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About This Book

This information is available in PDF and BookManager® formats, and also as part of the DB2® Information Management Software Information Center for z/OS® Solutions. To view the information within the DB2 Information Management Software Information Center for z/OS Solutions, go to publib.boulder.ibm.com/infocenter/dzichelp To get the most current versions of the PDF and BookManager formats, go to the IMS™ Library page at www.ibm.com/software/data/ims/library.html.

This book provides terminal operators with the information needed to use:

- IMS Commands
- OS/390® Commands used for IMS
- Transport Manager Subsystem (TMS) commands
- Base Product Environment (BPE) commands

Because each user’s IMS system is tailored to a specific operating configuration, this book is not intended to serve each installation’s operational needs. It is recommended that each installation prepare an operator’s guide to meet the needs of its IMS terminal operators. Use the contents of this manual to create or supplement the guide your installation prepares.

Summary of Contents

This book contains:

- **Part 1, “Introduction,” on page 1.** Introduces the IMS command language, including the format, keywords, parameters, syntax notation, and examples for the IMS commands.
- **Part 2, “IMS Commands,” on page 75.** Describes the IMS commands, in alphabetical order, and includes syntax diagrams.
- **Part 3, “OS/390 (MVS) Commands Used for IMS,” on page 691.** Describes the MVS™ commands used with the Internal Resource Lock Manager (IRLM) and includes the syntax diagrams.
- **Part 4, “IMS Transport Manager Subsystem Commands,” on page 733.** Describes the IMS Transport Manager Subsystem commands and includes the syntax diagrams.
- **Part 5, “Base Primitive Environment Commands,” on page 751.** Describes the general Base Product Environment (BPE) commands.
- A set of appendixes:
  - Appendix A, “DBCTL Commands,” on page 777
  - Appendix B, “DCCTL Commands,” on page 779
  - Appendix C, “List of Reserved Words,” on page 783
  - Appendix D, “Shared Secondary Index Database Commands,” on page 787
  - Appendix E, “Commands with the NODE USER Keyword Combination,” on page 789
  - Appendix F, “Commands That Are Valid in ETO,” on page 791
  - Appendix G, “Status and Attributes for the /DISPLAY Command,” on page 793
  - Appendix H, “High Availability Large Database Commands,” on page 805
  - Appendix I, “IMS Commands, RACF Access Authorities and Resource Names Table,” on page 807

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For quick reference to the commands, see [IMS Version 8: Summary of Operator Commands](#) which contains syntax diagrams of all the commands described in this publication.

### Prerequisite Knowledge

Before using this book, you should understand basic IMS concepts and your installation’s IMS system. IMS can run in the following environments: DB batch, TM batch, DB/DC, DBCTL, and DCCTL. You should understand the environments that apply to your installation. For a complete list of courses, see the IMS home page on the IMS Web site at [www.ibm.com/ims](http://www.ibm.com/ims).

**Recommendation:** Before using this book, you should be familiar with the following books:
- [IMS Version 8: Operations Guide](#)
- OS/390 JES2 Commands
- OS/390 JES3 Commands
- OS/390 MVS System Commands

### How to Read Syntax Diagrams

This book contains syntax diagrams.

Each syntax diagram begins with a double right arrow and ends with a right and left arrow pair. Lines that begin with a single right arrow are continuation lines. You read a syntax diagram from left to right and from top to bottom, following the direction of the arrows.

**Table 1** describes the conventions that are used in syntax diagrams in this information:

<table>
<thead>
<tr>
<th>Convention</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>[A-B-C]</td>
<td>You must specify values A, B, and C. Required values are shown on the main path of a syntax diagram.</td>
</tr>
<tr>
<td>[A]</td>
<td>You must specify value A, B, or C.</td>
</tr>
<tr>
<td>[A-B] [C]</td>
<td>You have the option to specify value A. Optional values are shown below the main path of a syntax diagram.</td>
</tr>
<tr>
<td>[A] [B] [C]</td>
<td>You have the option to specify A, B, C, or none of these values.</td>
</tr>
</tbody>
</table>
Table 1. How to Read Syntax Diagrams (continued)

<table>
<thead>
<tr>
<th>Convention</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Diagram" /></td>
<td>You have the option to specify A, B, C, or none of these values. If you don’t specify a value, A is the default.</td>
</tr>
<tr>
<td><img src="image2" alt="Diagram" /></td>
<td>You have the option to specify one, more than one, or none of the values A, B, or C. Any required separator for multiple or repeated values (in this example, the comma) is shown on the arrow.</td>
</tr>
<tr>
<td><img src="image3" alt="Diagram" /></td>
<td>You have the option to specify value A multiple times. The separator in this example is optional.</td>
</tr>
<tr>
<td><img src="image4" alt="Diagram" /></td>
<td>Sometimes a diagram must be split into fragments. The syntax fragment is shown separately from the main syntax diagram, but the contents of the fragment should be read as if they are on the main path of the diagram.</td>
</tr>
</tbody>
</table>

**Name**

- **Name:**

![Diagram](image5)

**Punctuation marks and numbers**
Enter punctuation marks (slashes, commas, periods, parentheses, quotation marks, equal signs) and numbers exactly as shown.

**Uppercase values**
Keywords, their allowable synonyms, and reserved parameters appear in uppercase letters for OS/390. Enter these values exactly as shown.

**Lowercase values**
Keywords, their allowable synonyms, and reserved parameters appear in lowercase letters for UNIX®. Enter these values exactly as shown.

**Lowercase values in italic (for example, name)**
Supply your own text or value in place of the name variable.

| b | A b symbol indicates one blank position. |

Other syntax conventions include the following:
- When you enter commands, separate parameters and keywords by at least one blank if there is no intervening punctuation.
- Footnotes are shown by a number in parentheses, for example, (1).
- Parameters with number values end with the symbol #.
- Parameters that are names end with ‘name’.
- Parameters that can be generic end with the symbol *.
Example Syntax Diagram

