generic MSC exit.

Coexistence with other MSC exits

The Generic MSC exit drives all other MSC exits under each IMS control region. In the //STEPLIB concatenation, placing the Generic MSC routine DFSMSCE0 (alias GEXMSCE0) as the first copy of the DFSMSCE0 is recommended.
If the Generic MSC exit cannot be at the beginning in the //STEPLIB concatenation because of another exit that must be first, the Generic MSC exit can be placed anywhere in the //STEPLIB under the following condition:

- The DFSMSCE0 that is before the Generic MSC exit must pass control to the Generic MSC exit.

The Generic MSC exit can then call the remaining MSC exits that have been defined in the exit list.

**Important:** Ensure that you do not include the DFSMSCE0 in front of the Generic MSC exit in the exit list. Otherwise, a recursive call occurs, which causes a loop.

An exit can determine if it was called by the Generic MSC exit by checking for a literal, as shown in the following code. The literal is pointed by the register 14 + x'4'.

```assembly
  BALR R14,R15    CALL USER EXIT
  B PASTID       SKIP ID
  DC CL16"GENERIC EXITS" EYECATCHER
  PASTID DS 0H
```

**Generic MSC exit activation**

To activate this exit, set up the required member that is described in "Generic MSC exit definitions" on page 52.

If you do not need this exit, do not configure it.

If no exit definitions are found, one of the following conditions occurs:

- If the Generic MSC exit is NOT first in //STEPLIB, the exit returns to its caller without passing control to the next DFSMSCE0 in the //STEPLIB stack.
- If the Generic MSC exit is first in //STEPLIB, the exit transfers control to the next DFSMSCE0 in the //STEPLIB stack and then removes itself from the IMS control region. The Generic MSC exit is not called by IMS again.

In both of the previous conditions, the Generic MSC exit is disabled.

**Important:** Before you disable a generic exit, ensure that the exit is not being used by another IMS tools product. If you disable a generic exit that is being used by another IMS tools product, that tool will not be able to operate.
Generic MSC exit definitions

The Generic MSC exit requires you to define a set of MSC exit routines. If these definitions are not set, the Generic MSC exit issues an error message and continues processing based on the setting of the INITFAIL parameter. No MSC exit routine can be invoked unless a set of QSN exit routines have been defined.

Generic MSC exit supports a BPE-style PROCLIB member for the MSC exit list.

The following two naming patterns for the definitions are supported so that you can use both IMS-specific definitions and, if needed, global definitions for cloned IMS environments:

- For IMS-specific definitions, the name follows the pattern: GEXxxxx0, where xxxx is the IMS ID.
- For global definitions that are not specific to any IMS system, the name is GEXEXIT0.

When Generic MSC exit initializes, the following search order is used to locate the exit routine definitions:
1. PROCLIB member GEXxxxx0
2. PROCLIB member GEXEXIT0

The first member that is located is used for the exit routine definitions. No other members are processed.

If no exit routine definition member is found or if the member is found but contains no definitions, the Generic MSC exit issues messages and continues processing based on the setting of the INITFAIL parameter.

PROCLIB member definitions

MSC exit routines are defined by using a PROCLIB member. Each exit routine must be defined by using a BPE-format control card.

The order of the statements in the member determines the order in which the exit routines are called.

Important: Because all MSC exits are able to affect the routing of a message, IMS Sysplex Manager's copy of DFSMSCE0 must be the last exit that is defined in the PROCLIB member so that IMS Sysplex Manager has the priority in determining where the message should be processed.

This member can be in any data set within the //PROCLIB DD concatenation in the IMS control region JCL.

The following example shows the format of the control card:
EXITDEF(TYPE(MSCE) EXITNAME(exit-name) LOADLIB(load-library))

The following rules apply to the control card:
- Each exit routine that is to be called must be specified in a separate EXITDEF() statement.
- The TYPE() keyword must be MSCE for this feature.
- The name of the exit routine is specified with the EXITNAME() keyword and must match a member name in the specified load library.
The load library in which the exit routine resides is specified with the LOADLIB() keyword and must specify a cataloged load library that is APF-authorized and to which the IMS control region has access.

The Generic MSC exit tests the load library to ensure that it is APF-authorized (DEBAPFIN bit in the DEB). If the load library is not APF-authorized, the exit routine is not called, and error messages are issued. Processing continues based on the global statement specification.

The following sample shows a Generic MSC exit definition member for an IMS control region that includes a customized MSC exit routine and an IMS Sysplex Manager exit:

```plaintext
EXITDEF(TYPE(MSCE) EXITNAME(DFSMSCE0) LOADLIB(user.LOADLIB))
EXITDEF(TYPE(MSCE) EXITNAME(GJEMSCE0) LOADLIB(IMSSM.LOADLIB))
```

When the Generic MSC exit initializes, it loads each exit routine and calls it for initialization in the order that is specified in the member.
Global processing parameters

In addition to defining the actual MSC exit routines, you can optionally use global processing parameters to control the Generic MSC exit processing in error situations. You specify these parameters in the PROCLIB member or in the load module named GEXOPT0.

Three situations can occur in which you can drive the Generic MSC exit processing:

• When the Generic MSC exit is initializing and setup errors are detected, such as a missing exit routine definition member, control card errors, or when no exit routines are defined
• When processing an exit routine definition during initialization and the exit routine cannot be located or loaded, or the load library is not APF-authorized
• During invocation of an exit routine, an error occurs in the exit routine that causes an abend

In any of these cases, you can use a global parameter to make the Generic MSC exit generate an abend for the job or perform recovery processing and continue.

The following example shows the format of the global parameter when it is specified in the PROCLIB member:

GLOBAL(INITFAIL(ABEND | WARNING)
  EXINIT(ABEND | TERMEXIT)
  EXITPROC(ABEND | TERMEXIT))

INITFAIL parameter

The INITFAIL parameter drives processing when an error occurs while attempting to initialize the Generic MSC exit.

The following errors can occur:

• The Generic MSC exit copy of DFSMSCE0 was not the first copy of DFSMSCE0 invoked.
• No exit definitions were found.
• Errors were detected in the exit definitions.

You can set the INITFAIL parameter to either of the following settings:

INITFAIL=ABEND
  This setting causes the Generic MSC exit to issue an error message and return to IMS with RC=12.

INITFAIL=WARNING
  This setting causes the Generic MSC exit to issue warning messages and return control to IMS with RC=0 to allow it to continue processing. In this case, no MSC exit routines are invoked during IMS processing.
  INITFAIL=WARNING is the default setting.

EXINIT parameter

The EXINIT parameter drives processing when an error occurs while attempting to locate or load the exit routine during the Generic MSC exit initialization or if the load library is not APF-authorized.

You can set the EXINIT parameter to either of the following settings:
EXITINIT=ABEND
This setting causes the Generic MSC exit to issue an error message and return to IMS with RC=12.

EXITINIT=TERMEXIT
This setting causes the Generic MSC exit to issue an error message for the exit routine, and then continue processing the remaining exits.
EXITINIT=TERMEXIT is the default setting.

EXITPROC parameter
The EXITPROC parameter drives the processing when an error occurs within the exit routine while it is processing.

You can set the EXITPROC parameter to either of the following settings:

EXITPROC=ABEND
This setting causes the Generic MSC exit to issue an error message and return to IMS with RC=12.

EXITPROC=TERMEXIT
This setting causes the Generic MSC exit to issue an error message for the exit routine, and then continue calling the remaining exits.
EXITPROC=TERMEXIT is the default setting.
Chapter 11. Generic MSC exit messages (GEX)

The IMS Tools Generic MSC exit (GEX) issues messages that can help you understand the state of the exit and help you resolve errors.

Message format

IMS Tools Generic MSC exit (GEX)) messages adhere to the following format:

GEXnnnnxx

Where:

GEX Indicates that the message was issued by IMS Tools Generic MSC exit (GEX)

nnnn Indicates the message identification number

x Indicates the severity of the message:

A Indicates that operator intervention is required before processing can continue.

E Indicates that an error occurred, which might or might not require operator intervention.

I Indicates that the message is informational only.

W Indicates that the message is a warning to alert you to a possible error condition.

Each message also includes the following information:

Explanation:
The Explanation section explains what the message text means, why it occurred, and what its variables represent.

System action:
The System action section explains what the system will do in response to the event that triggered this message.

User response:
The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

GEX2902E IMS RELEASE NOT SUPPORTED

Explanation: Generic MSC exit is executing in an unsupported IMS release.

System action: The IMS control region ends abnormally with U=4014.

User response: Ensure Generic MSC exit is being run on a supported IMS release.

GEX2903E LOAD FAILED FOR GEX MODULE name

Explanation: Generic MSC exit could not locate its static work area to continue processing.

System action: The IMS control region ends abnormally with U=4014.

User response: Retain any diagnostic information and contact IBM Software Support.

GEX2904E CANNOT LOCATE STW IN POOL

Explanation: Generic MSC exit could not locate the named module.

System action: The IMS control region ends abnormally with U=4014.

User response: Retain any diagnostic information and contact IBM Software Support.
System action: The IMS control region ends abnormally with U=4014.

User response: Retain any diagnostic information and contact IBM Software Support.

GEX2905E IMS GENERIC MSC EXIT INITIALIZATION FAILED
Explanation: Generic MSC exit has failed to initialize.

System action: The IMS control region ends abnormally with U=4014.

User response: Examine previous messages for possible reasons.

GEX2908E MVS NAME TOKEN SERVICE FAILED FOR name, RC=nnnn, RSN=nnnn
Explanation: During the initialization process, the Generic MSC exit routine issued a request to obtain a name token from z/OS, but the request failed with the return code and reason code that are included in the error message.

System action: The IMS control region ends abnormally with U=4014.

User response: Retain any diagnostic information and contact IBM Software Support.

GEX2909E ERROR action PROCLIB MEMBER member, REASON=reason
Explanation: An error occurred while processing the Generic MSC exit routine PROCLIB member that was specified. The action taken might be READING or PARISING. The possible reasons for the error are:
- NOSTG (no storage available to perform read)
- OPENFAIL (open failed for IMS PROCLIB data set)
- NOTFIXED (IMS PROCLIB data set format is not FIXED)
- READFAIL (read failed for IMS PROCLIB data set)
- NOTFOUND (specified PROCLIB member cannot be found)

Invalid input data is detected by the parsing module and is assigned to the following reason codes:

X'40'
An invalid keyword was detected in the input data.

X'44'
An unknown positional parameter was encountered in the input.

X'48'
A keyword parameter was specified with an equal sign (KEYWORD=), but the keyword was defined as having a sublist of values. Sublists can be specified only in parentheses and an equal sign can be used only if a keyword has a single value.

X'4C'
The input ended before the entire sublist or keyword was parsed.

X'50'
A keyword was encountered (KEYWORD or KEYWORD=), but a value was expected.

X'54'
An input number that was being parsed was out of the range that is allowed for its output field length. For decimal numbers, the numbers must be less than or equal to 255 for 1-byte fields, 65535 for 2-byte fields, 16777215 for 3-byte fields, and 2147483647 for 4-byte fields. For hex numbers, the number cannot have digits that are more than two times the number of bytes in the output field.

X'58'
A parameter value that is defined as decimal contains non-decimal digits.

X'5C'
A parameter value that is defined as hex contains non-hex digits.

X'60'
A parameter value that is defined as a key value parameter has an unknown key value.

X'64'
A keyword parameter is present multiple times, but it is not defined as being repeatable.

X'68'
A parameter that is defined with REQUIRED=YES was not found in the input data.

X'6C'
A character parameter value is longer than the defined output field length, and truncation is not allowed.

System action: Processing continues, based on the INITFAIL keyword setting.

User response: Review the Generic MSC exit routine installation information to ensure that the PROCLIB member member has been specified correctly.

GEX2910E MSC EXIT name INITIALIZATION FAILED.
Explanation: The named exit has failed to initialize.

System action: Processing continues based on the EXITINIT keyword setting.

User response: Review other messages that are associated with this error. If the problem persists, contact the provider of the MSC exit routine for support.
**GEX2911W**  MISSING OR INVALID EXIT  

**Explanation:** Missing or invalid exit definition found.  

**System action:** Processing continues based on the INITFAIL keyword setting.  

**User response:** If no exit routines were defined (the PROCLIB member is empty), define the MSC exit routines by using a PROCLIB member or a load module. If the exit definition is invalid, see the Generic MSC exit routine setup and usage information, and then redefine the exit routine.  

If you want to disable the Generic MSC exit, remove the empty PROCLIB member. When an exit is not configured, it is disabled.

**GEX2912E**  DUPLICATE EXIT DEFINITION  

**Explanation:** The Generic MSC exit routine has found duplicate exit routine definitions in a PROCLIB member or load module.  

**System action:** Processing continues based on the INITFAIL keyword setting.  

**User response:** Check the PROCLIB member or load module, delete the duplicate exit routine definition, and resubmit the job.

**GEX2913W**  NO EXIT DEFINITION FOUND  

**Explanation:** No MSC exit definition was found by Generic MSC exit.  

**System action:** Generic MSC exit will unregister itself from IMS and search for next MSC exit in //STEPLIB or //JOBLIB. If one is found, control is passed to it.  

**User response:** Make sure that you do not have more than one MSC exit in your IMS environment. If you have more than one MSC exit, you must adjust your configuration to have Generic MSC exit drive all existing MSC exits.

**GEX2915E**  ERROR LOADING EXIT name FROM LOADLIB=name  

**Explanation:** An error occurred when the Generic MSC exit routine attempted to load the exit routine from the load library name. The exit routine might not exist in the library, or the library is not APF-authorized.  

**System action:** Processing continues, based on the EXITINIT keyword setting.  

**User response:** Ensure that the exit routine exists and that the load library is APF-authorized.

**GEX2916W**  GEXOPT0 NOT FOUND. DEFAULT GLOBAL OPTIONS WILL BE USED  

**Explanation:** Invalid value was specified for the keyword.  

**System action:** Processing continues. Default value is set for the keyword.  

**User response:** Correct the error and resubmit the job.

**GEX2917W**  KEYWORD=name IS NOT VALID. DEFAULT VALUE WILL BE USED  

**Explanation:** The Generic MSC exit routine found that an invalid value was specified for the keyword.  

**System action:** Processing continues. The default value is set for the keyword.  

**User response:** Correct the error and resubmit the job.

**GEX2918E**  DYNAMIC ALLOCATION FAILED FOR name RC=nnnn, RSN=nnnn, INFO=nnnn  

**Explanation:** The Generic MSC exit routine failed to dynamically allocate the load library. The dynamic allocation return code RC=nnnn and reason code RSN=nnnn are included in the message.  

**System action:** Processing continues based on the EXITINIT keyword setting.  

**User response:** Check the SVC 99 return code and reason code. Correct the error and resubmit the job. If the problem persists, contact IBM Software Support.

**GEX2919E**  DYNAMIC DEALLOCATION FAILED FOR name RC=nnnn, RSN=nnnn, INFO=nnnn  

**Explanation:** The Generic MSC exit routine failed to dynamically deallocate the load library. The dynamic allocation return code RC=nnnn and reason code RSN=nnnn are included in the message.  