Here is an example syntax diagram that describes the hello command.

```
hello
  Name
  Greeting

Name:
  (1) name

Greeting:
  (2) your_greeting

Notes:
1. You can code up to three names.
2. Compose and add your own greeting (for example, how are you?).

According to the syntax diagram, these commands are all valid versions of the
hello command:

  hello
  hello name
  hello name, name
  hello name, name, name
  hello, your_greeting
  hello name, your_greeting
  hello name, name, your_greeting
  hello name, name, name, your_greeting

The space before the name value is significant. If you do not code name, you must
still code the comma before your_greeting.

How to Send Your Comments

Your feedback is important in helping us provide the most accurate and highest
quality information. If you have any comments about this or any other IMS
information, you can do one of the following:

* Go to the IMS home page at www.ibm.com/ims. There you will find an online
  feedback page where you can enter and submit comments.
* Send your comments by e-mail to imspubs@us.ibm.com. Be sure to include the
title, the part number of the title, the version of IMS, and, if applicable, the
specific location of the text you are commenting on (for example, a page number
in the PDF or a heading in the Information Center).
Summary of Changes

Changes to the Current Edition of This Book for IMS Version 8

This edition, which is available in softcopy format only, includes technical and editorial changes.

New and Changed Commands and Keywords

Table 2 shows the new and changed commands and keywords for IMS Version 8. It also includes a brief description of the change.

Table 2. Command and Keyword Changes for IMS Version 8

<table>
<thead>
<tr>
<th>Command</th>
<th>Keyword</th>
<th>Description of Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>/CHANGE</td>
<td>OUTBND</td>
<td>New keyword</td>
</tr>
<tr>
<td>/DELETE</td>
<td>DESC</td>
<td>New keyword</td>
</tr>
<tr>
<td>DELETE</td>
<td>LE</td>
<td>New command and keyword</td>
</tr>
<tr>
<td>INITIATE</td>
<td>OLC</td>
<td>New command and keyword</td>
</tr>
<tr>
<td>QUERY</td>
<td>IMSPLEX, LE, MEMBER, OLC, STRUCTURE, TRAN</td>
<td>New command and keywords</td>
</tr>
<tr>
<td>/STA DB</td>
<td>DATABASE OPEN, DESC</td>
<td>New keywords</td>
</tr>
<tr>
<td>TERMINATE</td>
<td>OLC</td>
<td>New command and keyword</td>
</tr>
<tr>
<td>/TRACE</td>
<td>TABLE</td>
<td>New parameter</td>
</tr>
<tr>
<td>UPDATE</td>
<td>LE, TRAN</td>
<td>New command and keywords</td>
</tr>
</tbody>
</table>

Library Changes for IMS Version 8

Changes to the IMS Library for Version 8 include the addition of new titles, the elimination of one title, organizational changes, and accessibility enhancements. Changes are indicated by a vertical bar (|) to the left of the changed text.

New, Revised, and Eliminated Titles

The following list details major changes to the IMS Version 8 library:

- **IMS Version 8: Common Service Layer Guide and Reference**
  The library includes new information: **IMS Version 8: Common Service Layer Guide and Reference** (CSL). This information is available only in PDF and BookManager formats.

- The information formerly titled **IMS Version 7: Common Queue Server and Base Primitive Environment Guide and Reference** has been divided in the IMS Version 8 library:
  - **IMS Version 8: Base Primitive Environment Guide and Reference**
  - **IMS Version 8: Common Queue Server Guide and Reference**

- The information formerly titled **IMS Version 7: Installation Volume 1: Installation and Verification** is now titled **IMS Version 8: Installation Volume 1: Installation Verification**. All installation information is now in the IMS Version 8 Program Directory.

- **IMS Version 8: Sample Operating Procedures**
This information is no longer produced for the IMS library from IMS Version 8 and after.


### Organizational Changes

Organizational changes to the IMS Version 8 library include changes to:

- *IMS Version 8: Application Programming: Database Manager*
- *IMS Version 8: Application Programming: EXEC DLI Commands for CICS® and IMS*
- *IMS Version 8: Application Programming: Transaction Manager*
- *IMS Version 8: Messages and Codes, Volume 1*
- *IMS Version 8: Utilities Reference: Database and Transaction Manager*

The section titled “DL/I Return and Reason Codes” has been moved from **IMS Version 8: Application Programming: Database Manager** to **IMS Version 8: Messages and Codes, Volume 1**.

The section titled “DL/I Status Codes” will now only appear in **IMS Version 8: Messages and Codes, Volume 1**.

The section titled “MFS Language Utility” has been renamed to “MFS Language Utility Control Statements” and has been moved from **IMS Version 8: Application Programming: Transaction Manager** to **IMS Version 8: Utilities Reference: Database and Transaction Manager**.

### Deleted Information

OS/390 does not support the Virtual Fetch function any longer. Consequently, all information associated with Virtual Fetch has been deleted from the following IMS Version 8 information:

- *IMS Version 8: Administration Guide: System*
- *IMS Version 8: Failure Analysis Structure Tables (FAST) for Dump Analysis*
- *IMS Version 8: Installation Volume 2: System Definition and Tailoring*
- *IMS Version 8: Messages and Codes, Volume 1*
- *IMS Version 8: Messages and Codes, Volume 2*

### Accessibility Enhancements

Accessibility features help a user who has a physical disability, such as restricted mobility or limited vision, to use software products successfully. The major accessibility features in z/OS products, including IMS, enable users to:

- Use assistive technologies such as screen-readers and screen magnifier software
- Operate specific or equivalent features using only the keyboard
- Customize display attributes such as color, contrast, and font size

### User Assistive Technologies

Assistive technology products, such as screen readers, function with the user interfaces found in IMS. Consult the assistive technology documentation for specific information when using it to access these interfaces.
Accessible Information

Online information for IMS Version 8 is available in BookManager format, which is an accessible format. All BookManager functions can be accessed by using a keyboard or keyboard shortcut keys. BookManager also allows you to use screen readers and other assistive technologies. The BookManager READ/MVS product is included with the OS/390 base product, and the BookManager Library Reader™ (for workstations) is available on the IMS Licensed Product Kit (CD), which is available for downloading from IBM® at www.ibm.com.

Keyboard Navigation of the User Interface

Users can access IMS user interfaces using TSO/E or ISPF. Refer to the z/OS : TSO/E Primer, z/OS : TSO/E User’s Guide, z/OS : ISPF User’s Guide. These guides describe how to navigate each interface, including the use of keyboard shortcuts or function keys (PF keys). Each guide includes the default settings for the PF keys and explains how to modify their functions.
# Part 1. Introduction

## Chapter 1. IMS Command Language

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Chapter 1. IMS Command Language

Introduction

This chapter describes how to use the IMS master terminal, TSO SPOC, or the OM API for messages, commands, and responses; how to input IMS classic commands and IMSplex commands; and how to read the command syntax diagrams, command characteristics, and command keyword definitions. The commands are described in alphabetical order in Part 2, “IMS Commands,” on page 75.

Classic IMS commands can be entered from the master terminal. IMS classic commands are commands that are in the original IMS command syntax. Certain classic IMS commands can be entered from remote terminals, from the master terminal, or both. The criteria used for determining which commands can be entered from which terminals are established differently for statically defined terminals and for dynamically created terminals. IMS system definition and the Security Maintenance utility establish the criteria for statically defined terminals. RACF® or equivalent security product establishes the criteria for dynamically created terminals.

The standard terminal command defaults created by system definition can be modified by the Security Maintenance utility. Table 4 on page 22 shows the terminal security defaults for IMS commands established by IMS system definition.

Optionally, commands can be entered from a TSO SPOC or the OM API. Both IMS classic commands and IMSplex commands can be entered from a TSO SPOC or the OM API. However, IMSplex commands can only be entered from an OM API, not a master or remote terminal. Some classic IMS commands are not supported by the OM API and some are not recoverable.

MVS/ESA™ commands can be entered only at the MVS/ESA system console and not from the IMS master terminal.

How to Enter an IMS Command

This section describes the following:

- "IMS MFS 3270 Master Terminal Format"
- "Using Multiple Console Support (MCS) Consoles" on page 6
- "Outstanding Reply Numbers on MVS Consoles" on page 7
- "Maximum Length of Command Input from MVS Consoles" on page 7
- "Multisegment Command Input" on page 7
- "Commands in a DBCTL Environment" on page 9
- "Commands from an LU 6.2 Device" on page 9
- "Qualifying Network LU Names and Commands" on page 10
- "TSO SPOC Format" on page 10

IMS MFS 3270 Master Terminal Format

This section describes how to use the IMS master terminal for messages, commands, and responses. The IMS master terminal consists of two components of the IBM 3270 Information Display System:

- A 3270 display screen with 24 lines by 80 columns; a screen size of 1920 characters
- A 3270 printer
How to Enter an IMS Command

All IMS system messages for the master terminal are sent to the display screen. Most system messages, commands and responses are also sent to the printer to provide a hard copy record.

The format of the display screen is normally divided into five areas:
- System status area (line 1)
- Message area (lines 2-10)
- Display area (lines 12-21)
- Warning message area (line 22)
- User input area (lines 23 and 24)

Figure 1 is a screen that shows the format of the master terminal display screen.

![Figure 1](image1)

**System Status Area:** This area (line 1) displays the date, time, and IMS identifier:

<table>
<thead>
<tr>
<th>Date</th>
<th>Current date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>Current time</td>