**System action:** Processing continues based on the EXITINIT keyword setting.  

**User response:** Check the SVC 99 return code and reason code. Correct the error and resubmit the job. If the problem persists, contact IBM Software Support.

**GEX2920E**  name IS NOT APF-AUTHORIZED. INIT FOR EXIT name FAILED  

**Explanation:** The load library name is not APF-authorized. Initialization for the MSC exit routine name failed.  

**System action:** Processing continues based on the EXITINIT keyword setting.  

**User response:** Ensure the load library is...
APF-authorized and resubmit the job.

**GEX2921E** COULD NOT LOCATE MSC ENTRY POINTS FOR EXIT *name*. INIT FOR EXIT *name* FAILED.

**Explanation:** Entry points for the named MSC exit could not be located. Initialization for the named MSC exit failed.

**System action:** Processing continues based on the EXITINIT keyword setting.

**User response:** Make sure VECTOR=MSCVTABLE is used in the DFSMSCVT macro in the named MSC exit.

**GEX2923E** IMS GENERIC MSC ESTAE CREATE FAILED, RC=####

**Explanation:** The Generic MSC exit routine failed to create its ESTAE recovery environment.

**System action:** The IMS control region ends abnormally with U=4014.

**User response:** Retain any diagnostic information and contact IBM Software Support.

**GEX2924I** GEXMSCE0 NOT LOADED BY IMS

**Explanation:** The Generic MSC exit routine DFSMSCE0 was not the first MSC exit in the IMS execution library concatenation.

**System action:** The IMS control region ends abnormally with U=4014.

**User response:** Ensure that the Generic MSC exit routine DFSMSCE0 is the first MSC exit routine in the IMS concatenation.

**GEX2925E** ERROR OPENING LOAD LIB *name*

**Explanation:** An error occurred when the Generic MSC exit routine attempted to open the named load library.

**System action:** Processing continues based on the EXITINIT keyword setting.

**User response:** Retain any diagnostic information and contact IBM Software Support.

**GEX2926I** Informational Messages

**Explanation:** These messages include several types of informational messages that display and describe the Generic MSC exit routine processing.

**System action:** The IMS control region continues normally.

**User response:** None. This message is informational.
Chapter 12. Generic MSC exit user abend codes

The IMS Tools Generic MSC exit (GEX) issues user abend codes that can help you with troubleshooting.

Generic MSC exit uses only one abend code: 4014.

For each abend code, the following information is provided where applicable:

**Explanation:**
The Explanation section explains what the abend code means, why it occurred, and what its variable entry fields are (if any).

**System action:**
The System action section explains what the system will do next.

**User response:**
The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

---

**4014**

**Explanation:** An error occurred while the Generic MSC exit routine was being processed. Additional error messages are issued that indicate the cause of the error. The following abend subcodes provide more information about the error:

- **X'66'**
  IMS RELEASE NOT SUPPORTED

- **X'67'**
  LOAD GEXIINTX FAILED

- **X'68'**
  INVALID ENVIRONMENT

- **X'69'**
  GEXIMSCX NOT LOADED

- **X'CA'**
  LOAD GEXICHKX FAILED

- **X'CB'**
  LOAD GEXIMSCX FAILED

- **X'CC'**
  GEXMSCE0 NOT LOADED BY IMS

- **X'CD'**
  DUPLICATE INIT CALL

- **X'CE'**
  INVALID CALL

- **X'CF'**
  MVS NAME TOKEN SERVICES FAILED

- **X'D0'**
  ERROR READING PROCLIB MEMBER

- **X'D1'**
  ERROR Parsing PROCLIB MEMBER

- **X'D2'**
  CREATE ESTAE FAILED

- **X'D3'**
  LOAD GEXIESTX FAILED

- **X'D4'**
  NO EXIT DEFINITIONS

- **X'D5'**
  DUPLICATE EXIT DEFINITIONS

- **X'D6'**
  LOAD GEXILODX FAILED

- **X'12D'**
  ALLOCATE LOADLIB FAILED

- **X'12F'**
  OPEN LOADLIB FAILED

- **X'130'**
  LOADLIB NOT APF-AUTHORIZED

**System action:** Processing is dependent on the settings of the IMS Multiple Systems Coupling exit routine global processing options.

**User response:** Review the IMS control region job log for error messages that are associated with the problem. Correct the error if possible. If the problem persists, retain any diagnostic information and contact IBM Software Support.
Chapter 13. Generic QSN exit overview and usage

The IMS Tools Queue Space Notification exit (also referred to as the Generic QSN exit with product prefix GEXQ) enables multiple copies of the IMS QSN exit routine (DFSQSSP0) to exist and to be driven within a single IMS environment. The Generic QSN exit drives other QSN exit routines.

Topics:

- “Generic QSN exit overview” on page 64
- “Generic QSN exit definitions” on page 66
- “Global processing parameters” on page 68
Generic QSN exit overview

The IMS Tools Generic Queue Space Notification exit (also referred to as the Generic QSN exit with product prefix GEXQ) enables multiple copies of the IMS QSN exit routine (DFSQSSP0) to exist and to be driven within a single IMS environment. The Generic QSN exit drives other QSN exit routines.

The Generic QSN exit can be used with several IMS Tools products to protect against local buffer overflows. You can also have your own QSN exit routine.

The purpose of the Generic QSN exit is to be a driver for other QSN exits. The Generic QSN exit is product-independent and does no product-specific work. It calls other QSN exits during IMS processing for queue space monitoring.

The Generic QSN exit is designed to operate on any hardware and software configuration that supports the required versions of IMS. For detailed specifications, refer to the appropriate Program Directory for the IMS Tool that you are using.

Exit control flow

During the initialization process, IMS calls the IMS Tools Generic Exits. The generic exits then call other exits that are defined in their PROCLIB members.

The exit control flow during IMS initialization is summarized in the following figure:

![Exit control flow diagram]

Figure 5. Exit control flow

For example, to configure IMS Sysplex Manager, you must specify GJEQSSP0 in the Generic QSN exit (GEXQ) PROCLIB member. When GJEQSSP0 is added to the GEXQ PROCLIB member, the Generic QSN exit calls GJEQSSP0 after the IMS initialization process calls the Generic QSN exit.

Coexistence with other QSN exits

The Generic QSN exit drives all other QSN exits under each IMS control region. In the //STEPLIB concatenation, placing the Generic exit routine DFSQSSP0 (alias GEXQSSP0) as the first copy of the DFSQSSP0 is recommended.
If the Generic QSN exit cannot be at the beginning in the //STEPLIB concatenation because of another exit that must be first, the Generic QSN exit can be placed anywhere in the //STEPLIB under the following condition:

- The DFSQSSP0 that is before the Generic QSN exit must pass control to the Generic QSN exit.
  The Generic QSN exit can then call the remaining QSN exits that have been defined in the exit list.

**Important**: Ensure that you do not include the DFSQSSP0 in front of the Generic QSN exit in the exit list. Otherwise, a recursive call occurs, which causes a loop.

An exit can determine if it was called by the Generic QSN exit by checking for a literal, as shown in the following code. The literal is pointed by the register 14 + x'4'.

```
BALR R14,R15  CALL USER EXIT
B PASTID      SKIP ID
DC CLI6'GENERIC EXITS' EYECATCHER
PASTID DS OH
```

**Generic QSN exit activation**

To activate this exit, set up the required member that is described in “Generic QSN exit definitions” on page 66.

If you do not need this exit, do not configure it.

If no exit definitions are found, one of the following conditions occurs:

- If the Generic QSN exit is NOT first in //STEPLIB, the exit returns to its caller without passing control to the next DFSQSSP0 in the //STEPLIB stack.
- If the Generic QSN exit is first in //STEPLIB, the exit transfers control to the next DFSQSSP0 in the //STEPLIB stack and then removes itself from the IMS control region. The Generic QSN exit is not called by IMS again.
  In both of the previous conditions, the Generic QSN exit is disabled.

**Important**: Before you disable a generic exit, ensure that the exit is not being used by another IMS tools product. If you disable a generic exit that is being used by another IMS tools product, that tool will not be able to operate.
Generic QSN exit definitions

The Generic QSN exit requires you to define a set of QSN exit routines. If these definitions are not set, the Generic QSN exit issues an error message and continues processing based on the setting of the INITFAIL parameter. No QSN exit routine can be invoked unless a set of QSN exit routines have been defined.

Generic QSN exit supports a BPE-style PROCLIB member for the QSN exit list.

The following two naming patterns for the definitions are supported so that you can use both IMS-specific definitions and, if needed, global definitions for cloned IMS environments:

- For IMS-specific definitions, the name follows the pattern: GEXQxxxx, where xxxx is the IMS ID.
- For global definitions that are not specific to any IMS system, the name is GEXQEXIT.

When Generic QSN exit initializes, the following search order is used to locate the exit routine definitions:

1. PROCLIB member GEXQxxxx
2. PROCLIB member GEXQEXIT

The first member that is located is used for the exit routine definitions. No other members are processed.

If no exit routine definition member is found or if the member is found but contains no definitions, the Generic QSN exit issues messages and continues processing based on the setting of the INITFAIL parameter.

PROCLIB member definitions

QSN exit routines are defined by using a PROCLIB member. Each exit routine must be defined by using a BPE-format control card.

The order of the statements in the member determines the order in which the exit routines are called.

Important: Because all QSN exits are able to affect the routing of a message, IMS Sysplex Manager's copy of DFSQSSP0 must be the last exit that is defined in the PROCLIB member so that IMS Sysplex Manager has the priority in determining the IMS action to prevent buffer overflows.

This member can be in any data set within the //PROCLIB DD concatenation in the IMS control region JCL.

The following example shows the format of the control card:
EXITDEF(TYPE(QSNE) EXITNAME(exit-name) LOADLIB(load-library))

The following rules apply to the control card:

- Each exit routine that is to be called must be specified in a separate EXITDEF() statement.
- The TYPE() keyword must be QSNE for this feature.
- The name of the exit routine is specified with the EXITNAME() keyword and must match a member name in the specified load library.
The load library in which the exit routine resides is specified with the LOADLIB() keyword and must specify a cataloged load library that is APF-authorized and to which the IMS control region has access.

The Generic QSN exit tests the load library to ensure that it is APF-authorized (DEBAPFIN bit in the DEB). If the load library is not APF-authorized, the exit routine is not called and error messages are issued. Processing continues based on the global statement specification.

The following sample shows a Generic QSN exit definition member for an IMS control region that includes a customized QSN exit routine and an IMS Sysplex Manager exit:

```
EXITDEF(TYPE(QSNE) EXITNAME(DFSQSSP0) LOADLIB(user.LOADLIB))
EXITDEF(TYPE(QSNE) EXITNAME(GJEQSSP0) LOADLIB(IMSSM.LOADLIB))
```

When the Generic QSN exit initializes, it loads each exit routine and calls it for initialization in the order that is specified in the member.
Global processing parameters

In addition to defining the actual QSN exit routines, you can optionally use global processing parameters to control the Generic QSN exit processing in error situations. You specify these parameters in the PROCLIB member or in the load module named GEXQOPT0.

Three situations can occur in which you can drive the Generic QSN exit processing:

- When the Generic QSN exit is initializing and setup errors are detected, such as a missing exit routine definition member, control card errors, or when no exit routines are defined
- When processing an exit routine definition during initialization and the exit routine cannot be located or loaded, or the load library is not APF-authorized
- During invocation of an exit routine, an error occurs in the exit routine that causes an abend

In any of these cases, you can use a global parameter to make the Generic QSN exit generate an abend for the job or perform recovery processing and continue.

The following example shows the format of the global parameter when it is specified in the PROCLIB member:

```
GLOBAL(INITFAIL(ABEND | WARNING)
   EXITINIT(ABEND | TERMEXIT)
   EXITPROC(ABEND | TERMEXIT))
```

INITFAIL parameter

The INITFAIL parameter drives processing when an error occurs while attempting to initialize the Generic QSN exit.

The following errors can occur:

- The Generic QSN exit copy of DFSQSSP0 was not the first copy of DFSQSSP0 invoked.
- No exit definitions were found.
- Errors were detected in the exit definitions.

You can set the INITFAIL parameter to either of the following settings:

**INITFAIL=ABEND**

This setting causes the Generic QSN exit to issue an error message and return to IMS with RC=12.

**INITFAIL=WARNING**

This setting causes the Generic QSN exit to issue warning messages and return control to IMS with RC=0 to allow it to continue processing. In this case, no QSN exit routines are invoked during IMS processing.

INITFAIL=WARNING is the default setting.

EXITINIT parameter

The EXITINIT parameter drives processing when an error occurs while attempting to locate or load the exit routine during the Generic QSN exit initialization or if the load library is not APF-authorized.

You can set the EXITINIT parameter to either of the following settings:
EXITINIT=ABEND
   This setting causes the Generic QSN exit to issue an error message and return to IMS with RC=12.

EXITINIT=TERMEXIT
   This setting causes the Generic QSN exit to issue an error message for the exit routine, and then continue processing the remaining exits.
   EXITINIT=TERMEXIT is the default setting.

EXITPROC parameter
   The EXITPROC parameter drives the processing when an error occurs within the exit routine while it is processing.

You can set the EXITPROC parameter to either of the following settings:

EXITPROC=ABEND
   This setting causes the Generic QSN exit to issue an error message and return to IMS with RC=12.

EXITPROC=TERMEXIT
   This setting causes the Generic QSN exit to issue an error message for the exit routine, and then continue calling the remaining exits.
   EXITPROC=TERMEXIT is the default setting.
Chapter 14. Generic QSN exit messages (GEXQ)

The IMS Tools Generic QSN exit (GEXQ) issues messages that can help you understand the state of the exit and help you resolve errors.

Message format

IMS Tools Generic QSN exit (GEXQ) messages adhere to the following format:

\[ \text{GEXQ} \text{nnnn}x \]

Where:

- **GEXQ** Indicates that the message was issued by IMS Tools Generic QSN exit (GEXQ)
- **nnnn** Indicates the message identification number
- **x** Indicates the severity of the message:
  - **A** Indicates that operator intervention is required before processing can continue.
  - **E** Indicates that an error occurred, which might or might not require operator intervention.
  - **I** Indicates that the message is informational only.
  - **W** Indicates that the message is a warning to alert you to a possible error condition.

Each message also includes the following information:

**Explanation:**
The Explanation section explains what the message text means, why it occurred, and what its variables represent.

**System action:**
The System action section explains what the system will do in response to the event that triggered this message.

**User response:**
The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

---

**GEXQ902E**  IMS RELEASE NOT SUPPORTED

**Explanation:** The Generic QSN exit is trying to run in an unsupported IMS release.

**System action:** The IMS control region ends abnormally with a U=4016 abend.

**User response:** Ensure that the Generic QSN exit is being run on a supported IMS release.

---

**GEXQ903E**  LOAD FAILED FOR GEXQ MODULE *name*

**Explanation:** The Generic QSN exit could not locate the named module.

**System action:** The IMS control region ends abnormally with a U=4016 abend.

**User response:** Contact IBM Software Support.

---

**GEXQ905E**  IMS GENERIC QSN EXIT INITIALIZATION FAILED

**Explanation:** Generic QSN exit has failed to initialize.

**System action:** The IMS control region ends abnormally with a U=4016 abend.
User response: See the previously issued error messages to determine the problem.

**GEXQ908E** MVS NAME TOKEN SERVICE FAILED FOR name, RC=nnnn, RSN=nnnn

Explanation: Generic QSN exit failed to obtain a name token.

System action: The IMS control region ends abnormally with a U=4016 abend.

User response: Contact IBM Software Support and provide the message number, return code, and reason code.

**GEXQ909E** ERROR action PROCLIB MEMBER member, REASON=reason

Explanation: An error occurred while processing the Generic QSN exit routine PROCLIB member member that was specified. The action taken might be READING or PARSING. The possible reasons for the error are:

- NOSTG (no storage available to perform read)
- OPENFAIL (open failed for IMS PROCLIB data set)
- NOTFIXED (IMS PROCLIB data set format is not FIXED)
- READFAIL (read failed for IMS PROCLIB data set)
- NOTFOUND (specified PROCLIB member cannot be found)

Invalid input data is detected by the parsing module and is assigned to the following reason codes:

- **X'40'** An invalid keyword was detected in the input data.
- **X'44'** An unknown positional parameter was encountered in the input.
- **X'48'** A keyword parameter was specified with an equal sign (KEYWORD=), but the keyword was defined as having a sublist of values. Sublists can be specified only in parentheses, and an equal sign can be used only if a keyword has a single value.
- **X'4C'** The input ended before the entire sublist or keyword was parsed.
- **X'50'** A keyword was encountered (KEYWORD or KEYWORD=), but a value was expected.
- **X'54'** An input number that was being parsed was out of the range that is allowed for its output field length. Decimal numbers must be less than or equal to 255 for 1-byte fields, 65535 for 2-byte fields, 16777215 for 3-byte fields, and 2147483647 for 4-byte fields. Hexadecimal numbers cannot have digits that are more than two times the number of bytes in the output field.

- **X'58'** A parameter value that is defined as decimal contains non-decimal digits.
- **X'5C'** A parameter value that is defined as hexadecimal contains non-hexadecimal digits.
- **X'60'** A parameter value that is defined as a key value parameter has an unknown key value.
- **X'64'** A keyword parameter is present multiple times, but it is not defined as being repeatable.
- **X'68'** A character parameter value is longer than the defined output field length, and truncation is not allowed.

System action: Processing continues, based on the INITFAIL keyword setting.

User response: Review the Generic QSN exit routine installation information to ensure that the PROCLIB member member has been specified correctly.

**GEXQ910E** QSN EXIT name INITIALIZATION FAILED.

Explanation: The named exit failed to initialize.

System action: Processing continues based on the EXITINIT keyword setting.

User response: Contact the exit provider for support.

**GEXQ911W** MISSING OR INVALID EXIT

Explanation: During initialization, the Generic QSN exit routine did not find a logger exit routine that was defined, or one was defined incorrectly.

System action: Processing continues based on the INITFAIL keyword setting.

User response: If no exit routines were defined (the PROCLIB member is empty), define the QSN exit routines by using a PROCLIB member or a load module. If the exit definition is invalid, see the Generic QSN exit routine setup and usage information, and then redefine the exit routine.

If you want to disable the Generic QSN exit, remove the empty PROCLIB member. When an exit is not configured, it is disabled.
**GEXQ912E** DUPLICATE EXIT DEFINITION

**Explanation:** A duplicate exit definition was found.

**System action:** Processing continues based on the INITFAIL keyword setting.

**User response:** Delete the duplicate QSN exit routine definition from the PROCLIB member or load module.

---

**GEXQ915E** ERROR LOADING EXIT name FROM LOADLIB=name

**Explanation:** An error occurred when the Generic QSN exit routine attempted to load the exit routine from the load library name. The exit routine either does not exist in the library, or the library is not APF-authorized.

**System action:** Processing continues based on the EXITINIT keyword setting.

**User response:** Ensure that the exit routine exists and that the load library is APF-authorized.

---

**GEXQ916W** GEXQOPT0 NOT FOUND. DEFAULT GLOBAL OPTIONS WILL BE USED

**Explanation:** An invalid value was specified for the keyword.

**System action:** Processing continues. The default value is set for the keyword.

**User response:** Correct the error and resubmit the job.

---

**GEXQ917W** KEYWORD=name IS NOT VALID. DEFAULT VALUE WILL BE USED

**Explanation:** An invalid value was specified for the keyword.

**System action:** Processing continues. The default value is set for the keyword.

**User response:** Correct the error and resubmit the job.

---

**GEXQ920E** name IS NOT APF-AUTHORIZED. INIT FOR EXIT name FAILED.

**Explanation:** The load library name is not APF-authorized. Initialization for the QSN exit routine name failed.

**System action:** Processing continues based on the EXITINIT keyword setting.

**User response:** APF-authorize the load library and resubmit the job.

---

**GEXQ923E** IMS GENERIC QSN ESTAE CREATE FAILED, RC=nnnn

**Explanation:** The Generic QSN exit routine failed to create its ESTAE recovery environment.

**System action:** The IMS control region ends abnormally with a U=4016 abend.

**User response:** Contact IBM Software Support.

---

**GEXQ924I** GEXQSSP0 NOT LOADED BY IMS

**Explanation:** The Generic QSN exit routine DFSQSSP0 was not the first logger exit routine found in the IMS execution library concatenation.

**System action:** The IMS control region ends abnormally with a U=4016 abend.

**User response:** Reorganize the IMS library concatenation so that the Generic QSN exit routine DFSQSSP0 is the first QSN exit routine in the concatenation.

---

**GEXQ925E** ERROR OPENING LOAD LIB name

**Explanation:** An error occurred when the Generic QSN exit routine attempted to open load library name.

**System action:** Processing continues based on the EXITINIT keyword setting.

**User response:** Contact IBM Software Support.

---

**GEXQ926I** Informational Messages

**Explanation:** Various informational messages showing Generic QSN exit processing.

**System action:** The IMS control region continues normally.

**User response:** No action is required.

---

**GEXQ928E** IMS GENERIC QSN EXIT TERMINATED DUE TO ERROR

**Explanation:** A Generic QSN exit component has terminated because of an error.

**System action:** The Generic QSN exit routine is disabled. Generic QSN exit functions are no longer available.

**User response:** See the previously issued error messages to determine the problem.

---

**GEXQ930E** EXIT name TERMINATED DUE TO ERROR

**Explanation:** The QSN exit routine name has been terminated because of an error.

**System action:** The Generic QSN exit routine can no longer drive the name QSN exit routine.
**User response:** See the previously issued error messages to determine the problem.
Chapter 15. Generic QSN exit user abend codes

The IMS Tools Generic QSN exit (GEXQ) issues user abend codes that can help you with troubleshooting.

Generic QSN exit uses only one abend code: 4016.

For each abend code, the following information is provided where applicable:

Explanation:
The Explanation section explains what the abend code means, why it occurred, and what its variable entry fields are (if any).

System action:
The System action section explains what the system will do next.

User response:
The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

4016

Explanation: An error occurred while the Generic QSN exit routine was being processed. Additional error messages are issued that indicate the cause of the error. The following abend subcodes provide more information about the error:

X'66'
IMS RELEASE NOT SUPPORTED

X'67'
LOAD GEXQINTX FAILED

X'68'
INVALID ENVIRONMENT

X'69'
GEXQSSPX NOT LOADED

X'CB'
LOAD GEXQSSPX FAILED

X'CC'
GEXQSSP0 NOT LOADED BY IMS

X'CD'
DUPLICATE INIT CALL

X'CE'
INVALID CALL

X'CF'
MVS NAME TOKEN SERVICES FAILED

X'D0'
ERROR READING PROCLIB MEMBER

X'D1'
ERROR PARSING PROCLIB MEMBER

X'D2'
CREATE ESTAE FAILED

X'D3'
LOAD GEXQESTX FAILED

X'D4'
NO EXIT DEFINITIONS

X'D5'
DUPLICATE EXIT DEFINITIONS

X'D6'
LOAD GEXQLODX FAILED

X'D7'
ALLOCATE LOADLIB FAILED

X'D8'
LOAD EXIT FAILED

X'D9'
OPEN LOADLIB FAILED

X'DA'
LOADLIB NOT APF-AUTHORIZED

System action: Processing is dependent on the settings of the IMS Queue Space Notification exit routine global processing options.

User response: Review the IMS control region job log for error messages that are associated with the problem. Correct the error if possible. If the problem persists, retain any diagnostic information and contact IBM Software Support.
Part 3. IMS Tools Online System Interface reference

IMS Tools Online System Interface is a general purpose command interface that allows IMS tools to interface with all supported IMS versions.

Information about IMS Tools Online System Interface is provided in the following topics:

Topics:
- Chapter 16, “IMS Tools Online System Interface overview,” on page 79
- Chapter 17, “Guidelines for using IMS Tools Online System Interface,” on page 81
- Chapter 18, “Configuring IMS Tools Online System Interface,” on page 83
- Chapter 19, “IMS Tools Online System Interface messages (FOI),” on page 85
- Chapter 20, “IMS Tools Online System Interface abend codes,” on page 99
Chapter 16. IMS Tools Online System Interface overview

IMS Tools Online System Interface (product prefix FOI) is a general purpose command interface that allows IMS tools to interface with all supported IMS versions. IBM IMS Tools products use IMS Tools Online System Interface to issue action commands and IMS commands.

IMS Tools Online System Interface is started during IMS initialization.

IMS Tools Online System Interface reorganization and recovery solutions allow other clients to start and stop full-function database resources and issue IMS commands that need to interact with online the DB/DC IMS or CICS® DBCTL systems that own the target databases.

IMS Tools Online System Interface is designed to operate on any hardware and software configuration that supports the required versions of IMS. For detailed specifications, refer to the appropriate Program Directory for the IMS Tool you are using.
Chapter 17. Guidelines for using IMS Tools Online System Interface

IMS Tools Online System Interface is a general purpose command interface that allows IMS tools to interface with all supported IMS versions.

IMS Tools Online System Interface is a component of the IBM Tools Base for z/OS and is a prerequisite for multiple IMS tools. IMS Tools Online System Interface can also be shared with multiple IMS tools. The product prefix for IMS Tools Online System Interface is FOI.

The version of IMS Tools Online System Interface that is contained in the Tools Base supersedes and replaces all previous versions.

Always refer to the appropriate Program Directory for any IMS tools product to determine the prerequisites for installing and operating the product.

Migration considerations for IMS Tools Online System Interface

If you are using earlier versions of IMS Tools Online System Interface, you can safely install the most current version of the IMS Tools Online System Interface into your environment, but you must first review the following migration considerations:

- The current FMID is fully compatible with prior releases of IMS Tools products and common code.
- In the current FMID, IMS Tools Online System Interface does not ship its partner exit under the name DFSPPUE0. The IMS Tools Online System Interface partner exit is named FOIPPUE0 and must be defined to the Generic Partner exit.
- In the current FMID, IMS Tools Online System Interface no longer searches for and invokes another DFSPPUE0. All DFSPPUE0 instances must be defined to the Generic Partner exit.
- You can continue to use your existing FOIimsidP PROCLIB member. You do not need to make any changes to the PROCLIB member for the current FMID.
- If you are upgrading from IMS Tools Online System Interface V1.1 (FMID H2B7110) or V1.2 (FMID H2B7120) to the current FMID, you must define the IMS Tools Online System Interface partner exit (FOIPPUE0) to the Generic Partner exit (GPR).
- If you are using IMS Tools Online System Interface in an environment that contains multiple IMS Tools products at mixed version and release levels, you must always install and run the highest level of IMS Tools Online System Interface that is available.

After installing the Tools Base, see Chapter 18, “Configuring IMS Tools Online System Interface,” on page 83 to configure the IMS Tools Online System Interface to work with the Generic Partner exit.
Chapter 18. Configuring IMS Tools Online System Interface

Information about configuring IMS Tools Online System Interface and other Tools Base components for IMS is provided in the IBM Tools Base for z/OS Configuration Guide for IMS.

You can also download a PDF version of this information from the IMS Tools Product Documentation page.
Chapter 19. IMS Tools Online System Interface messages (FOI)

The IMS Tools Online System Interface issues messages that can help you understand the state of the interface and help you resolve errors.

**Message format**

IMS Tools Online System Interface messages adhere to the following format:

**FOI**nnnx

Where:

- **FOI**: Indicates that the message was issued by IMS Tools Online System Interface
- **nnnn**: Indicates the message identification number
- **x**: Indicates the severity of the message:
  - **A**: Indicates that operator intervention is required before processing can continue.
  - **E**: Indicates that an error occurred, which might or might not require operator intervention.
  - **I**: Indicates that the message is informational only.
  - **W**: Indicates that the message is a warning to alert you to a possible error condition.

Each message also includes the following information:

**Explanation:**

The Explanation section explains what the message text means, why it occurred, and what its variables represent.

**System action:**

The System action section explains what the system will do in response to the event that triggered this message.

**User response:**

The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

**Return and reason codes for client exception processing**

These are the IMS Tools Online System Interface exception processing return and reason codes:

<table>
<thead>
<tr>
<th>Return code</th>
<th>Reason code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>01</td>
<td>The specified client function is not an IMS supported command verb.</td>
</tr>
</tbody>
</table>
The specified client function is not supported by IMS Tools Online System Interface.

Reason code 02 also provides the actual parsing error in the Variable Response Data Return Code. See the FOI210I message for a description of this code.

<table>
<thead>
<tr>
<th>Reason Code</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>IMS SSCT not found</td>
</tr>
<tr>
<td>101</td>
<td>IMS Release unknown</td>
</tr>
<tr>
<td>105</td>
<td>Error loading FOIITK0X</td>
</tr>
<tr>
<td>106</td>
<td>Unable to locate DISP WA</td>
</tr>
<tr>
<td>107</td>
<td>Unable to allocate QSAV</td>
</tr>
<tr>
<td>110</td>
<td>Unable to create ITASK</td>
</tr>
<tr>
<td>112</td>
<td>Error posting ITASK</td>
</tr>
<tr>
<td>200</td>
<td>GETMAIN failed for FOIMCB</td>
</tr>
<tr>
<td>201</td>
<td>IMS Release not supported</td>
</tr>
<tr>
<td>202</td>
<td>GETMAIN failed for volatile work area</td>
</tr>
<tr>
<td>203</td>
<td>Load failed for IMS Tools Online System Interface abend intercept routine FOIAIR0X</td>
</tr>
<tr>
<td>204</td>
<td>IMS Tools Online System Interface ESTAE request failed</td>
</tr>
<tr>
<td>205</td>
<td>GETMAIN failed for 24 BIT dynamic storage</td>
</tr>
<tr>
<td>210</td>
<td>LOAD failed for dependent functional action module FOIDAM0X</td>
</tr>
<tr>
<td>215</td>
<td>PROCLIB read error</td>
</tr>
<tr>
<td>220</td>
<td>XCF group name invalid</td>
</tr>
<tr>
<td>240</td>
<td>Load failed for XCF message exit initialization module FOIMSGIX</td>
</tr>
<tr>
<td>241</td>
<td>Initialize XCF message exit failed</td>
</tr>
<tr>
<td>242</td>
<td>Load failed for action message module FOIACTMX</td>
</tr>
<tr>
<td>250</td>
<td>IXCJOIN failure</td>
</tr>
</tbody>
</table>

**System action:** The IMS Tools Online System Interface environment is not initialized and control is returned to IMS. If the failure was detected by module DFSPPUE0, IMS issues abend U740. If the failure was detected by FOIITK0X, IMS completes its initialization processing without IMS Tools Online System Interface.