</tr>
<tr>
<td>IMS id</td>
<td>IMS identifier</td>
</tr>
</tbody>
</table>

Figure 2 is a screen that shows the format of the master terminal display screen in an extended recovery facility (XRF) environment.

![Figure 2](image2)

**System Status Area:** This area (line 1) displays the date, time, and IMS identifier:

<table>
<thead>
<tr>
<th>Date</th>
<th>Current date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>Current time</td>
</tr>
<tr>
<td>IMS id</td>
<td>IMS identifier</td>
</tr>
</tbody>
</table>
How to Enter an IMS Command

**Time**  Current time

**IMS Identifier**  
IMS system ID

If the system is XRF capable, the following information is also displayed on the status line:

**RSEname**  Recoverable service element name

**System**  ACTIVE or BACKUP (field is completed following the initialization phase)

**Phase**  Blank or one of the following:

- **Initialization**  Active or alternate system is in initialization phase
- **Synchronization**  Alternate system processing SNAPQ checkpoint
- **Tracking in progress**  Alternate system synchronized with active system and in the process of tracking active system
- **Takeover in progress**  Alternate system in the process of taking over from active system
- **Awaiting I/O prevention**  New active system is in I/O toleration mode and is awaiting completion of I/O prevention on the failing system prior to becoming a true active system

**Message Area:**  This area (lines 2 through 10) displays IMS system messages, messages from other terminals and programs, and responses to IMS commands, except responses to a /DISPLAY command. If the message area is full and more output needs to be displayed, a warning message is sent. Press the PA1 key to receive more output. New data is displayed on the top line followed by a blank line to separate new data from old messages.

**Display Area:**  This area (lines 12 through 21) displays the output from a /DISPLAY command. If the response to the command exceeds the size of the area, a warning message is sent.

**Warning Message Area:**  This area (line 22) can contain one of the following warning messages:

- **MASTER LINES WAITING**  A message being displayed in the message area has exceeded the available space and is only partially displayed.
- **MASTER MESSAGE WAITING**  The message area is full, and a message from another terminal or program is waiting to be displayed.
- **DISPLAY LINES WAITING**  The output of a /DISPLAY command exceeds the size of the display area.
- **USER MESSAGE WAITING**  A message requiring the screen to be formatted differently is waiting to be displayed.
How to Enter an IMS Command

In all cases, press the PA1 key to receive the waiting output.

The literal PASSWORD is followed by an unprotected field with the nondisplay attribute at the end of line 22.

**User Input Area:** This area (lines 23 and 24) is used to enter IMS commands. It consists of two 79-character segments, so you can enter multisegment commands such as /BROADCAST, /CHANGE, /RMxxxxxx, and /SSR. For example, to send a message to all active terminals, enter /BROADCAST ACTIVE on line 23 and enter the message text on line 24. The cursor is initially positioned by IMS to line 23, your first input line.

Sometimes the screen can lose this special format (for example, if you have pressed PA1 and received a user message, or if you have pressed the Clear key). To restore the format, enter /FORMAT DFSM02. If the screen is currently formatted with an application display, this command can be entered on the command input line at the bottom of the screen and must be terminated with a period.

### Using Multiple Console Support (MCS) Consoles

You can enter IMS commands from Multiple Console Support (MCS) or Extended Multiple Console Support (E-MCS) consoles. Use the CMDMCS keyword for the IMS, DBC, or DCC procedures during IMS system definition to allow commands to be entered from MCS or E-MCS consoles. See [IMS Version 8: Installation Volume 2: System Definition and Tailoring](#) for more information on the CMDMCS keyword.

In a DB/DC environment, if Multiple Console is enabled (CMDMCS other than 'n' specified), IMS commands can be entered from an MCS or E-MCS console by prefixing the command by either the CRC or IMSID. For example, if the CRC is '#' then a valid command would be #DIS A. If the IMSID is 'IMSP' then a valid command would be IMSPDIS A.

Each segment of an IMS command must begin with one of the following:
- The command-recognition character for the IMS subsystem
- The IMS ID of the IMS subsystem

For multisegment commands, each segment, except the last, must end with the command recognition character or IMS ID followed by the ENTER key. The last segment must end with only the EOM (end-of-message, or ENTER) character.

Prior to IMS Version 8, the only method of sending a command to all IMS subsystems in a Sysplex (hereafter called an IMSplex) was to issue the MVS ROUTE *ALL command from an MCS or E-MCS console. See [OS/390 MVS System Commands](#) for more information on the ROUTE *ALL command.

As of IMS Version 8, you can send commands to all the IMSs in an IMSplex by using an automated operations single-point-of-control (SPOC) application that sends commands and receives the responses to those commands through the Operations Manager (OM) application programming interface (API).

**Definition:** An IMSplex is one or more IMS subsystems that work together in groups that share databases, message queues, or both. Additionally, this definition includes the idea of these IMSs being managed by components of the Common Service Layer (CSL), the Operations Manager (OM), the Resource Manager (RM), and the Structured Call Interface (SCI).
Related Reading: For more information about managing multiple IMSs in an IMSplex using SPOC application programs, see “Automated Operations” in the IMS Version 8: Operations Guide. For more information about the CSL components and the OM API, see the IMS Version 8: Common Service Layer Guide and Reference.

When you are using a Resource Manager (RM) structure in an IMSplex, it is best to issue commands to the Operations Manager (OM) through the TSO SPOC.

Outstanding Reply Numbers on MVS Consoles

Outstanding reply numbers are used only on MVS system consoles. They are used to pass input directly to IMS. Terminals defined to IMS do not use outstanding reply numbers.

As an example, IMS might display the following on the MVS console:

*48 DFS996I *IMS READY*

To communicate with IMS through the MVS system console, you must reply with the outstanding reply number (in the previous example, the number is 48). A reply might look like this:

R 48,/START DC

After IMS responds to the command, the next outstanding reply number is displayed with the DFS996I message, as follows:

DFS058I START COMMAND COMPLETED
*49 DFS996I *IMS READY*

Maximum Length of Command Input from MVS Consoles

For single-segment commands that are entered from the MVS console, the maximum character length (including command recognition characters), is 118. This limit is due to the current implementation of the WTOR macro.

Multisegment Command Input

Multisegment commands require an EOS (end-of-segment) indicator for all segments preceding the last segment, and an EOM (end-of-message) indicator for the last segment. EOS and EOM will vary depending on the type of terminal entering the command. For example, on the system console, EOS is indicated by the ENTER key and EOM is indicated by entering a period followed by the ENTER key. Refer to the IMS Version 8: Operations Guide for a discussion of multisegment input for various device types.

The following are multisegment commands:

- /ALLOCATE
- /BROADCAST
- /CHANGE
- /ERESTART
- /LOOPTEST
- /OPNDST
- /RMxxxxxx
- /SSR

The period is used both as a delimiter for comments on IMS commands and as an EOM indicator for some terminal types. The following examples illustrate the use of the period in both contexts. "Example 4 for Multisegment Commands” on page 8 shows this.
Example 1 for Multisegment Commands: System console entry:

24,/BRO MASTER. END OF DAY MESSAGE
25, I AM GOING HOME. PLEASE TAKE OVER.

Response on master terminal:

I AM GOING HOME. PLEASE TAKE OVER.

Explanation: The first input segment (reply 24) contains only the command and consists of a comment (END OF DAY MESSAGE) separated from the command itself (BRO MASTER) by a period. The second input segment (reply 25) consists of the data to be broadcast. The first period in segment 2 is part of the data and the second period in segment 2 is the EOM indicator for the system console.

Example 2 for Multisegment Commands: System console entry:

26,/CHANGE DIRECT
27, ORY MFS. MODIFICATION.

Explanation: MODIFICATION in segment 2 is a comment and is separated from the command by the first period. The second period in segment 2 is the EOM indicator for the system console.

The above 2 segments are combined and the following is input to the command processor:

/CHANGE DIRECTORY MFS. MODIFICATION

Example 3 for Multisegment Commands: System console entry:

28,/CHANGE LINK 1
29, 2 3 FORCSESS.

Explanation: Certain forms of reply to the system console “outstanding reply” can compress out leading blanks from input segments. In Example 3 for Multisegment Commands the command processed by the /CHANGE command processor would be: /CHANGE LINK 12 3 FORCSESS. To obtain the desired command, /CHANGE LINK 1 2 3 FORCSESS, one of the following forms of reply could be used:

R 29,'/CHANGE LINK 1'
R 30,' 2 3 FORCSESS.'

or

29,/CHANGE LINK 1
30, 2 3 FORCSESS

Example 4 for Multisegment Commands: LU2 or 3270 Display Terminal entry:

/FORMAT DFSMO4
/BRO LTERM WTOR (eos)
this is segment 1 (eos)
this is segment 2 (eos)
this is segment 3 (eom)

Explanation: The remote terminal is first formatted via the /FORMAT command, where default format DFSMO4 supports the input of 4 segments.

For LU2 and 3270 display terminals, enter a /FORMAT DFSMO4 command before entering the multisegment command.
Commands in a DBCTL Environment

In a DBCTL environment, there are no outstanding reply numbers for MVS consoles, and therefore none should be entered. For a command, just enter the command recognition character (slash or other character preceding the verb) or IMS ID, followed by the command. DBCTL does not respond with the DFS996I outstanding reply number.

Examples for DBCTL Commands: System console entry for single-segment command:

```
¢DIS DB PAYROLL
```

Explanation: ¢ is the command-recognition character for the DBCTL subsystem.

```
IMS1DIS DB PAYROLL
```

Explanation: IMS1 is the IMS ID for the DBCTL subsystem.

System console entry for multisegment command:

```
/RMI DBRC='IC DBD(DEDBD001) AREA (DD01AR0) ICDSN(FVT31.DEDBDD01.DD01 AR0.IC.DUMMY1) ICDSN2/ /(FVT31.DEDBDD01.DD01AR0.IC2.DUMMY1) HSSP'
```

Explanation: The first segment of the /RMI command has the command recognition character at the beginning of the segment and at the end of the segment, to indicate another segment follows. The last segment has the command recognition character at the beginning of the segment only.

Commands from an LU 6.2 Device

To enter a command from an LU 6.2 device, allocate a conversation using an IMS command verb as the TPNAME. The “/” must be included in the command word. The password option is not valid. (The password must be supplied as a part of the LU 6.2 ALLOCATE from the partner.) The normal LU 6.2 security provisions apply for this transaction.

Restriction: The APPC synchronization level of CONFIRM is ignored for commands from LU 6.2 devices.

Following are examples of the sequence of steps used to issue commands by allocating a synchronous conversation on an LU 6.2 device:

Example 1 for Commands from an LU 6.2 Device:

```
ALLOCATE
   -LUNAME=uname of IMS
   -TPNAME=/DISPLAY
SEND
   -DATA=LTERM VA01 VA02.comments
PREPARE_TO_RECEIVE
RECEIVE
RECEIVE
RECEIVE
RC=DEALLOCATE
```

Example 2 for Commands from an LU 6.2 Device:

```
ALLOCATE
   -LUNAME=uname of IMS
   -TPNAME=/CHANGE
SEND
   -DATA=NODE
```
LU 6.2 Commands

Example 3 for Commands from an LU 6.2 Device:

ALLOCATE
- LUNAME=luname of IMS
- TPNAME=/BROADCAST
SEND
- DATA=NODE VAT0*
  (1st SEND: the destination)
SEND
- DATA=HELLO, HOW ARE YOU ALL?
  (Subsequent SENDs: message to broadcast)
PREPARE_TO_RECEIVE
RECEIVE
  (Get DFS058 BROADCAST COMMAND COMPLETED)
RC=DEALLOCATE

Qualifying Network LU Names and Commands

Qualifying LU names gives the system administrator the liberty of using the same name for LUs on different systems by adding the network identifier. This eliminates the necessity to have unique names for every LU on every system in your complex.

A network-qualified LU name consists of a network identifier of the originating system that is 1 to 8 characters long, a period, and then the LU name, which is 1 to 8 characters long. IMS commands that include network-qualified LU names must be enclosed in single quotes. For example: 'NETID001.LUAPPC02'. No blanks are allowed in a network-qualified LU name.

The parameter ALL for either the network identifier or the LU name cannot be substituted in a command for a network-qualified LU name. ALL cannot represent all of the LU names or all of the networks.

The LU name in the LU 6.2 descriptors can be network-qualified.

The network-qualified LU name is optional on commands that support the LUNAME keyword.

TSO SPOC Format

The TSO SPOC is an IBM-supplied application which coordinates commands across an IMSplex. The TSO SPOC application uses an ISPF panel interface and communicates with a single Operations Manager (OM) address space. OM then communicates with all of the other address spaces in the IMSplex (for example, IMS) as required for operations.

There can be more than one TSO SPOC in an IMSplex. However, it is optional in an IMSplex. The TSO SPOC provides the following functions to an IMSplex:

- Presents a single system image for an IMSplex by allowing the user to enter commands to all IMSs in the IMSplex from a single console.
- Displays consolidated command responses from multiple IMS address spaces.
- Sends a message to an IMS terminal connected to any IMS control region in the IMSplex by using the IMS /BROADCAST command.

The TSO SPOC has integrated online help which can be accessed by the PF1 key. There are three ways to issue commands in the IMS TSO SPOC application:

- By command line
- By retrieving a command
Using the ISPF RETRIEVE command
Using a command listed in the response area
Using the Command status panel

By defining and using command shortcuts

These three methods can be used in any combination at any time. See the IMS TSO SPOC Online Tutorial, for more information about using the TSO SPOC application. For more IMSplex information, see IMS Version 8: Common Service Layer Guide and Reference.

Figure 3 is a screen that shows the format of the TSO SPOC screen.

```
File    Display    View   Options   Help
-----------------------------------------------
Plex1   IMS Single Point of Control
Command ==> XXXXXX

--------------------------
Plex . Route . Wait .
Response for:

CSLM000I (C) Copyright IBM Corp. 2000. All rights reserved.
F1=Help    F3=Exit    F4=Showlog    F6=Expand    F9=Retrieve    F12=Cancel
```

Figure 3. TSO SPOC Screen Format

You can enter both IMS classic commands and IMSplex commands using the TSO SPOC interface. The command is entered next to the command prompt (XXXXXXX in the figure). Enter the IMSplex name in the Plex field. Enter the list of IMSs to which to route the command, if applicable, in the Route field; and enter where you want to receive the response in the Response for: field.

**Entering Comments from a TSO SPOC:** For classic IMS commands, a period ends a command and anything after it is a comment. The following example shows a classic IMS command with a comment.

```
/DISPLAY ACT .a test comment
```

For IMSplex commands, the comment must be enclosed in a slash and asterisk. At the end of the last parameter of the command, type a forward slash followed by an asterisk, then the comment text, followed by an asterisk and slash. The comment text must not have an embedded asterisk slash in it. The following is an example of a command with a comment:

```
QUERY TRAN NAME(PART) SHOW(QCNT) /*Show queue count for tran part*/
```

**Commands from the OM API**

An IMSplex is one or more IMS subsystems that work together in groups that share databases, message queues, or both, and are managed by components of the Common Service Layer (CSL). The CSL includes the Operation Manager (OM) API. For more information about the CSL, see IMS Version 8: Common Service Layer Guide and Reference. IMSplex commands, or commands from the OM API work differently from classic IMS commands. Classic IMS commands are those that are in the original or "classic" IMS command syntax--the command format allowed from the IMS master terminal. Following are the general differences between IMSplex commands and classic IMS commands:
IMSplex commands are commands that apply to the entire IMSplex. They can be entered only from the OM API.

Some classic IMS commands are not supported by the OM API. For a list of commands supported by the OM API, see "Commands Supported by the OM API" on page 37.

Some classic IMS commands are not recoverable. For a list of recoverable commands, see Table 5 on page 24.

Pre-IMS Version 8 Automated Operator Interface (AOI) application programs that issue /DISPLAY commands will not see some status information that is kept in the Resource Manager. For DC resources (nodes, users, LTERMs), the /DISPLAY command will get this information from Resource Manager, although it might be formatted differently from previous releases.

IMSplex commands are found in alphabetical order in Part 2, "IMS Commands," on page 75. In this section, the IMSplex commands are those without a slash or command recognition character. For more information about the IMSplex command format, see "IMSplex Command Format" on page 21.

Command Responses

With the exception of commands such as /DISPLAY and /FORMAT, responses to IMS commands are prefixed by the letters DFSnnn; nnn identifies the message. For information about the messages, see IMS Version 8: Messages and Codes, Volume 1. A response to an IMS command is an acknowledgment from IMS to the originating terminal that the command has been received. Responses that go to the system console have an IMS ID identifying the IMS system that issued the message. For example, the response to /DBDUMP DATABASE MSDB would be:

DFS058I (time stamp) DBDUMP COMMAND IN PROGRESS (IMS id)

At system definition, the TIMESTAMP/NOTIMESTP. parameter of the COMM macro determines whether the time stamp is present or absent. If the time stamp feature is included, the date and time of the response appear between the response prefix and the text.

The DFS058 COMMAND COMPLETED/IN PROGRESS response indicates whether IMS accepted the command. If some parameters of the command are not accepted, the response includes the EXCEPT phrase and indicates the parameters that were not accepted. If IMS does not have the space for all of the not-accepted parameters, it truncates the EXCEPT phrase and terminates it with ...etc.. Commands that specify the ALL parameter are most likely to be truncated. Truncated EXCEPT phrases on commands are normally caused by:

- Misspelling a parameter
- Specifying an invalid parameter for the command
- Specifying the ALL parameter for resources when some of them are already in the requested state

Responses to LU 6.2 Devices

The response to a command from an LU 6.2 device is sent synchronously if the initiating conversation is not deallocated by the remote device. If the conversation is deallocated, the command response is sent asynchronously using the LUNAME of the device and a TPN of DFSCMD. The remote device must allocate separate DFSCMD conversations to receive each asynchronous message.

When the following commands are entered from LU 6.2 devices:

- /DBDUMP DATABASE
LU 6.2 Device Responses

- /DBRECOVERY AREA
- /DBRECOVERY DATABASE
- /START AREA
- /START DATABASE
- /START REGION
- /STOP AREA
- /STOP DATABASE
- /STOP REGION

the DFS058 COMMAND COMPLETED message is generated instead of the DFS058 COMMAND IN PROGRESS message. If the LU 6.2 conversation is synchronous (the conversation still exists), the DFS058 COMMAND COMPLETED message is the last message the operator receives. If the LU 6.2 conversation is asynchronous (the conversation is deallocated), the order of delivery of the DFS058 message cannot be guaranteed.

Command Responses to OM

When an IMSplex command or IMS classic command is issued from the OM API, OM routes it to one or more IMS systems based on the command routing. Each IMS returns the command response to OM. The command responses from each IMS are grouped together by OM and returned to the caller.

Each IMS command response is encapsulated in XML tags. For a list of XML tags used, an explanation of the format, and meaning of the tags, see [IMS Version 8: Common Service Layer Guide and Reference].

The IMSplex command responses to OM include a return code, reason code, and a possible completion code. For information about the output fields that may appear, refer to the 'Output Fields Table' in the IMSplex command descriptions in [Part 2, IMS Commands, on page 75].

For more information about the XML tags, see [IMS Version 8: Common Service Layer Guide and Reference]. When the following classic commands are issued from OM API, the DFS058I COMMAND IN PROGRESS message is not returned. Instead, the messages that result as a part of command processing are returned to OM. Following is the list of commands that do not return the DFS058I COMMAND IN PROGRESS:

- /DBDUMP DATABASE
- /DBRECOVERY AREA
- /DBRECOVERY DATABASE
- /DBRECOVERY DATAGROUP
- /LOCK DATABASE
- /START AREA
- /START DATABASE
- /START DATAGROUP
- /STOP ADS
- /STOP AREA
- /STOP DATABASE
- /STOP DATAGROUP
- /UNLOCK DATABASE
- /VUNLOAD AREA
Sending Messages to MVS Console

Sending Messages to the MVS System Console

Each MVS system console in the Sysplex has a unique LTERM name. In an XRF environment, the real MVS system console name is the RSE name specified in the HSB member. For a non-XRF subsystem, the real system console name is the IMS ID. The generic MVS system console name is always "WTOR". The generic name is translated to the real LTERM name when a message is sent to the MVS system console.

Because each MVS system console has a unique LTERM name, a message can be sent to any MVS system console in the Sysplex if the real LTERM name (not the generic name) is used.

Sending Messages to the IMS Master Terminal

Each IMS master terminal (MTO) in the Sysplex has a unique LTERM name, and if they are VTAM® terminals they also have unique node names. Each IMS assigns its primary MTO the default LTERM name "DFSPMTO" as a generic name. Each secondary MTO is assigned "DFSSMTO" as the default generic name. You can override either of these default generic names during IMS system definition by using the DFSDCxxx member of IMS.PROCLIB. The generic name is translated to the real LTERM name when a message is sent to the MTO.

Restrictions: If you use the DFSDCxxx member to override a default generic name, you must not specify a statically-defined node name. Also, the node name you specify must have the same physical characteristics as the default node you are overriding. If you change the DFSDCxxx member, you must perform a cold start of IMS. See [IMS Version 8: Installation Volume 2: System Definition and Tailoring] for more information on this member.

In a shared-queues environment, because each MTO has a unique LTERM name, a message can be sent to any MTO in the Sysplex if you use the real LTERM name (not the generic name).

IMS Terminal Command Examples

Some command examples show the format of commands entered and received from an IMS terminal--entry terminal (ET), master terminal (MT), or response terminal (RT). One or more examples are given for each command. The examples show:

Entry ET:
How the command looks as entered from the entering terminal (ET).

Response ET:
The IMS response transmitted to the entering terminal (ET).

Entry MT:
How the command looks as entered from the master terminal (MT).

Many IMS commands reference other terminals. Examples of these commands include:

Response RT:
The IMS response transmitted to the referenced terminal or terminals (RT).

The ET and RT responses might or might not print or display, depending on what type terminal is referenced and whether the MSGDEL (message delete) option was specified for the terminal at system definition time.

**TSO SPOC Command Examples**

Some command examples show the input and output of commands from a TSO SPOC. Both IMSplex commands and classic commands can be entered from a TSO SPOC. One or more examples are given for each command. The examples show:

**TSO SPOC input:**
How the command looks as entered from the TSO SPOC.

**TSO SPOC output:**
The response transmitted to the TSO SPOC.

**Explanation:** An explanation of the command and response.

Some IMSplex commands include a section describing the environment of the IMSplex prior to entering the command.

**OM API Command Examples**

Some command examples show the input and output of commands to and from the OM API. Both IMSplex commands and classic commands can be entered from the OM API. One or more examples are given for each command. The examples show:

**OM API input:**
How the string looks as built by the AOP client.

**OM API output:**
The XML response transmitted from OM.

**Explanation:** An explanation of the command and response.

Some IMSplex commands include a section describing the environment of the IMSplex prior to entering the command.

**IMS Classic Command Format**

The general format of an IMS command is shown below.

**Command Recognition Character**

The slash (/) is the command recognition character for IMS commands. In a DBCTL environment, another character can be defined as the command recognition character and would replace the slash.

**Verb**

The /VERB (such as /STOP) is the first command element and identifies the action to be taken. To abbreviate a verb, use only the slash and the first three characters. Enter the characters using either uppercase or lowercase letters.
Depending on the password security arrangement of the defined IMS system and the terminal where the command is entered, a password can be required after the command verb, or after a parameter or a keyword of certain commands.

If a command is issued from a static terminal, you must use either the Security Maintenance utility, RACF, or an equivalent security product to require a command verb password. If a command is issued from a dynamic terminal, you must use RACF or an equivalent security product to require a command verb password associated with the user ID signed on to the dynamic terminal.

If a command password is required, it must be entered immediately after /VERB and is normally enclosed in parentheses. No spaces or intervening characters are allowed between the /VERB and the left parenthesis.

When using MFS, if a command password is required, the installation-defined MFS format must contain a defined password field. The password must be entered into the password field defined by the format displayed. If command entry field of the format is defined to accept the command verb only, message DFS1051 is issued when an attempt is made to enter /VERB(password).

None of the IMS-supplied default formats (exception for the master terminal format) have a password field defined.

The /IAM, /LOCK, and /UNLOCK command keywords and parameters support passwords. Keyword and parameter passwords are defined via the security maintenance utility and only apply to static terminals. Keyword and parameter passwords entered with a command on a dynamic terminal are ignored.

The use of passwords is not shown in the examples.

Keywords
IMS keywords are reserved words identifying IMS resources that relate to transaction management, databases, or the IMS system. Many commands require one or more keywords.

[Table 15 on page 41](#) is a list of available keywords and their synonyms. The alphabetical list of keywords after [Table 15 on page 41](#) explains the use of the keyword for each IMS command it affects.

Restriction: Keywords and their synonyms are reserved words. Do not use reserved words to name system resources such as transactions, programs, logical terminals, databases, and MFS block names.

Keywords are shown in uppercase. The keyword or an allowable synonym can be entered in uppercase or lowercase.

Parameters
Parameters refer to installation defined or created resources, such as nodes, databases, or pterms, or IMS reserved parameters. Parameters in IMS commands must be replaced with parameter values. Reserved parameters have a unique meaning to IMS and refer to system resources or functions.

The format of the parameters that can be entered is determined by the command and keyword with which they are associated. Use the syntax example provided at the beginning of each command description in [Part 2, “IMS Commands,” on page 75](#) to determine the valid parameter formats for that command.
When commands are entered, parameters are separated from a keyword by a space or an equal sign (=). Multiple parameters are separated by a comma, a blank, or a comma followed by a blank. The last parameter of one keyword is separated from the next keyword either by a space, a comma, or an equal sign.

Default parameters appear above the syntax line. Optional parameters appear below the syntax line.

In the syntax examples, a repeat-line is shown as follows:

```
/SM590000/SM630000
```

The repeat-line indicates that multiple parameters can be entered. To save time while entering multiple parameters for the LINE, PTERM, NODE, and LINK keywords, inclusive parameters can be specified in some commands.

**Restriction:** Use of the ALL parameter, generic parameters, or excessive use of multiple or inclusive parameters in the large terminal network can cause some of the following problems:

- “Lock out” of the operator for the duration of the command processing
- Creation of large multisegment output messages
- Command action for only part of the terminal resources intended
- Temporary storage shortages
- Artificially high storage pools within IMS and/or VTAM

**Reserved Words:** The resources you define, such as nodes, pterms, and databases, may be referenced as parameter values in IMS commands. Do not use reserved words to name these resources, or IMS may not interpret the command as expected. For example, if you define a node called TKOTRA and issue a /DISPLAY NODE TKOTRA command, IMS will list all the nodes that have an attribute of TKOTRA, instead of the specific node named TKOTRA. Appendix C, “List of Reserved Words,” on page 783 contains a table of the reserved words for IMS commands. These include all keywords, null words, attributes for various forms of the /DISPLAY command, and IMS reserved parameters OFF, MSDB, PRIMARY, NONE and ALL.

**ALL Parameter:** Entering the reserved parameter ALL specifies all defined resources related to that keyword. ALL cannot be used with every command.

ALL=NO or ALL=DIS can be specified on the KEYWD macro to prevent use of the ALL parameter. ALL=NO and ALL=DIS can be specified for all keywords. ALL=NO indicates that the ALL parameter is invalid on all the commands for the keyword. ALL=DIS indicates the ALL parameter is invalid on all the /DISPLAY commands for the keyword. For more information on the KEYWD macro, see [IMS Version 8: Customization Guide](#).

**Inclusive Parameters:** Inclusive parameters are used to specify a group of parameters by entering only the first and last parameters of the group. Inclusive parameters can be used for the following resources:

- Line
- Link
- Static node
- PTERM
To use inclusive parameters, enter the first parameter, a hyphen, then the last parameter (parameter1-parameter2).

For the LINE, PTERM, and LINK keywords, the group of parameters specified is assumed to be based on numeric sequence; that is, entering 3-6 specifies parameters 3, 4, 5, and 6. Inclusive parameters are limited to the PTERM keyword when it appears with the LINE keyword in a command. For the NODE keyword, the group of parameters must be static and based on the IMS definition sequence, not numeric or alphabetic sequence.

**Generic Parameters:** Generic parameters allow easy specification of a group of resources, whose names match the mask supplied by the generic parameter.

A generic parameter is a 1- to 8-character alphanumeric name that includes one or more special characters and an asterisk or a percent sign. An asterisk can be replaced by zero or one or more characters to create a valid resource name. A percent sign can be replaced by exactly one character to create a valid resource name.

The generic parameter is * = ALL. However, depending on the installation, other generic parameters can mean ALL. For example, the generic parameter %%%% means ALL to an installation whose resource names are all four characters long.

When a generic parameter is used, IMS uses a serial search of all resources to match the generic name. Using a serial search of all resources can have performance implications in larger systems.

**Restriction:** If you specify ALL=NO on the KEYWD macro, you cannot use *. However, if you specify ALL=NO on the KEYWD macro, you can use other generic parameters that are equivalent to ALL. If you are using BASIC EDIT, and you enter a command with a generic parameter containing two asterisks in a row at the end of the command, the command is discarded.

Generic parameter wildcard characters for IMSplex commands are the same as for classic commands. An asterisk (*) in the name can be specified to replace one or more characters in the command string. A percent sign (%) replaces one character.

The commands listed in [Table 3] support generic parameters for LTERM, MSNAME, NODE, TRANSACTION, and USER keywords.

**Table 3. Commands That Support Generic Parameters for LTERM, MSNAME, NODE, TRANSACTION, and USER Keywords**

<table>
<thead>
<tr>
<th>Command</th>
<th>Keyword Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BROADCAST</td>
<td>LTERM, NODE, USER</td>
</tr>
<tr>
<td>/CHANGE</td>
<td>NODE</td>
</tr>
<tr>
<td>/CLSDST</td>
<td>NODE</td>
</tr>
<tr>
<td>/DISPLAY</td>
<td>LTERM, MSNAME, NODE, TRANSACTION, USER</td>
</tr>
<tr>
<td>/DISPLAY ASMT</td>
<td>LTERM, MSNAME, NODE, USER</td>
</tr>
<tr>
<td>/DISPLAY CONV</td>
<td>NODE, USER</td>
</tr>
<tr>
<td>/IDLE</td>
<td>NODE</td>
</tr>
<tr>
<td>/OPNDST</td>
<td>NODE</td>
</tr>
<tr>
<td>/PSTOP</td>
<td>LTERM, TRANSACTION</td>
</tr>
</tbody>
</table>
### Table 3. Commands That Support Generic Parameters for LTERM, MSNAME, NODE, TRANSACTION, and USER Keywords (continued)

<table>
<thead>
<tr>
<th>Command</th>
<th>Keyword Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>/PURGE</td>
<td>LTERM, MSNAME, TRANSACTION</td>
</tr>
<tr>
<td>QUERY TRAN</td>
<td>CLASS, NAME, QCNT, SHOW, STATUS</td>
</tr>
<tr>
<td>/RSTART</td>
<td>NODE, USER</td>
</tr>
<tr>
<td>/START</td>
<td>LTERM, MSNAME, NODE, TRANSACTION, USER</td>
</tr>
<tr>
<td>/STOP</td>
<td>LTERM, MSNAME, NODE, TRANSACTION, USER</td>
</tr>
<tr>
<td>/TRACE</td>
<td>NODE</td>
</tr>
<tr>
<td>UPDATE TRAN</td>
<td>CLASS, CPRI, LCT, LPRI, MAXRGN, NAME, NPRI, PARLIM, PLCT, SCOPE, SEGNO, SEGSZ, SET, START, STOP</td>
</tr>
</tbody>
</table>

**Restriction:** Generic parameters are not supported in NODE USER or TRANSACTION CLASS combinations.

**Group Parameters:** A group parameter allows easy specification of a group of resources, where the resources in the group are defined and managed by the installation. Group parameters are supported with the DATAGROUP keyword for the /DBRECOVERY, /START, and /STOP commands. A group name is 1 to 8 characters long. It is associated with a list of databases, DEDB areas, or database data sets.

A database group name and its associated databases or DEDB areas is defined in the DBRC RECON data set using the DBRC INIT.DBDSGRP command with parameters GRPNAME and DBGRP.