**User response:** Using the provided reason code, correct the stated failure and restart IMS, which initiates IMS Tools Online System Interface processing.

---

<table>
<thead>
<tr>
<th>Reason Code</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>203</td>
<td>Load failed for IMS Tools Online System Interface abend intercept routine FOIAIR0X</td>
</tr>
</tbody>
</table>

**User response:** None. This message is informational.

---

<table>
<thead>
<tr>
<th>Reason Code</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>203</td>
<td>Load failed for IMS Tools Online System Interface abend intercept routine FOIAIR0X</td>
</tr>
</tbody>
</table>

**User response:** If the accepted keyword parameter is valid, no action is required. Otherwise, correct the PROCLIB member and restart IMS.

---

<table>
<thead>
<tr>
<th>Reason Code</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>203</td>
<td>Load failed for IMS Tools Online System Interface abend intercept routine FOIAIR0X</td>
</tr>
</tbody>
</table>

**User response:** Correct the invalid keyword data in the PROCLIB member and restart IMS.

---

<table>
<thead>
<tr>
<th>Reason Code</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>203</td>
<td>Load failed for IMS Tools Online System Interface abend intercept routine FOIAIR0X</td>
</tr>
</tbody>
</table>

**User response:** Correct the unrecognized parameter string in the PROCLIB member and restart IMS.
**FOI090W** XCF LEAVE FAILED, XCF GROUP=g, RC=rc, RSN=rsn

**Explanation:** During IMS Tools Online System Interface shutdown processing, the IXCLEAVE call to XCF to leave the XCF Group g failed. The IXCLEAVE return code rc and reason code rsn identify the failure.

**System action:** Processing continues, the IMS Tools Online System Interface environment did not leave the XCF group.

**User response:** Client programs might hang if they are waiting for IMS Tools Online System Interface response notification. Client programs should provide for timeout processing.

---

**FOI100I** TOOLS ONLINE INTERFACE ENABLED, XCF GROUP=g, CMD Security=h

**Explanation:** The IMS Tools Online System Interface environment successfully initialized and joined the XCF group g, regardless of whether h is YES or NO.

**System action:** Processing continues. The IMS Tools Online System Interface environment is ready to receive client requests.

**User response:** None. This message is informational.

---

**FOI101I** TOOLS ONLINE INTERFACE DISABLED, XCF GROUP=g, TERM=SHUTDOWN | ABEND

**Explanation:** The IMS Tools Online System Interface environment has shutdown because of the specification, TERM=SHUTDOWN or IMS Tools Online System Interface encountered an abnormal termination condition, TERM=ABEND and has left the XCF group g.

**System action:** If IMS Tools Online System Interface has shutdown, the IMS Tools Online System Interface environment is no longer active. If IMS Tools Online System Interface has abnormally terminated, the IMS Tools Online System Interface environment terminates. The IMS Tools Online System Interface environment automatically re-initializes if the PROCLIB member keyword RESTART=YES is specified.

**User response:** None, the IMS Tools Online System Interface environment leaves the XCF group and terminates processing.

---

**FOI102I** PSW=psw CODE=rcode MODID=mid EPA=eapa DATA AT a=data Rxx-yy

**Explanation:** The IMS Tools Online System Interface environment has encountered an abnormal termination condition. The IMS Tools Online System Interface PROCLIB member keyword DUMP=NO was specified to suppress dump processing. IMS Tools Online System Interface ESTAE processing sends diagnostic information to the system console. The diagnostic information includes the following:

- The abending PSW and the system or user completion code.
- The abending module ID (and entry point if possible).
- The failing instruction string.
- The abending general registers.

**System action:** IMS Tools Online System Interface continues with abnormal termination processing.

**User response:** None, the IMS Tools Online System Interface environment leaves the XCF group and terminates processing.

---

**FOI105E** XCF SEND FAILURE, RC=rc, RSN=rsn, CTOK=#####

**Explanation:** An IMS Tools Online System Interface action module attempted to send a response message to a target client via XCF services.

The send request was failed by XCF with return and reason codes defined by RC and RSN respectively. CTOK= has the client token involved in the failing XCF SEND request.

**System action:** None.

**User response:**

- The return and reason codes are described in z/OS.
- *MVS Programming: Sysplex Services Reference*. Review the return and reason codes to correct any problems, and then retry the operation.
- If the problem persists, contact IBM Software Support.

---

**FOI110I** ACTION INITIATED

**Explanation:** This message indicates that the command action has been received by the IMS Tools Online System Interface API. All IMS Tools Online System Interface commands cause this message to display with the command text attached at the end of the message – up to a maximum of 40 bytes.

A “#####” string always appears at the end of the message to indicate 1) the end of the complete message (when less than or equal to 40 bytes), or 2) where the message truncation begins (when greater than 40 bytes).

**System action:** None.

**User response:** None. This message is informational.
FOI120I   ACTION INITIATED
Explanation: This message indicates that the command action has been received by the IMS Tools Online System Interface server. All IMS Tools Online System Interface commands cause this message to display with the command text attached at the end of the message – up to a maximum of 90 bytes.
System action: None.
User response: None. This message is informational.

FOI200I   INITIALIZATION COMPLETE
Explanation: Initialization for IMS Tools Online System Interface has successfully completed.
All IMS release dependent and independent modules have been loaded and Cell Pools (CPOOLS) have been created and initialized.
XCF SRB Message exit services have also been set up to be scheduled.
System action: IMS Tools Online System Interface initialization continues.
User response: None. This message is informational.

FOI201E   INITIALIZATION FAILED
Explanation: One of the following failures occurred:
• Loading or initialization of IMS release dependent routines failed.
• Loading or initialization of IMS release independent routines failed.
• Cell Pool creation and initialization failed.
• XCF Message exit services failed.
System action: The IMS Tools Online System Interface ITASK abends.
User response: Review the IMS control region job log for other messages associated with the abend.
Ensure that all required modules are in the //STEPLIB concatenation.
Contact IBM Software Support if necessary and provide them with the dump and messages.

FOI203E   IMODULE LOAD FAILED FOR module, RC=rcode
Explanation: An error has occurred processing an IMS IMODULE LOAD service call.
The module could not be loaded. The return code rcode is the return code from the IMS IMODULE LOAD service call.
System action: The IMS Tools Online System Interface ITASK terminates with a user abend.
User response: Check the IMS IMODULE LOAD return codes as described in appendix about MIS system service codes in IMS Messages and Codes, Volume 1: DFS Messages.
Make sure all required modules are in the IMS or IMS Tools Online System Interface program libraries and sufficient region size is specified with the IMS control region startup procedure.

FOI204E   SRB SERVICES INITIALIZATION FAILED, RC=rcode
Explanation: An attempt to IMODULE LOAD the XCF SRB Message exit or XCF FRR routine has failed.
System action: The IMS Tools Online System Interface ITASK abends.
User response: Make sure all required modules are in IMS or IMS Tools Online System Interface program libraries and sufficient region size is specified with the IMS control region startup procedure.

FOI210I   PARSING FAILED FOR COMMAND cccccc, RC=rc, RSN=rtn
Explanation: One or more errors were encountered when parsing the action command cccccc that was issued by the client.
Message FOI210I is issued in conjunction with message FOI110I.
System action: The failing command is rejected and a message is sent back to the client.
User response: Take the appropriate action based on the return (rc) and reason code (rtn) you received.
Correct the erroneous command and resubmit the transaction from the client.

Return code
00 Parsing has completed successfully.
04 Warnings

Reason code
514 The AREA keyword is not supported.

Errors
08

Reason code
501 The command verb was not found in CVB.
502 Invalid command verb.
503 The GET CPOOL attempt failed.
510 The required 'DB' keyword was not found.
511 The 'DB', 'DD', 'AREA' keyword has no parameters.
512 More than one 'DB' or 'AREA' keyword was specified.
513 Too many parameters were specified for 'DB' or 'AREA' keyword.
LOCAL and GLOBAL parameters are mutually exclusive.

Duplicate keywords were found.

An invalid keyword was found.

Generic DBnames are not supported.

The ‘ALL’ keyword is not allowed or it is mixed with other database names.

An invalid access parameter was detected.

GLOBAL and ACCESS parameters are mutually exclusive.

Either the INTTIME or INTNUM parameter is not numeric.

The INTTIME parameter is not 1 =< t =< 3600.

The INTNUM parameter is not 1 =< n =< 60.

The required ‘DD’ keyword was not found.

The ‘DD’ keyword is not supported for this command.

Multiple DDNAMEs were specified.

Invalid function code

Explanation: An error was encountered when processing action command cccc (DBRTEST or BMPLIST).

Message FOI210I is issued in conjunction with message FOI110I.

Message FOI212I is not displayed for RC=04.

Return code

Reason code

00 Successful completion

04 Warning completion (no message is issued)

01 One or more DB names or area names are in error.

30 DBRTEST failed - the DB or area is used by BMP.

31 DBRTEST failed - the DB or area is used by DBCTL or CICS.

32 DBRTEST failed - the DB or area is used by WFL.

33 OLR is active for this database or area.

34 ORS recovery is active.

08 Critical error

Reason code

Explanation

01 An invalid DB resource was encountered.

02 An invalid function code was encountered.

05 The database or area is invalid.

06 The database or area was not initialized.

08 Area not found.

09 Found full-function DB for AREA keyword.

12 The specified ALL keyword is invalid.

13 More than 6240 database or area names were found in the input.

14 The buffer is full before the end of your input.

12 Catastrophic error

Reason code

Explanation

01 CPOOL was not obtained.

48 XCF send error

See the IXCMSGO documentation for error return and reason codes contained in the request AWE.

System action: The failing command is rejected and a message is sent back to the client.

User response: Take the appropriate action based on the return and reason code you received.

Correct the error and resubmit the transaction from the client.

Explanation: The IMS Tools Online System Interface client API initialization has failed.

The reason codes are:

100 Failed to get storage for the FOICPRMA master control block.

102 Failed to get storage for the CABVOLS volatile working storage.

103 Failed to load the FOICAPI0 API service modules.

105 Failed to get the storage necessary to issue an error message.

System action: A non-zero return code is returned to the client applications.

User response: Contact IBM Software Support.

Explanation: The IMS Tools Online System Interface has failed to obtain the storage necessary to issue a message.

System action: The API environment is terminated.

User response: Contact IBM Software Support.
**FOI510I** • **FOI524W**

**FOI510I**  
**CLIENT API VERSION**  
**INITIALIZATION COMPLETE**

**Explanation:** The IMS Tools Online System Interface client environment has successfully initialized. The client initialization module has received an invalid function code.

**System action:** Processing continues. The client is ready to send and receive messages to the IMS Tools Online System Interface.

**User response:** None. This message is informational.

---

**FOI511E**  
**CLIENT API INITIALIZATION FAILED**

**Explanation:** A failure occurred initializing the IMS Tools Online System Interface client environment. Message FOI512E or FOI513E will follow indicating the reason for failure.

**System action:** The function code is rejected and initialization processing ends.

**User response:** Based on the accompanying error message, take appropriate action.

---

**FOI512E**  
**INVALID FUNCTION CODE FOR MODULE FOICINI0, FUNC=xxx**

**Explanation:** The IMS Tools Online System Interface client initialization module has received an invalid function code.

**System action:** The function code is rejected and initialization processing ends.

**User response:** Ensure that all of the required modules are in the //STEPLIB concatenation. Correct the error and resubmit the initialization process.

If the problem persists, contact IBM Software Support and provide them with documentation.

---

**FOI513E**  
**LOAD FAILED FOR MMMMMMMMM, COMP=SCCC-RS**

**Explanation:** The IMS Tools Online System Interface client initialization module has received an invalid function code.

**System action:** The initialization process ends.

**User response:** See the Load macro information in the z/OS MVS Programming: Authorized Assembler Services Reference, Volume 3 (LLA-SDU) for SCC-RS. Correct the error, and resubmit the initialization process.

If the problem persists, contact IBM Software Support and provide them with documentation.

---

**FOI520I**  
**TOOLS ONLINE INTERFACE CLIENT API ENABLED, XCF GROUP=xxxxxxxx, XCFTOKEN=#########**

**Explanation:** The IMS Tools Online System Interface client has successfully connected to the XCF group with client token number.

**System action:** None. This message is informational.

---

**FOI521I**  
**TOOLS ONLINE INTERFACE CLIENT API DISABLED, XCF GROUP=xxxxxxxx**

**Explanation:** The IMS Tools Online System Interface client failed to connect to the XCF group.

**System action:** Processing ends. The client is unable to send and receive messages to the Tools Online System Interface.

**User response:** Refer to message FOI522I for proper action.

---

**FOI522I**  
**TOOLS ONLINE INTERFACE CLIENT API JOIN FAILED FOR GROUP=xxxxxxxx with RC=rc, RSN=rsnc**

**Explanation:** The IMS Tools Online System Interface client failed to connect to the XCF group.

**System action:** Processing ends. The client is unable to send and receive messages to the Tools Online System Interface.

**User response:** See the IXCJOIN macro in z/OS MVS Programming: Sysplex Services Reference for the return code (rc) and the reason code (rsnc). Correct the error, and resubmit the initialization process.

---

**FOI523E**  
**UNABLE TO OBTAIN WORKAREA FROM CELL POOL, RC=XX**

**Explanation:** The IMS Tools Online System Interface client connect function was unsuccessful in obtaining a work area for IXCJOIN processing.

**System action:** Processing ends. The client is unable to send and receive messages to the Tools Online System Interface.

**User response:** Ensure that all of the required modules are in the //STEPLIB concatenation. Correct the error, and resubmit the function request.

If the problem persists, contact IBM Software Support and provide them with documentation.

---

**FOI524W**  
**CONNECT FAILED. RC=rc, RSN=rsnc**

**Explanation:** The IMS Tools Online System Interface client connect function was unsuccessful.

**Return codes:**
- 12 = Critical error
- 16 = Catastrophic error

**Reason codes:**
<table>
<thead>
<tr>
<th>Reason code</th>
<th>Explanation</th>
<th>User response</th>
</tr>
</thead>
<tbody>
<tr>
<td>201</td>
<td>The TOSI client application could not query the specified group name.</td>
<td>Ensure that the group name is correct and/or the XCF group is active.</td>
</tr>
<tr>
<td>202</td>
<td>The TOSI client application could not join the specified group name.</td>
<td>The RC/RSN for IXCJOIN is returned to the TOSI client application's response buffer. Contact IBM software support if necessary and provide them with documentation.</td>
</tr>
<tr>
<td>203</td>
<td>Cell Pool Error.</td>
<td>Ensure that all of the required modules are in the //STEPLIB concatenation. Contact IBM software support if necessary and provide them with documentation.</td>
</tr>
</tbody>
</table>

The IXGJOIN return and reason codes in this message are described in z/OS MVS Programming: Sysplex Services Reference. Review the return code and the reason code for proper action, correct the problem if possible, and try the operation again. Contact IBM software support if necessary and provide them with documentation.