A database data set (DBDS) group name and its associated DBDSs is defined in the DBRC RECON data set using the DBRC INIT.DBDSGRP command with parameters GRPNAME and MEMBERS.

- Adding resources to a group
  
  Use the CHANGE.DBDSGRP command with the GRPNAME and ADDDB parameters to add databases or areas to a database group.

- Deleting resources from a group
  
  Use the CHANGE.DBDSGRP command with the GRPNAME and DELDB parameters to delete databases or areas from a database group.

- Displaying resources in a group
  
  Use the LIST.DBDSGRP command or the online /RMLIST command to display the databases or areas in a database group, or the DBDSs in a DBDS group.

Groups defined for commands should contain only databases and areas for use with the DATAGROUP keyword.

**Null Keywords**

Null keywords are used to help clarify the syntax of the command being entered but have no effect on the command. Null keywords can be used within IMS commands at any time. Null keywords are reserved words. Do not use them to name system resources. The following are IMS null keywords:
Comments
You can add comments or notes to the end of a command. When you add comments, identify the end of the command by entering a period after the last parameter. If you do not enter a period, residual data from a 3270 affects command processing.

Command Processing in an IMSplex
In an IMSplex environment, IMS commands issued through OM can behave differently than when those same commands are issued to an individual IMS subsystem. IMSplex commands (also referred to as type-2 commands) can be issued only through the OM API. Classic IMS commands (also referred to as type-1 commands) can be issued through the OM API or to individual IMSs through end-user terminals, master terminals, system consoles, or AOI applications. The following sections describe some of the behavioral differences.

Command Routing
Commands that are issued to OM are, by default, routed to all the IMSplex components that are active and have registered interest in processing those commands. If you want to route a command to one or more specific IMSs in the IMSplex, use the ROUTE() parameter on the command request.

OM selects one IMSplex member (i.e. IMS or RM) that is registered for the command to be the command master for each command from the SPOC. The command master performs global command actions where applicable. For an IMS command routed to all IMSplex members, OM selects the first IMSplex member to come up that is registered for that command as the command master. An XRF alternate system is not a command master candidate until it takes over. OM selects the same IMSplex member as command master each time unless OM fails to send a command to that IMSplex member for some reason (for example, if that member has terminated). For a command routed to a list of IMSplex members, OM selects the first IMSplex member in the route list as the command master. IMSplex command responses may differ depending on which IMSplex member was the command master. For example, for a QUERY TRAN (tranname) QCNT (GT 1) SHOW(ALL) command, only the command master returns the global queue counts, unless it does not have access to the Shared Queues (for example, the command master is local queues enabled, or its CQS is down).

If a command is routed to multiple IMS systems and some of those systems fail the command due to environmental reasons (such as /DBR to an XRF alternate system), the overall OM return code will not reflect the environmental error. If a command fails on all systems to which it is routed because of environmental reasons, IRC_LIST and IRSN_LISTNONE is created.

For type-1 commands (classic IMS commands), any error messages that are associated with the invalid environment errors, will be sent back for display as well.

For type-2 commands (IMSplex commands) the return and reason codes as returned by the IMS system is returned by OM.
Command Behavior and the Resource Manager

Depending on whether an IMSplex is defined with a Resource Manager (and there’s a resource structure available to RM), command behavior can be affected. When a resource structure is not defined, resource status must be maintained on local IMSs in the IMSplex. In this case, commands have only a local effect.

If RM is defined with a resource structure in the IMSplex, RM maintains global resource information, including resource status. So, in this scenario, resource status is maintained both globally and locally. Usually, if a user signs off or a client shuts down, resources status is maintained globally but deleted locally.

If the DISABLE RESOURCE SHARING FOR STATIC ISC option is set, the command status for static ISC resources is always considered local as if there were no resource structure. Commands processed for a static ISC node or subpool only modify local status. Status is not updated in the resource structure. The purpose of the option is to remove the unique name restriction for static ISC-related resources so that static ISC LTERM and subpool names can be active multiple times concurrently in an IMSplex. For information about this option, see the Initialization exit routine, DFSINTXO, in the [IMS Version 8: Customization Guide].

Another behavior that is worth noting is how command processing clients process classic commands (related to nodes, LTERMS, and users) that are routed to the entire IMSplex. In general, OM chooses one of the command processing clients in the IMSplex to be the “master” to coordinate the processing of the classic commands. Whether the master (or a non-master) client will process a classic command depends on where the command resource status is kept. If the command resource status is kept in a resource structure, the classic command will usually be processed by a non-master client where the command resource is active. If the command resource is not active on any of the command processing clients in the IMSplex, OM will still route the classic command to all clients in the IMSplex, but only the master client will process the command. If the classic command is being routed to all the clients in the IMSplex, command processing clients where the command resource is not active will reject the classic command.

IMSplex Command Format

IMSplex commands use a different format from the format used by IMS classic commands. IMSplex commands can be issued only through the Operations Manager (OM) APIs by an automated operations program (AOP). An example of an AOP is the IBM-supplied TSO single point of control (SPOC) application. These commands cannot be entered from the system console, the MTO, an end-user terminal, or an IMS AOI application program. IMSplex commands are not passed to the IMS AOI user exits and are also not logged to the IMS secondary master.