**System action:** Processing ends. Control is returned to the caller.

**User response:** Correct the error, and resubmit the function request.

---

**FOI525I**

**TOSI CLIENT AOP INTERFACE ENABLED FOR PLEX=plexname, IMS=ssid, SCIJOB=scijobname, SCINAME=sciname**

**Explanation:** The IMS Tools Online System Interface has successfully established a processing environment for type-2 commands.

**System action:** Processing continues. The IMS Tools Online System Interface environment is ready to receive client requests.

**User response:** None. This message is informational.

---

**FOI526I**

**IMS COMMAND RACF CLASS IS racclass**

**Explanation:** The IMS Tools Online System Interface will use the racclass class for command authorization.

**System action:** Processing continues. The IMS Tools Online System Interface environment is ready to receive client requests.

**User response:** None. This message is informational.

---

**FOI525E**

**USER NOT AUTHORIZED TO ISSUE COMMAND**

**Explanation:** When the IMS Tools Online System Interface passed the command to the Operations Manager (OM) component, OM rejected the command because the user is not authorized to issue commands to OM.

**System action:** Processing continues. IMS Tools Online System Interface issues a non-zero return code to the client application.

**User response:** Check that the user's command authorization setup is accurate.

---

**FOI528I**

**NUMBER OF REGISTERED IMS SYSTEMS=nn, IMS=ssid,ssid,...**

**Explanation:** This message shows the number of IMS systems in the XCF group. Up to 15 IMS IDs are listed in the message.

**System action:** Processing continues.

**User response:** None. This message is informational.

---

**FOI530I**

**REQUEST COMPLETED SUCCESSFULLY**

**Explanation:** The IMS Tools Online System Interface client was successful in sending a message to every IMS Tools Online System Interface element in the server list.

**System action:** Processing continues.

**User response:** None. This message is informational.

---

**FOI531W**

**REQUEST COMPLETED RC=rc, RSN=rsn**

**Explanation:** The IMS Tools Online System Interface client was successful in sending a message to IMS Tools Online System Interface element in the server list, but one more returned a warning condition.

**System action:** Processing continues.

**User response:** Review the RC/RSN for proper action.

- Return code:
  - 4 = Warning
- Reason codes:
### FOI532E

**REQUEST FAILED RC=rc, RSN=rsn**

**Explanation:** The IMS Tools Online System Interface client was not successful in sending a message to IMS Tools Online System Interface elements in the server list.

**System action:** Processing continues.

**User response:** Contact IBM Software Support and provide them with the reason code.
- Return code:
  - 8 = Critical error
- Reason codes:

<table>
<thead>
<tr>
<th>Reason code</th>
<th>Explanation</th>
<th>User response</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>The TOSI client application received a non-zero return code while sending a XCF message to the TOSI server elements in the server list.</td>
<td>Examine prior error messages and correct them if possible. Contact IBM Software Support if necessary and provide them with documentation.</td>
</tr>
<tr>
<td>101</td>
<td>The TOSI client application received a non-zero return code while sending a XCF message to at least one of the TOSI server elements in the server list but ONERROR = CONTINUE allowed the operation to continue processing.</td>
<td>Examine prior error messages and correct them if possible. Contact IBM Software Support if necessary and provide them with documentation.</td>
</tr>
<tr>
<td>102</td>
<td>ONERROR=STOP was specified by the TOSI client and at least one command processed by the Operations Manager (OM) has failed.</td>
<td>Examine prior error messages and correct them if possible. Contact IBM Software Support if necessary and provide them with documentation.</td>
</tr>
<tr>
<td>103</td>
<td>ONERROR=CONTINUE was specified by the TOSI client and at least one command processed by the Operations Manager (OM) has failed.</td>
<td>Examine prior error messages and correct them if possible. Contact IBM Software Support if necessary and provide them with documentation.</td>
</tr>
<tr>
<td>200</td>
<td>The TOSI client application received an error with the XCF environment while sending a XCF message to the TOSI server elements in the server list.</td>
<td>Try the operation again after allowing some time for the condition to clear. Contact IBM Software Support if necessary and provide them with documentation.</td>
</tr>
<tr>
<td>300</td>
<td>The TOSI client application encountered an error with the TOSI server list.</td>
<td>Internal error. Contact IBM Software Support and provide them with documentation.</td>
</tr>
<tr>
<td>310</td>
<td>The TOSI client application specified an incorrect API TYPE.</td>
<td>Internal error. Contact IBM Software Support and provide them with documentation.</td>
</tr>
<tr>
<td>311</td>
<td>There is no IMS system registered with the Operations Manager (OM) component.</td>
<td>Make sure that at least one IMS system is active and has joined the IMSplex.</td>
</tr>
<tr>
<td>312</td>
<td>There is a problem with the text or length of the command that was sent by the TOSI client.</td>
<td>Internal error. Contact IBM Software Support and provide them with documentation.</td>
</tr>
<tr>
<td>313</td>
<td>The SAF AUTH call failed.</td>
<td>Internal error. Contact IBM Software Support and provide them with documentation.</td>
</tr>
<tr>
<td>314</td>
<td>The SAF CREATE call failed.</td>
<td>Internal error. Contact IBM Software Support and provide them with documentation.</td>
</tr>
<tr>
<td>315</td>
<td>The SAF LIST call failed.</td>
<td>Internal error. Contact IBM Software Support and provide them with documentation.</td>
</tr>
<tr>
<td>316</td>
<td>The SAF UNLIST call failed.</td>
<td>Internal error. Contact IBM Software Support and provide them with documentation.</td>
</tr>
<tr>
<td>317</td>
<td>The SAF DELETE call failed.</td>
<td>Internal error. Contact IBM Software Support and provide them with documentation.</td>
</tr>
<tr>
<td>Reason code</td>
<td>Explanation</td>
<td>User response</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</td>
<td>---------------</td>
</tr>
<tr>
<td>318</td>
<td>Failed to get the CPOOL storage that is necessary for SAF processing.</td>
<td>Internal error. Contact IBM Software Support and provide them with documentation.</td>
</tr>
</tbody>
</table>

**FOI533I** COMMAND EXECUTED. OM RC=XXXXXXXX, RSN=XXXXXXXX

**Explanation:** The IMS Tools Online System Server submitted an IMS type-2 command by using the CSLOMCMD interface, and then Operation Manager (OM) returned a non-zero return code. A return code and reason code in the message are issued for your information.

**System action:** Processing continues.

**User response:** Inspect the job log. If the job fails, find the OM return code and reason code in *IMS Messages and Codes, Volume 4: IMS Component Codes* for details about the failure. If the error is not caused by user set up, contact IBM Software Support and send them your job log.

**FOI534E** SAF service ERROR SAFRC=rc, SAFRSN=rsn, PRC=rc, PRSN=rsn

**Explanation:** An SAF service error was received by the IMS Tools Online System Interface.

**System action:** Processing continues. The IMS Tools Online System Interface environment is ready to receive client requests.

**User response:** Check whether the SAF errors are accurate. Consult your SAF service documentation for an explanation of the return and reason codes.

**FOI540I** RESPONSE COMPLETED SUCCESSFULLY

**Explanation:** The IMS Tools Online System Interface client was successful in receiving a message from every IMS Tools Online System Interface element in the server list.

**System action:** Processing continues.

**User response:** None. This message is informational.

**FOI541I** RESPONSE TIMEOUT VALUE NOT NUMERIC. TIMER=hhmmsssth KEYWORD IGNORED

**Explanation:** The IMS Tools Online System Interface client received an invalid TIMER value.

**System action:** Processing continues with no TIMER value.

**User response:** For RESPONSE TIMEOUT processing, ensure that the TIMER= format is the same decimal format as DINTVL of the STIMER macro.

**FOI541W** RESPONSE COMPLETED RC=rc, RSN=rsn

**Explanation:** The TOSI client application was successful in the receive processing of a message from the TOSI server elements in the server list, but one more returned a warning condition.

**System action:** Processing continues.

**User response:** Review the RC/RSN and correct the problem if possible. Contact IBM Software Support if necessary and provide them with documentation.

- Return code:
  - 4 = Warning
- Reason codes:

<table>
<thead>
<tr>
<th>Reason code</th>
<th>Explanation</th>
<th>User response</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>The TOSI client application processed the RESPONSE request successfully; however, there were no messages to process.</td>
<td>If a response message is expected, then try the operation again with the TIMER parameter. Contact IBM Software Support if necessary and provide them with documentation.</td>
</tr>
<tr>
<td>101</td>
<td>The TOSI client application processed the RESPONSE request successfully; however, there were no messages to process in the time that was specified.</td>
<td>If a response message is expected, then ensure that the TOSI server component is active and then try the operation again. Contact IBM Software Support if necessary and provide them with documentation.</td>
</tr>
<tr>
<td>102</td>
<td>The TOSI client application processed the RESPONSE request successfully; however, there were no messages to process in the current cycle.</td>
<td>If a response message is expected, then try the operation again. Contact IBM Software Support if necessary and provide them with documentation.</td>
</tr>
</tbody>
</table>

**FOI542E** RESPONSE FAILED. RC=rc, RSN=rsn

**Explanation:** The IMS Tools Online System Interface client was not successful in sending a message to IMS Tools Online System Interface elements in the server list.
System action: Processing continues.

User response: Review the RC/RSN for proper action and correct the error if possible or contact IBM Software Support if necessary and provide them with documentation.

- Return code:
  - 8 = Critical
- Reason codes:

<table>
<thead>
<tr>
<th>Reason code</th>
<th>Explanation</th>
<th>User response</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>The TOSI client application was unable to establish timer services.</td>
<td>Try the operation again. Contact IBM Software Support if necessary and provide them with documentation.</td>
</tr>
<tr>
<td>201</td>
<td>The TOSI client application encountered an error when setting timer services with the specified interval.</td>
<td>Try the operation again. Contact IBM Software Support if necessary and provide them with documentation.</td>
</tr>
<tr>
<td>202</td>
<td>The TOSI client application encountered an error when setting timer services with the remaining time interval.</td>
<td>Try the operation again. Contact IBM Software Support if necessary and provide them with documentation.</td>
</tr>
<tr>
<td>203</td>
<td>The TOSI client application encountered an error with the timer interval returned from timer services.</td>
<td>Try the operation again. Contact IBM Software Support if necessary and provide them with documentation.</td>
</tr>
<tr>
<td>204</td>
<td>The TOSI client application encountered an error during termination of timer services.</td>
<td>For recursive messages with this reason code, contact IBM Software Support if necessary and provide them with documentation.</td>
</tr>
<tr>
<td>300</td>
<td>The TOSI client application encountered an error with the TOSI server list.</td>
<td>Try the operation again. Contact IBM Software Support if necessary and provide them with documentation.</td>
</tr>
</tbody>
</table>

System action: Processing continues.

User response: None. This message is informational.

FOI550I RETURN RESPONSE BUFFER COMPLETED SUCCESSFULLY. IMS=ssid

Explanation: The IMS Tools Online System Interface client was successful in returning all cell pool storage for processing.

System action: Processing continues.

User response: Review the RC/RSN for proper action and correct the error if possible, otherwise contact IBM Software Support and provide them with documentation.

- Return code:
  - 4 = Warning
- Reason codes:

<table>
<thead>
<tr>
<th>Reason code</th>
<th>Explanation</th>
<th>User response</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>The TOSI client application could not process the RETURNBUF request because an address for the buffer was not provided.</td>
<td>Try the operation again with a valid address.</td>
</tr>
</tbody>
</table>

FOI552E RETURNBUF FAILED. RC=rc, RSN=rsn, IMS=ssid

Explanation: The IMS Tools Online System Interface client encountered an error in returning cell pool storage.

System action: Processing continues.

User response: Review the RC/RSN for the proper action and correct the error if possible, otherwise contact IBM Software Support and provide them with documentation.

- Return code:
  - 8 = Critical
- Reason codes:

<table>
<thead>
<tr>
<th>Reason code</th>
<th>Explanation</th>
<th>User response</th>
</tr>
</thead>
<tbody>
<tr>
<td>300</td>
<td>The TOSI client application encountered an internal error while processing the RETURNBUF function.</td>
<td>Try the operation again or contact IBM Software Support if necessary and provide them with documentation.</td>
</tr>
</tbody>
</table>
FOI560I  QUERYGROUP COMPLETED SUCCESSFULLY

Explanation: The IMS Tools Online System Interface client was successful in querying every IMS Tools Online System Interface in the XCF group and generating a server list.

System action: Processing continues.

User response: None. This message is informational.

FOI561W  QUERYGROUP COMPLETED RC=rC, RSN=rSN

Explanation: The IMS Tools Online System Interface client was successful in querying the XCF group.

System action: Processing continues, but a server list might not have been generated.

User response: Review the RC/RSN for the proper action and correct the error if possible, otherwise contact IBM Software Support and provide them with documentation.

• Return code:
  – 4 = Warning
• Reason codes:

<table>
<thead>
<tr>
<th>Reason code</th>
<th>Explanation</th>
<th>User response</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>The TOSI client application processed the QUERYGROUP request but the group did not return any members.</td>
<td>Try the operation again.</td>
</tr>
<tr>
<td>101</td>
<td>The TOSI client application processed the QUERYGROUP request but the server list is truncated.</td>
<td>Try the operation again.</td>
</tr>
<tr>
<td>102</td>
<td>The TOSI client application could not process the QUERYGROUP because there was an active server list detected.</td>
<td>Free the active server list by issuing a RETURNBUF BUFFER=ALL command and then try the operation again.</td>
</tr>
<tr>
<td>103</td>
<td>The TOSI client application could not process the QUERYGROUP because the group name was not provided.</td>
<td>Try the operation again with a group name.</td>
</tr>
</tbody>
</table>

FOI562E  QUERYGROUP FAILED RC=rC, RSN=rSN

Explanation: The IMS Tools Online System Interface client was not successful in querying the XCF group.

System action: Processing continues, but a server list is not generated.

User response: Use the XCF display commands to ensure that the XCF group is defined in the Sysplex. See the FOI563E message for details of the IXCQUERY failure condition and then retry the operation. If the problem persists, contact IBM Software Support.

FOI563E  QUERYGROUP IXCQUERY FAILED RC=rC, RSN=rSN

Explanation: The IMS Tools Online System Interface client was not successful in querying the XCF group.

System action: Processing continues, but a server list is not generated.

User response: The return and reason codes are described in the z/OS MVS Programming: Authorized Assembler Services Reference, Volume 2 (EDT-IXG). Review the return and reason codes to correct any problems, and then retry the operation.

If the problem persists, contact IBM Software Support.

FOI570I  DISCONNECT COMPLETED SUCCESSFULLY

Explanation: The IMS Tools Online System Interface client has successfully disconnected from the XCF group.

System action: Processing continues.

User response: None. This message is informational.

FOI571W  DISCONNECT COMPLETED RC=rC, RSN=rSN

Explanation: The IMS Tools Online System Interface client disconnected from the XCF group with a warning condition.

System action: Processing continues.

User response: Review the RC/RSN and correct the error if possible, otherwise contact IBM software support and provide them with documentation.

• Return code:
  – 4 = Warning
• Reason codes:
  – 701 – The TOSI client application processed the DISCONNECT request but detected an active server list.
FOI572E • FOI997E

**FOI572E**  
**Explanation:** The IMS Tools Online System Interface client could not disconnected from the XCF group.  
**System action:** Processing continues.  
**User response:** Review the RC/RSN, correct the error if possible, and contact IBM Software Support if necessary and provide them with documentation.  
- **Reason code:** 16 = Critical  
- **Reason codes:**  

<table>
<thead>
<tr>
<th>Reason code</th>
<th>Explanation</th>
<th>User response</th>
</tr>
</thead>
<tbody>
<tr>
<td>703</td>
<td>The TOSI client application encountered an internal error while obtaining storage for the DISCONNECT request.</td>
<td>Try the operation again. Contact IBM Software Support if necessary and provide them with documentation.</td>
</tr>
</tbody>
</table>

**FOI573I**  
**Explanation:** The IMS Tools Online System Interface terminated the environment for type-2 commands.  
**System action:** Processing continues.  
**User response:** None. This message is informational.  

**FOI580I**  
**Explanation:** The IMS Tools Online System Interface client has successfully been disabled and control is returned to the caller.  
**System action:** Processing continues.  
**User response:** None. This message is informational.  

**FOI581W**  
**Explanation:** The IMS Tools Online System Interface client termination module could not delete the module.  
**System action:** Termination processing continues.  
**User response:** None.  

**FOI582W**  
**Explanation:** The IMS Tools Online System Interface client was not successful in obtaining storage for termination processing.  
**System action:** Processing to disable the client environment was ended.  
**User response:** See the section about the STORAGE macro in the z/OS MVS Programming: Authorized Assembler Services Reference, Volume 4 (SET-WTO). Correct the error, and resubmit the initialization process.  

**FOI583W**  
**Explanation:** The IMS Tools Online System Interface client was not successful in releasing storage obtained for termination processing.  
**System action:** Termination processing continues.  
**User response:** None.  

**FOI996I**  
**Explanation:** When the IMS Tools Online System Interface FRR (Function Recovery Routine) for the XCF message exit gets control from MVS, it tries to enqueue an AWE (asynchronous work element) to IMS Tools Online System Interface for shutdown processing. FOI996I is issued if the enqueue fails.  
**System action:** Processing continues.  
**User response:** Client programs might hang if they are waiting for IMS Tools Online System Interface response notification. Client programs should provide for timeout processing. Notify the client program administrator that you received this error message.  

**FOI997E**  
**Explanation:** The IMS Tools Online System Interface XCF SRB Message exit error recovery attempted to issue an SDUMP macro or service to capture diagnostic information for the ABEND `abend` in the message. The SDUMP macro or service returned a nonzero return code `retcode`.  
**User response:** Additional information about SDUMP return codes and reason codes can be found in the z/OS MVS Programming: Authorized Assembler Services Reference, Volume 3 (LLA-SDU).  

- `rsncode` is the SDUMP reason code.  

**User response:** Additional information about SDUMP return codes and reason codes can be found in the z/OS MVS Programming: Authorized Assembler Services Reference, Volume 3 (LLA-SDU).
If the problem persists, contact IBM Software Support.

---

**FOI998I**  
DAE SUPPRESSED DUMP FOR ABEND abend

**Explanation:** The IMS Tools Online System Interface XCF SRB Message exit error recovery attempted to issue an SDUMP macro or service to capture diagnostic information for the ABEND abend in the message. The SDUMP was suppressed by MVS dump analysis and elimination (DAE).

IMS Tools Online System Interface SRB recovery routines gather symptom string data related to an abend and provide this data to MVS when an SDUMP is requested. If DAE is enabled, MVS suppresses duplicate (symptom strings identical to previously captured) dumps.

DAE is controlled through the MVS ADYSETxx PARMLIB member and the MVS SET DAE command. For details on specifying DAE options, see z/OS MVS Initialization and Tuning Reference.

**System action:** The SDUMP is skipped. The generated dump is suppressed if its symptom strings match a previous dump, and if the current DAE setting in ADYSETxx is set to either SUPPRESS or SUPPRESSALL.

**User response:** None. This message is informational.

---

**FOI999E**  
IMS XCF MESSAGE EXIT RTNE ABEND abend

**Explanation:** IMS Tools Online System Interface XCF Message exit error recovery detected an ABEND abend in component IMS Tools Online System Interface and subcomponent XCF Message exit RTNE.

**System action:** The XCF SRB Message exit error recovery attempts to generate a system dump to capture diagnostic data.

**User response:** Retain the generated system dump and contact IBM Software Support.
Chapter 20. IMS Tools Online System Interface abend codes

The IMS Tools Online System Interface issues user abend codes that can help you with troubleshooting.

For each abend code, the following information is provided where applicable:

**Explanation:**
The Explanation section explains what the abend code means, why it occurred, and what its variable entry fields are (if any).

**System action:**
The System action section explains what the system will do next.

**User response:**
The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

---

**0200**

**Explanation:** A nonrecoverable and possible installation error occurred in the IMS Tools Online System Interface XCF Message exit routine. The abend reason codes further describe the reasons for the error:

- **X'10'** Unable to obtain a Short-Stack Block (SSBL) from the CPOOL.
- **X'30'** Unable to obtain the requested message area from the CPOOL.
- **X'40'** An XCF IXCMSGI macro or service returned a nonzero return code.
- **X'50'** The DFSAW FUNC=ENQ failed when an attempt was made to enqueue the AWE with the input message buffer received from the client to the Tools Online System Interface Q-HDR.

**System action:** IMS Tools Online System Interface abnormally ends IMS command processing.

**User response:** Review the IMS control region job log for other messages that are associated with this abend. Correct the error if possible. If the problem persists, contact IBM Software Support if necessary and provide them with the dump and messages.

---

**400**

Reason Code=20

**Explanation:** Internal error indicating the Cell Pool Manager is not initialized.

**System action:** IMS Tools Online System Interface abnormally ends IMS command processing.

**User response:** Determine the cause for the Cell Pool Manager initialization failure.

---

**4005**

**Explanation:** The IMODULE LOAD of IMS dependent or independent routines failed during IMS Tools Online System Interface initialization. This user abend is preceded by messages FOI201E, FOI203E, or FOI204E. The subcodes describe the nature of the failure:

- **X'133'** An error occurred loading IMS dependent or independent routines.
- **X'151'** The LOAD and initialization of SRB routines failed.

**System action:** See the system action of the associated message.

**User response:** See the user response of the associated message.
Part 4. IMS Tools Catalog Interface reference

IMS Tools Catalog Interface allows IMS Tools products to communicate with the IMS Catalog.

Topics:
- [Chapter 21, “IMS Tools Catalog Interface messages (GEX3),” on page 103]
Chapter 21. IMS Tools Catalog Interface messages (GEX3)

IMS Tools Catalog Interface is a common interface used by IMS Tools products to process the IMS catalog directory. IMS Tools Catalog Interface issues messages that can help you understand the state of the interface and help you resolve errors.

Message format

IMS Tools Catalog Interface messages adhere to the following format:
GEX3nnnx

Where:

GEX3  Indicates that the message was issued by IMS Tools Catalog Interface.

nnn  Indicates the message identification number.

x  Indicates the severity of the message:

A  Indicates that operator intervention is required before processing can continue.

E  Indicates that an error occurred, which might or might not require operator intervention.

I  Indicates that the message is informational only.

W  Indicates that the message is a warning to alert you to a possible error condition.

Each message can include the following variables that are useful for problem analysis:

function  Indicates requested function: OPEN, CLOSE, GET, or LIST

csect_name  Indicates the CSECT name that called the IMS Tools Catalog Interface

msgmark  Indicates an identifier for problem analysis

Each message also includes the following information:

Explanation:
The Explanation section explains what the message text means, why it occurred, and what its variables represent.

System action:
The System action section explains what the system will do in response to the event that triggered this message.

User response:
The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.
**GEX3510E**  
**DFS3CATQ FAILED WITH RC=rc**  
**RSN=rsn**  
**FUNC=function IN csect_name**  
**msgmark**

**Explanation:** IMS Catalog API (DFS3CATQ) failed.  
- **rc** indicates the return code (Hexadecimal)  
- **rsn** indicates the reason code (Hexadecimal)

**System action:** IMS Tools Catalog Interface stops all processing.

**User response:** When the message shows OPEN, GET, or LIST, take the following actions:
- If the message shows **FUNC=OPEN**, check that the correct IMS Catalog is specified to the job.  
  If the IMS Catalog specification is incorrect, correct the error and rerun the job.
- If the message shows **FUNC=GET** or **LIST**, insufficient region size might cause this problem.  
  Increase the **REGION=** size in the EXEC statement of the JCL and rerun the job.
- If the problem persists, contact IBM Software Support.

---

**GEX3520E**  
**TOOLS CATALOG INTERFACE FAILED.**  
**FUNC=function IN csect_name**  
**msgmark**

**LOAD FAILED WITH SYSTEM**

**COMPLETION CODE=**sc AND  
**RSN=rsn. MEMBER=**member

**Explanation:** The LOAD macro failed with system completion code **sc** and reason code **rsn**.

**member** indicates the name of the member that caused the failure.

**System action:** IMS Tools Catalog Interface stops all processing.

**User response:** Refer to the [z/OS MVS Assembler Services Reference](https://www.ibm.com) to determine the meaning of the return code and reason code.

Take the following actions:

- If the STEPLIB data sets do not contain the correct member, correct the error and rerun the job.
- Increase the region size in the **REGION=** parameter of the EXEC statement in the JCL, and rerun the job.
- If the problem persists, contact IBM Software Support.

---

**GEX3521E**  
**TOOLS CATALOG INTERFACE FAILED.**  
**FUNC=function IN csect_name**  
**msgmark**

**GETMAIN FAILED WITH RC=rc**  
**SIZE=size.**

**Explanation:** GETMAIN failed with system completion code **rc**.

**System action:** IMS Tools Catalog Interface stops all processing.

**User response:** Take the following actions:

- Increase the region size in the **REGION=** parameter of the EXEC statement in the JCL, and rerun the job.
- If the problem persists, contact IBM Software Support.

---

**GEX3522E**  
**TOOLS CATALOG INTERFACE FAILED.**  
**FUNC=function IN csect_name**  
**msgmark**

**NAME/TOKEN SERVICE**  
**service**  
**FAILED.**  
**NAME=nametoken**  
**RC=rc**

**Explanation:** The **NAME/TOKEN** service failed with system completion code **rc**.

**service** indicates the service name and **nametoken** indicates the name/token.

**System action:** IMS Tools Catalog Interface stops all processing.

**User response:** Contact IBM Software Support.

---

**GEX3523E**  
**TOOLS CATALOG INTERFACE FAILED.**  
**FUNC=function IN csect_name**  
**msgmark**

**DYNAMIC DEALLOCATION FAILED**  
**FOR DD=**ddname  
**RC=rc AND RSN=rsn.**

**Explanation:** The IMS directory data set could not be unallocated. This message contains the following information:

- **rc** indicates the return code.
- **rsn** indicates the reason code.
- **ddname** indicates the name of the DD for which the unallocation failed.

**System action:** IMS Tools Catalog Interface stops all processing.

**User response:** Contact IBM Software Support.

---

**GEX3540E**  
**TOOLS CATALOG INTERFACE FAILED.**  
**FUNC=function IN csect_name**  
**msgmark**

**IMS DIRECTORY DATA SET WAS NOT OPENED.**

**Explanation:** IMS directory data set was not opened.

**System action:** IMS Tools Catalog Interface stops all processing.

**User response:** Contact IBM Software Support.
GEX3541E  TOOLS CATALOG INTERFACE
FAILED. FUNC=function IN csect_name
msgmark
CLOSE PROCESS IS IN PROGRESS.

Explanation: Closing IMS directory data set failed because it was in progress.

System action: IMS Tools Catalog Interface stops all processing.

User response: Contact IBM Software Support.

GEX3542E  TOOLS CATALOG INTERFACE
FAILED. FUNC=function IN csect_name
msgmark
ABEND OCCURED IN THE PREVIOUS
TOOLS CATALOG INTERFACE
PROCESSING.

Explanation: ABEND had occurred in the IMS Catalog Interface task.

System action: IMS Tools Catalog Interface stops all processing.

User response: Contact IBM Software Support.
Part 5. IMS Tools Resource Manager Structure utility reference

The Resource Manager Structure utility is a batch utility that queries or deletes resources in the Resource Manager (RM) structure used by the IMS systems that are running in an IMSplex.

The Resource Manager Structure utility accesses resources based on the specified resource types and names by using the IMS Common Service Layer (CSL). It then writes the results in a report.

You cannot delete specific resources from the Resource Manager (RM) structure by using the IMS base product; the resources are cleaned up automatically as an internal process. The Resource Manager Structure utility assists you to identify and delete resources that you no longer want in the Resource Manager.

Information about the Resource Manager Structure utility is provided in the following topics:

Topics:
- Chapter 22, “Running the Resource Manager Structure utility,” on page 109
- Chapter 23, “EXEC and DD statements for the Resource Manager Structure utility,” on page 111
- Chapter 24, “Control statement for the Resource Manager Structure utility,” on page 113
- Chapter 25, “Output from the Resource Manager Structure utility,” on page 119
- Chapter 26, “JCL examples for the Resource Manager Structure utility,” on page 123
- Chapter 27, “Resource Manager Structure utility messages (GEXS),” on page 125
- Chapter 28, “Resource Manager Structure utility return codes,” on page 131
Chapter 22. Running the Resource Manager Structure utility

The Resource Manager Structure utility runs as a standard z/OS batch job. To query or delete resources in the resource structure and to write the results in a report, code the Resource Manager Structure utility JCL and run the job.

Procedure

1. Write the EXEC and DD statements.
   For the format of the EXEC statement and the list of DD statements, see Chapter 23, “EXEC and DD statements for the Resource Manager Structure utility,” on page 111.

2. Code the control statement in the GEXSYSIN data set.
   For the syntax of the control statement, see Chapter 24, “Control statement for the Resource Manager Structure utility,” on page 113.

   The following figure shows a JCL example for the Resource Manager Structure utility:

```
//GEXSUTL0 JOB class="A"
//PGM1 EXEC PGM=GEXSUTL0,PARM='FUNC=RMSU'
//STEPLIB DD DISP=SHR,DSN=ITB.SGLXLOAD
// DD DISP=SHR,DSN=ITB.SHKTLOAD
// DD DISP=SHR,DSN=IMS.SDFSRESL
//GEXSJRNL DD SYSOUT=* 
//GEXSRPRT DD SYSOUT=* 
//GEXSYSIN DD *
   FUNC(QUERY)
   PLEXNAME(IMSPX)
   TRANSACT(DFS*)
   LTERM(LTERM00*)
/*
```

Figure 6. JCL example for the Resource Manager Structure utility

3. Run the Resource Manager Structure utility job step to generate a report.
   Ensure that the return code is 0.
   For an example of the report, see Chapter 25, “Output from the Resource Manager Structure utility,” on page 119.
Chapter 23. EXEC and DD statements for the Resource Manager Structure utility

You must specify an EXEC statement and DD statements that define the input and output data sets in your JCL.

Topics:
- "EXEC statement"
- "Summary of DD statements"
- "DD statements for input"
- "DD statements for output" on page 112

EXEC statement

The EXEC statement must be in the following format:

```
//STEP EXEC PGM=GEXSUTL0,PARM='FUNC=RMSU'
```

The EXEC statement in the batch JCL contains one keyword specification in the PARM field: FUNC=.

**FUNC**

Identifies which Common Services is to be invoked.

To invoke the Resource Manager Structure utility, specify 'FUNC=RMSU'.

Summary of DD statements

DD statements of the Resource Manager Structure utility determine the input and output data sets and specify how to run this utility.

The following table summarizes the DD statements for the Resource Manager Structure utility.

<table>
<thead>
<tr>
<th>Table 2. DD statements for the Resource Manager Structure utility</th>
</tr>
</thead>
<tbody>
<tr>
<td>DD name</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>STEPLIB</td>
</tr>
<tr>
<td>GEXSYSIN</td>
</tr>
<tr>
<td>GEXSJRL</td>
</tr>
<tr>
<td>GEXSRPR</td>
</tr>
</tbody>
</table>

DD statements for input

The following input DD statements are used for the Resource Manager Structure utility:

**STEPLIB**

This DD statement is required. It specifies the load module library of IMS Tools Base (SBLXLOAD, SHKTLOAD) and IMS.SDFSRESL.
**GEXSYSIN**

This DD statement is required. It specifies the input control statement that controls the Resource Manager Structure utility functions.

The GEXSYSIN DD statement can be coded as a standard SYSIN file, a sequential data set, or a PDS member. LRECL=80 is required for the DCB of this data set.

For details about coding the GEXSYSIN DD statement, see Chapter 24, “Control statement for the Resource Manager Structure utility,” on page 113.

**DD statements for output**

The following output DD statements are used for the Resource Manager Structure utility.

**GEXSJRNL**

This DD statement is optional. It specifies the processing log output data set, which stores processing messages that are issued by the Resource Manager Structure utility.

If you do not specify this DD statement, the Resource Manager Structure utility dynamically allocates the data set by using SYSOUT=*.

**GEXSRPRT**

This DD statement is optional. It specifies the data set in which information about the RM resources that were queried or deleted is to be written.

If you do not specify this DD statement, the Resource Manager Structure utility dynamically allocates the data set by using SYSOUT=*.
Chapter 24. Control statement for the Resource Manager Structure utility

The control statement for the Resource Manager Structure utility controls the functions of this utility.

The control statement must be specified in the GEXSYSIN data set. This control statement data set generally resides in the input stream. However, it can also be defined as a sequential data set or as a member of a partitioned data set. It must contain 80-byte, fixed-length records. The block size, if coded, must be a multiple of 80.

Topics:

- “Format of the control statement”
- “Summary of keywords”
- “Description of keywords” on page 114

Format of the control statement

The control statement includes a set of keywords, parameters, and comments that are specified in the GEXSYSIN data set.

Keywords

A keyword defines an option for the Resource Manager Structure utility. Keywords can be specified in any order, and any two adjacent keywords must be separated by a blank or a comma. Each keyword has one associated parameter.

Parameters

A parameter defines a value for the associated keyword. All keywords require only one parameter. Parameters must be character or numeric values.

A keyword and the associated parameter are separated by parentheses. For example,

`keyword(parameter)`

Comments

You can include comments in the GEXSYSIN data set by marking a line with an asterisk (*) in column 1.

The Resource Manager Structure utility ignores the comment line when analyzing the control statement in the GEXSYSIN data set.

Summary of keywords

The following table summarizes required keywords of the control statement for the Resource Manager Structure utility. None of these keywords has a default value.

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUNC</td>
<td>Specifies whether you want to query or delete the indicated Resource Manager structure.</td>
</tr>
</tbody>
</table>
Table 3. Required keywords for the Resource Manager Structure utility (continued)

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLEXNAME</td>
<td>Specifies the 5-character IMSplex name.</td>
</tr>
</tbody>
</table>

The following table summarizes optional keywords of the control statement for the Resource Manager Structure utility. None of these keywords has a default value.

Table 4. Optional keywords for the Resource Manager Structure utility

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALL_RESOURCES</td>
<td>Specifies that all resource types handled by this utility are to be queried when FUNC(QUERY) is specified. This keyword cannot be specified with any other resource keywords. For a list of resource keywords, see Table 5 on page 115.</td>
</tr>
<tr>
<td>APPCDESC</td>
<td>Specifies the names of the APPC descriptor resources to be queried or deleted.</td>
</tr>
<tr>
<td>AREA</td>
<td>Specifies the names of the DEDB area resources to be queried or deleted.</td>
</tr>
<tr>
<td>CPICTRAN</td>
<td>Specifies the names of the CPIC transaction resources to be queried or deleted.</td>
</tr>
<tr>
<td>DATABASE</td>
<td>Specifies the names of the database resources to be queried or deleted.</td>
</tr>
<tr>
<td>DYNUSER</td>
<td>Specifies the names of the dynamic user resources to be queried or deleted.</td>
</tr>
<tr>
<td>IMSPLEX</td>
<td>Specifies the names of the IMSplex resources to be queried or deleted.</td>
</tr>
<tr>
<td>LTERM</td>
<td>Specifies the names of the logical terminal (LTERM) resources to be queried or deleted.</td>
</tr>
<tr>
<td>RTMSNAME</td>
<td>Specifies the names of the remote MSNAME resources to be queried or deleted.</td>
</tr>
<tr>
<td>RTNODE</td>
<td>Specifies the names of the remote node resources to be queried or deleted.</td>
</tr>
<tr>
<td>SERPROG</td>
<td>Specifies the names of the scheduled serial program resources to be queried or deleted.</td>
</tr>
<tr>
<td>STNUSER</td>
<td>Specifies the names of the static node user resources to be queried or deleted.</td>
</tr>
<tr>
<td>TRANSACT</td>
<td>Specifies the names of the transaction resources to be queried or deleted.</td>
</tr>
<tr>
<td>USERID</td>
<td>Specifies the names of the user ID resources to be queried or deleted.</td>
</tr>
</tbody>
</table>

Description of keywords

The following keywords are available for the control statement.

**FUNC**

This required keyword specifies whether to query or delete resources in the resource structure.

Format:
FUNCTION(QUERY,DELETE)

**QUERY**
Extracts the resources that meet the selection criteria specified by the resource keywords, and writes the results in the Resource Manager Resource Information report.

**DELETE**
Deletes the resources specified by the resource keywords, and writes the results in the Resource Manager Resource Information report.

There is no default.

**PLEXNAME**
This required keyword specifies the name of the IMSplex whose resource structure is to be accessed by this utility.

Format:

```
PLEXNAME(imsplex_name)
```

*imsplex_name*
Specify a 1- to 5-character IMSplex name.

There is no default.

These optional keywords are resource keywords that you use to specify which resources types you want to process. The resource keywords specify the names of the resources to be queried or deleted.

Although these keywords are optional, at least one of them must be specified. Also, the same keyword can be specified repeatedly.

**Table 5. Resource keywords**

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPCDESC</td>
<td>APPC descriptor</td>
</tr>
<tr>
<td>AREA</td>
<td>DEDB area</td>
</tr>
<tr>
<td>CPICTRAN</td>
<td>CPIC transaction</td>
</tr>
<tr>
<td>DATABASE</td>
<td>Database</td>
</tr>
<tr>
<td>DYNUSER</td>
<td>Dynamic user</td>
</tr>
<tr>
<td>IMSPLEX</td>
<td>IMSplex</td>
</tr>
</tbody>
</table>

Chapter 24. Control statement for the Resource Manager Structure utility  115
### Table 5. Resource keywords (continued)

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTERM</td>
<td>Logical terminal (LTERM)</td>
</tr>
<tr>
<td>RTMSNAME</td>
<td>Remote MSNAME</td>
</tr>
<tr>
<td>RTNODE</td>
<td>Remote node</td>
</tr>
<tr>
<td>SERPROG</td>
<td>Scheduled serial program</td>
</tr>
<tr>
<td>STNUSER</td>
<td>Static node user</td>
</tr>
<tr>
<td>TRANSACT</td>
<td>Transaction</td>
</tr>
<tr>
<td>USERID</td>
<td>User ID</td>
</tr>
</tbody>
</table>

Format:

```plaintext
►►
APPDESC(resource_name)
AREA(resource_name)
CPITRAN(resource_name)
DATABASE(resource_name)
DYNUSER(resource_name)
IMSPLEX(resource_name)
LTERM(resource_name)
RTMSNAME(resource_name)
RTNODE(resource_name)
SERPROG(resource_name)
STNUSER(resource_name)
TRANSACT(resource_name)
USERID(resource_name)
►◄
```

**resource_name**

Specify a 1- to 11-character resource name.

When FUNC(QUERY) is specified, the resource name can include wildcards (*) and (%). If a wildcard is used, all the resources that match that wildcard are returned.

There is no default.

**ALL_RESOURCES**

This optional keyword specifies that the resource names of all resource types handled by this utility are to be queried.

This keyword is applicable only when FUNC(QUERY) is specified and cannot be specified with any other resource keywords.

Format:

```plaintext
►►
ALL_RESOURCES(resource_name)
►◄
```

**resource_name**

Specify a 1- to 11-character resource name. The resource name can include wildcards (*) and (%). If a wildcard is used, all the resources that match that wildcard are returned.
There is no default.
Chapter 25. Output from the Resource Manager Structure utility


Topics:

- “Journal Messages report” on page 120
- “RM Structure Information report” on page 121
**Journal Messages report**

The Journal Messages report contains processing messages about the Resource Manager Structure utility job. This report is generated in the GEXSJRNAL data set.

**Sample report**

The following figure shows an example of the Journal Messages report:

```
<table>
<thead>
<tr>
<th>Tools Base Common Services - V1R6</th>
<th>Journal Messages</th>
<th>RM Structure Utility</th>
</tr>
</thead>
<tbody>
<tr>
<td>5855-V93</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2018-10-27 04:11:59 GEXS101I THE RM STRUCTURE UTILITY PROCESS HAS STARTED.
2018-10-27 04:11:59 GEXS131I THE FOLLOWING OPTIONS ARE USED FOR THE RM STRUCTURE UTILITY:
2018-10-27 04:11:59 GEXS131I - FUNC ... QUERY
2018-10-27 04:11:59 GEXS131I - PLEXNAME ... IMSPX
2018-10-27 04:11:59 GEXS131I - TRANSACT ... DSFFR2A
2018-10-27 04:11:59 GEXS131I - TRANSACT ... DSF*
2018-10-27 04:11:59 GEXS131I - LTERM ... LT%%%%A
2018-10-27 04:12:000 GEXS102I THE RM STRUCTURE UTILITY PROCESS HAS ENDED NORMALLY.
```

*Figure 7. Journal Messages report*
The RM Structure Information report contains information about the resources that were queried or deleted. This report is generated in the GEXSRPRRT data set.

**Sample reports**

The following figure shows an example of the RM Structure Information report when FUNC(QUERY) was specified:

![Figure 8. RM Structure Information report (Query)]](image)

The following figure shows an example of the RM Structure Information report when FUNC(DELETE) was specified:

![Figure 9. RM Structure Information report (Delete)]](image)

**Report field descriptions**

The RM Structure Information report shows the following fields:

- **FUNC**
- **PLEXNAME**
- **resource keywords**

  Shows the values specified for the FUNC keyword and the PLEXNAME keyword in the control statement. If you queried resources, the resource keywords specified in the control statement are also shown.

The table in the report shows information about the resources that were queried or deleted.

If you queried resources, the resource information extracted for each resource keyword is listed on a page. If multiple resource keywords were specified, the resource information for each resource keyword is listed on a separate page.
If you deleted resources, the resource information about all the specified resource keywords are listed on a page, followed by the results of processing.

The report fields are as follows:

**TYPE**  This column shows the resource keyword of the resource type that you specified. If you specified ALL_RESOURCES, individual resource keywords are shown.

**NAME**  This column shows the 11-byte resource name defined by the client (IMS).

**VERSION**  This column shows the resource version, which is the number of times the resource has been updated.

**OWNER**  This column shows the resource attribute that signifies the owner of the resource. This column might be blank.

**RESULT**  This column shows the result of the deletion process. If a resource was successfully deleted, DELETED is displayed.
Chapter 26. JCL examples for the Resource Manager Structure utility

Use these JCL examples to code JCL statements for the Resource Manager Structure utility.

Topics:

- “Example 1: Extracting all resources for all resource types handled by this utility”
- “Example 2: Extracting the resources that meet the selection criteria specified for each resource type”
- “Example 3: Deleting the specified resources” on page 124

Example 1: Extracting all resources for all resource types handled by this utility

The following figure shows example JCL for extracting all resources from the resource structure.

```
//GEXSUTL0 JOB class="A"
//PGM1 EXEC PGM=GEXSUTL0,PARM='FUNC=RMSU'
//STEPLIB DD DISP=SHR,DSN=ITB.SGLXLOAD
  // DD DISP=SHR,DSN=ITB.SHKTLOAD
  // DD DISP=SHR,DSN=IMS.SDFSRESL
//GEXSJRNL DD SYSOUT=* //GEXSRPRT DD SYSOUT=*  
//GEXSYSIN DD *
  PLEXNAME(IMSPX)
  ALL_RESOURCES(*)
/*
```

Figure 10. Example 1: Extracting all resources

In this example, the generic resource name (*) specified in ALL_RESOURCES means returning all resources of all resource types handled by this utility.

Example 2: Extracting the resources that meet the selection criteria specified for each resource type

The following figure shows example JCL for extracting only the resources that meet the specified selection criteria from the resource structure.
In this example, the transaction resource DSFFHR2A is extracted and reported because 
TRANSACT(DSFFHR2A) is specified.

The transaction resources that begin with DFS are extracted and reported because 
TRANSACT(DFS*) is specified.

The logical terminal (LTERM) resources of any 7-character strings that begin 
with LT and ends with A are extracted and reported because LTERM(LT%%%%A) is 
specified.

**Example 3: Deleting the specified resources**

The following figure shows example JCL for deleting the specified resources from 
the resource structure.

In this example,

- The transaction resources DSFFHR2A and DSFFHR2A are deleted and reported 
because TRANSACT(DSFFHR2A) and TRANSACT(DSFFHR3A) are specified.
- The logical terminal (LTERM) resource LT0501A is deleted and reported because 
LTERM(LT0501A) is specified.
Chapter 27. Resource Manager Structure utility messages (GEXS)

The IMS Tools Resource Manager Structure utility issues messages that can help you diagnose and solve the utility problems.

**Message format**

The IMS Tools Resource Manager Structure utility messages adhere to the following format:

```
GEXSnnnx
```

Where:

- **GEXS** Indicates that the message was issued by the IMS Tools Resource Manager Structure utility.
- **nnn** Indicates the message identification number.
- **x** Indicates the severity of the message:
  - **A** Indicates that operator intervention is required before processing can continue.
  - **E** Indicates that an error occurred, which might or might not require operator intervention.
  - **I** Indicates that the message is informational only.
  - **W** Indicates that the message is a warning to alert you to a possible error condition.

Each message also includes the following information:

**Explanation:**

The Explanation section explains what the message text means, why it occurred, and what its variables represent.

**System action:**

The System action section explains what the system will do in response to the event that triggered this message.

**User response:**

The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

---

**GEXS100E** INCORRECT EXEC PARAMETER IS SPECIFIED.

**Explanation:** An incorrect EXEC parameter is specified for the Common Services utility interface (GEXSUTL0).

**System action:** Processing ends with a return code of 8.

**User response:** Correct the EXEC parameter, and rerun the job.

---

**GEXS101I** THE utility_name PROCESS HAS STARTED.

**Explanation:** The Common Services named utility_name has started.

**System action:** Processing continues.

**User response:** None. This message is informational.

---

**GEXS102I** THE utility_name PROCESS HAS
**GEXS103W • GEXS109E**

---

**ENDED NORMALLY.**

**Explanation:** The Common Services named utility_name has ended normally.

**System action:** Processing continues.

**User response:** None. This message is informational.

---

**GEXS103W** THE utility_name PROCESS HAS ENDED WITH WARNING.

**Explanation:** The Common Services named utility_name has ended with warnings.

**System action:** Processing ends with a return code of 4.

**User response:** Check another message whose suffix is W. If this is not the expected result, correct the error, and rerun the job.

---

**GEXS104E** THE utility_name PROCESS HAS ENDED WITH ERROR.

**Explanation:** The Common Services named utility_name has ended with errors.

**System action:** Processing ends with a return code of 8.

**User response:** Check another message whose suffix is E. Correct the error, and rerun the job.

---

**GEXS105E** STORAGE OBTAIN FAILED.

**RC=**return_code, **SIZE=size, MOD=**module, **ERROR_ID=**error_id.

**Explanation:** The Resource Manager Structure utility failed to obtain storage.

**return_code**
- Shows the return code (in hexadecimal) that is returned from the STORAGE macro.

**size**
- Shows the size of the storage that could not be obtained.

**module**
- Shows the name of the failed module.

**error_id**
- Shows the error ID that is associated with the module.

**System action:** Processing ends with a return code of 8.

**User response:** See z/OS DFSMS Macro Instructions for Data Sets to determine the meaning of the return code. If the problem persists, contact IBM Software Support.

---

**GEXS106E** STORAGE RELEASE FAILED.

**RC=**return_code, **SIZE=size, MOD=**module, **ERROR_ID=**error_id.

**Explanation:** The Resource Manager Structure utility failed to release storage.

In the message text, return_code shows the return code (in hexadecimal) that is returned from the STORAGE macro.

size shows the size of the storage that could not be released.

module shows the name of the failed module.

error_id shows the error ID that is associated with the module.

**System action:** Processing ends with a return code of 8.

**User response:** Increase the REGION size on the JOB statement in the JCL, and rerun the utility.

---

**GEXS107E** OPEN FAILED. DDNAME=ddname.

**RC=**return_code.

**Explanation:** The Resource Manager Structure utility failed to open the data set that is specified by the ddname DD. The hexadecimal value return_code is the return code from the OPEN macro.

**System action:** Processing ends with a return code of 8.

**User response:** See z/OS DFSMS Macro Instructions for Data Sets to determine the meaning of the return code. If the problem persists, contact IBM Software Support.

---

**GEXS108W** SNAP FAILED. **RC=**return_code.

**SNAP SERVICE TERMINATED DUE TO PREVIOUS ERROR.**

**Explanation:** The Resource Manager Structure utility failed to create a snap dump. The hexadecimal value return_code is the return code from the SNAP macro. The Resource Manager Structure utility terminated the snap service due to the error.

**System action:** Processing continues with a return code of 4.

**User response:** Correct the error, and rerun the job.

---

**GEXS109E** DYNALLOC SERVICE FAILED FOR FUNC=[ALLOC | UNALLOC], [DDNAME=ddname | DSNAME=dname], **RC=**return_code, **RSN=**reason_code.

**Explanation:** The Resource Manager Structure utility failed to allocate or unallocate the data set for DD name ddname or the data set named dname. The hexadecimal value return_code is the return code from SVC99. The hexadecimal value reason_code is the 999ERROR and 999INFO contents.

**System action:** Processing ends with a return code of 8.

**User response:** Look up the dynamic allocation (SVC99) code in z/OS MVS Programming: Authorized
GEXS110E  UTILITY ENDED WITH ERROR.
RC=return_code, RSN=reason_code.

Explanation: The Resource Manager Structure utility interface (GEXSUTL0) ended with an error. Hexadecimal values return_code and reason_code indicate the return and reason codes from the requested function, respectively.

System action: Processing ends with a return code of 8.

User response: Correct the error, and rerun the job.

GEXS111E  ERRORS DETECTED WHILE xxxxxxxx

Explanation: The Resource Manager Structure utility encountered errors during its processing.

xxxxxxx indicates one of the following text:
- ANALYZING INPUT PARAMETERS
- BUILDING SCI ENVIRONMENT
- GENERATING REPORTS

System action: Processing ends with a return code of 8.

User response: Check another message whose suffix is E. Correct the error, and rerun the job.

GEXS112E  LOAD FAILED. MODULE=modname, SC=code, RSN=reason_code.

Explanation: The Resource Manager Structure utility failed to load the module named modname. The hexadecimal value code is the abend code, and the hexadecimal value reason_code is the reason code associated with the abend.

System action: Processing ends with a return code of 8.

User response: Check if the correct load module library is specified in the STEPLIB DD statement.

GEXS113W  THE BPE STRING PRINT FORMATTING SERVICE DETECTED AN ERROR: RC=nn.

Explanation: The internal messaging service detected an error during the message validation process. The hexadecimal value nn is the return code returned by BPE message processing.

System action: The message validation process stops, and processing continues with a return code of 4.

User response: Contact IBM Software Support.

GEXS114W  THE BPE WTO PRINT FORMATTING SERVICE DETECTED AN ERROR:
RC=nn.

Explanation: The internal messaging service detected an error during the message validation process. The hexadecimal value nn is the return code returned by BPE message processing.

System action: The message validation process stops, and processing continues with a return code of 4.

User response: Contact IBM Software Support.

GEXS115A  ESTAE REQUEST VIOLATION.
RC=return_code, MOD=modname.

Explanation: The ESTAE request issued by the Resource Manager Structure utility failed. The hexadecimal value return_code is the return code of the ESTAE macro. modname is the module name that requested the ESTAE macro.

System action: Processing ends with a return code of 8.

User response: Correct the error, and rerun the job.

GEXS116E  UNSUPPORTED component_type RELEASE FOR component_name.

Explanation: The Resource Manager Structure utility detected an unsupported release of an IMS system component. The component type and name are included in the message.

System action: Processing ends with a return code of 8.

User response: Correct the error, and rerun the job.

GEXS117E  SCI service SERVICE FAILURE.
RC=return_code, RSN=reason_code.

Explanation: A Structured Call Interface (SCI) service request failed. The requested service in the message indicates the failing SCI service. Hexadecimal values return_code and reason_code are the return and reason codes returned by SCI, respectively.

System action: Processing ends with a return code of 8.

User response: For more information about SCI services, see IMS System Programming APIs. If the problem persists, contact IBM Software support.

GEXS118E  RM service SERVICE FAILURE.
RC=return_code, RSN=reason_code.

Explanation: A Resource Manager (RM) service request failed. The requested service in the message indicates the failing RM service. Hexadecimal values return_code and reason_code are the return and reason codes returned by SCI, respectively.

System action: Processing ends with a return code of 8.

User response: For more information about SCI services, see IMS System Programming APIs. If the problem persists, contact IBM Software support.
GEXS123E SCI WAS NOT ACTIVE IN THE IMSPLEX(plexname).

Explanation: The Resource Manager Structure utility attempted to establish a connection to SCI, and the SCI was not active in the IMSplex.

System action: Processing ends with a return code of 8.

User response: Correct the error, and rerun the job.

GEXS130E AN ERROR WAS DETECTED WHILE ANALYZING THE CONTROL STATEMENT. RC=return_code,
FUNC=function, DETAIL OF THE ERROR IS AS FOLLOWS:
...

Explanation: The control statement analysis process detected a syntax error in the control statement. Review the other message, BPE0003E, which explains the details of the error.

System action: Processing ends with a return code of 8.

User response: Correct the control statement, and rerun the job.

GEXS131I THE FOLLOWING OPTIONS ARE USED FOR THE RM STRUCTURE UTILITY:
- keyword_name1 ... value1
- keyword_name2 ... value2
...

Explanation: This message shows individual processing options of the Resource Manager Structure utility on each line. This message is for informational purposes only.

System action: Processing continues.

User response: None. This message is informational.

GEXS133E RESOURCE MUST BE SPECIFIED WITH FUNC(function).

Explanation: No resource keywords were specified in the control statement. Resource keywords are the keywords used to specify which resources you want to process.

System action: Processing ends with a return code of 8.

User response: For more information about RM services, see IMS System Programming APIs. If the problem persists, contact IBM Software support.

GEXS134E keyword1 KEYWORD AND ALL_RESOURCES KEYWORD ARE MUTUALLY EXCLUSIVE.

Explanation: The keyword keyword1 was specified with the keyword ALL_RESOURCES. These keywords are mutually exclusive.

System action: Processing ends with a return code of 8.

User response: Correct the control statement, and rerun the job.

GEXS135E ALL_RESOURCES KEYWORD CANNOT BE SPECIFIED WITH FUNC(DELETE).

Explanation: The keyword ALL_RESOURCES was specified with FUNC(DELETE). These keywords are mutually exclusive.

System action: Processing ends with a return code of 8.

User response: Correct the control statement, and rerun the job.

GEXS140W NO RESOURCES FOUND THAT MEET SELECTION CRITERIA.

Explanation: There are no records that meet the selection criteria specified by the resource keyword.

System action: Processing continues with a return code of 4.

User response: If this is not the expected result, correct the control statement, and rerun the job.

GEXS141W NO RESOURCE FOUND.

Explanation: The resource information to be deleted was not found.

System action: Processing continues with a return code of 4.

User response: Correct the control statement, and rerun the job.
THE SPECIFIED RESOURCE NAME INCLUDES WILDCARD CHARACTERS.

Explanation: One or more wildcard characters were specified in the resource keyword. You cannot specify wildcard characters in the resource name when deleting a resource.

System action: Processing continues with a return code of 4.

User response: Correct the control statement, and rerun the job.
Chapter 28. Resource Manager Structure utility return codes

The Resource Manager Structure utility ends with one of the following return codes:

Table 6. Return codes reported by the Resource Manager Structure utility

<table>
<thead>
<tr>
<th>Return code</th>
<th>Description</th>
<th>User response</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Job successfully ended.</td>
<td>None.</td>
</tr>
<tr>
<td>4</td>
<td>Job ended with a warning message.</td>
<td>Check the messages whose message numbers are suffixed by the letter W. If this is not the expected result, correct the error, and rerun the job.</td>
</tr>
<tr>
<td>8</td>
<td>Job ended with an error message.</td>
<td>Check the messages whose message numbers are suffixed by the letter E. Correct the error, and rerun the job.</td>
</tr>
<tr>
<td>12</td>
<td>Job abnormally ended and recovered by ESTAE routine.</td>
<td>This might be an internal system error. Contact IBM Software Support.</td>
</tr>
<tr>
<td>16</td>
<td>Job failed to initialize the BPE environment.</td>
<td>Correct any errors, and rerun the job. If this situation persists, contact IBM Software Support.</td>
</tr>
</tbody>
</table>
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## Index

### A
- abend codes
  - Generic Logger exit 33
  - Generic MSC exit 61
  - Generic Partner exit 47
  - Generic QSN exit 75
- IMS Tools Online System Interface 99
- accessibility overview 9

### C
- components
  - product 5
- cookie policy 135, 137

### D
- DFSFLGX0 20
- DFSMSC0 50
- DFSPPUE0 36
- DFSQSSP0 64
- documentation
  - accessing 7
  - sending feedback 7

### E
- EXITINIT parameter 26, 40, 54, 68
- EXITPROC parameter 26, 41, 55, 69

### G
- Generic Logger exit 19
  - abend codes 33
  - activation 20
  - definitions 22
- EXITINIT parameter 26
- EXITPROC parameter 26
- global processing parameters 25
- INITFAIL parameter 25
- LOAD module definitions 23
- messages 27
- overview 20
- PROCLIB member definitions 22
- Generic MSC exit 49
  - abend codes 61
  - activation 50
  - definitions 52
- EXITINIT parameter 54
- EXITPROC parameter 55
- global processing parameters 54
- INITFAIL parameter 54
- messages 57, 71
- overview 50
- PROCLIB member definitions 52
- Generic Multiple Systems Coupling exit 49
- Generic Partner exit 35
  - abend codes 47
  - activation 36
  - definitions 38
  - EXITINIT parameter 40
  - EXITPROC parameter 41
  - global processing parameters 40
  - INITFAIL parameter 40
  - messages 43
  - overview 36
  - PROCLIB member definitions 38
- Generic QSN exit 63
  - abend codes 75
  - activation 64
  - definitions 66
  - EXITINIT parameter 68
  - EXITPROC parameter 69
  - global processing parameters 68
  - INITFAIL parameter 68
  - overview 64
  - PROCLIB member definitions 66
- Generic Queue Space Notification exit 63
- Generic TM and MSC Message Routing exit 49
  - GEMSC0 50
  - GESQSSP0 64
  - GExQxxx PROCLIB member 66
  - GExQxxxx PROCLIB member 52
  - global processing parameters
    - Generic Logger exit 25
    - Generic MSC exit 54
    - Generic Partner exit 40
    - Generic QSN exit 68
  - GLXEXIT0
    - load member 22
  - GLXILGX0 20
  - GLXxxxx0 PROCLIB member 22
  - GPRPPUE0 36
  - GPRxxxx0 PROCLIB member 38

### L
- legal notices
  - cookie policy 135, 137
  - notices 135
  - product documentation 137
  - programming interface information 135
  - trademarks 135, 136

### M
- messages and codes
  - Generic Logger exit routine 27
  - Generic MSC exit 57, 71
  - Generic Partner exit 43
  - IMS Tools Catalog Interface 103

### N
- notices 135

### O
- overview
  - product 3

### P
- product documentation terms and conditions 137
- programming interface information 135

### R
- reference
  - abend codes 99
  - Resource Manager Structure utility
    - control statement 113
    - DD statements 111
    - EXEC statement 111
    - JCL examples 123
    - Journal Messages report 120, 121
  - output 119
  - return codes 131
  - running 109

### S
- screen readers and magnifiers 9
- service information 6
- summary of changes 6
- support information 6

### T
- technotes 7
Tools Online System Interface
   abend codes  99
trademarks  135, 136