Almost all commands issued through the OM API (including the IMS classic commands) do not require a command recognition character (for example, a slash). If one is supplied, the OM API will ignore it. The only exception to this rule is the classic /EXIT command, which requires a slash when entered from a SPOC application.

Recommendation: IBM recommends against using command recognition characters for commands issued through the OM API (except for the /EXIT command).

The command format with common keywords is as follows:
IMS Command Format

Notes:
1 For some commands, KEYWORD is required, not optional.

The following is a list of the parameters with a short description of each.

VERB Identifies the action to be taken. The command verb can be abbreviated.

RESOURCETYPE Identifies the type of resource the command acts upon. The following is a list of the resource types:

IMSPLEX An IMSplex in a parallel sysplex.
LE Language Environment® runtime parameter overrides.
MEMBER An IMSplex component (For example, an IMS, OM, RM, or SCI).
OLC An online change process.
STRUCTURE A resource structure managed by RM.
TRANSACTION An IMS resource that is a message destination.

KEYWORD() Optional command elements, depending upon the specific command.

parameter Identifies an IMS-defined value or an installation-defined or created resource. The parameter can end with a wildcard (an asterisk - *). Parameters are listed in parentheses and must be replaced with parameter values. Multiple parameters are separated by a comma.

Command Characteristics

Command characteristics and operations (the way commands actually work) are affected by terminal security defaults, command recoverability, and whether commands are logged to the secondary master terminal, supported from an AOI application, mirrored on the XRF alternate, supported from the XRF alternate, and supported from LU 6.2 devices.

Terminal Security Defaults

The master terminal and remote terminal security defaults for IMS commands are described in Table 4.

Table 4. Terminal Security Defaults for IMS Commands

<table>
<thead>
<tr>
<th>Master Terminal</th>
<th>Remote Terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ACTIVATE</td>
<td></td>
</tr>
<tr>
<td>Master Terminal</td>
<td>Remote Terminal</td>
</tr>
<tr>
<td>----------------</td>
<td>----------------</td>
</tr>
<tr>
<td>/ALLOCATE</td>
<td></td>
</tr>
<tr>
<td>/ASSIGN</td>
<td></td>
</tr>
<tr>
<td>/BROADCAST</td>
<td>/BROADCAST</td>
</tr>
<tr>
<td>/CANCEL</td>
<td>/CANCEL</td>
</tr>
<tr>
<td>/CHANGE</td>
<td></td>
</tr>
<tr>
<td>/CHECKPOINT</td>
<td></td>
</tr>
<tr>
<td>/CLSDST</td>
<td></td>
</tr>
<tr>
<td>/COMPT</td>
<td></td>
</tr>
<tr>
<td>/CQCHKPT</td>
<td></td>
</tr>
<tr>
<td>/CQQUERY</td>
<td></td>
</tr>
<tr>
<td>/CQSET</td>
<td></td>
</tr>
<tr>
<td>/DBDUMP</td>
<td></td>
</tr>
<tr>
<td>/DBRECOVERY</td>
<td></td>
</tr>
<tr>
<td>/DELETE</td>
<td></td>
</tr>
<tr>
<td>/DEQUEUE</td>
<td></td>
</tr>
<tr>
<td>/DISPLAY</td>
<td></td>
</tr>
<tr>
<td>/END</td>
<td>/END</td>
</tr>
<tr>
<td>/ERESTART</td>
<td></td>
</tr>
<tr>
<td>/EXCLUSIVE</td>
<td>/EXCLUSIVE</td>
</tr>
<tr>
<td>/EXIT</td>
<td>/EXIT</td>
</tr>
<tr>
<td>/FORMAT</td>
<td>/FORMAT</td>
</tr>
<tr>
<td>/HOLD</td>
<td>/HOLD</td>
</tr>
<tr>
<td></td>
<td>/IAM</td>
</tr>
<tr>
<td>/IDLE</td>
<td></td>
</tr>
<tr>
<td>/LOCK</td>
<td>/LOCK</td>
</tr>
<tr>
<td>/LOG</td>
<td>/LOG</td>
</tr>
<tr>
<td>/LOOPTEST</td>
<td>/LOOPTEST</td>
</tr>
<tr>
<td>/MODIFY</td>
<td></td>
</tr>
<tr>
<td>/MONITOR</td>
<td></td>
</tr>
<tr>
<td>/MSASSIGN</td>
<td></td>
</tr>
<tr>
<td>/MSVERIFY</td>
<td></td>
</tr>
<tr>
<td>/NRESTART</td>
<td></td>
</tr>
<tr>
<td>/OPNDST</td>
<td></td>
</tr>
<tr>
<td>/PSTOP</td>
<td></td>
</tr>
<tr>
<td>/PURGE</td>
<td></td>
</tr>
<tr>
<td>/QUIESCE</td>
<td></td>
</tr>
<tr>
<td>/RCLSDST</td>
<td>/RCLSDST</td>
</tr>
<tr>
<td></td>
<td>/RCOMPT</td>
</tr>
<tr>
<td>/RDISPLAY</td>
<td>/RDISPLAY</td>
</tr>
<tr>
<td>/RECOVER</td>
<td></td>
</tr>
</tbody>
</table>
### Terminal Security Defaults

**Table 4. Terminal Security Defaults for IMS Commands (continued)**

<table>
<thead>
<tr>
<th>Master Terminal</th>
<th>Remote Terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td>/RELEASE</td>
<td>/RELEASE</td>
</tr>
<tr>
<td>/RESET</td>
<td>/RESET</td>
</tr>
<tr>
<td>/RMxxxxxx</td>
<td>/RMLIST</td>
</tr>
<tr>
<td>/RSTART</td>
<td></td>
</tr>
<tr>
<td>/RTAKEOVER</td>
<td></td>
</tr>
<tr>
<td>/SECURE</td>
<td></td>
</tr>
<tr>
<td>/SET</td>
<td>/SET</td>
</tr>
<tr>
<td>/SIGN</td>
<td>/SIGN</td>
</tr>
<tr>
<td>/SMCOPY</td>
<td></td>
</tr>
<tr>
<td>/SSR</td>
<td></td>
</tr>
<tr>
<td>/START</td>
<td></td>
</tr>
<tr>
<td>/STOP</td>
<td></td>
</tr>
<tr>
<td>/SWITCH</td>
<td></td>
</tr>
<tr>
<td>/TEST</td>
<td>/TEST</td>
</tr>
<tr>
<td>/TRACE</td>
<td></td>
</tr>
<tr>
<td>/UNLOCK</td>
<td>/UNLOCK</td>
</tr>
<tr>
<td>/VUNLOAD</td>
<td></td>
</tr>
</tbody>
</table>

---

### Commands Recovered During Emergency Restart

Certain commands that successfully alter IMS resources are written to the system log as X'02' or X'22' log records and are reprocessed during emergency restart. IMS classic commands that are recovered during emergency restart write an X'02' log record. IMSplex commands that are recovered during emergency restart write an X'22' log record. Table 5 lists the commands, along with the exceptions, that are recovered during emergency restart.

**Table 5. Commands Recovered During Emergency Restart**

<table>
<thead>
<tr>
<th>Command</th>
<th>Exceptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ASSIGN</td>
<td></td>
</tr>
<tr>
<td>/CHANGE</td>
<td>/CHANGE DESCRIPTOR</td>
</tr>
<tr>
<td>/DELETE</td>
<td></td>
</tr>
<tr>
<td>/END</td>
<td></td>
</tr>
<tr>
<td>/EXCLUSIVE</td>
<td></td>
</tr>
<tr>
<td>/EXIT</td>
<td></td>
</tr>
<tr>
<td>/HOLD</td>
<td></td>
</tr>
<tr>
<td>/LOCK</td>
<td>/LOCK LTERM, /LOCK NODE, /LOCK PTERM</td>
</tr>
<tr>
<td>/LOG</td>
<td></td>
</tr>
<tr>
<td>/MONITOR</td>
<td></td>
</tr>
<tr>
<td>/MSASSIGN</td>
<td></td>
</tr>
<tr>
<td>/PSTOP</td>
<td>/PSTOP LTERM</td>
</tr>
<tr>
<td>/PURGE</td>
<td>/PURGE APPC, /PURGE LTERM</td>
</tr>
<tr>
<td>/RELEASE</td>
<td></td>
</tr>
</tbody>
</table>
Table 5. Commands Recovered During Emergency Restart (continued)

<table>
<thead>
<tr>
<th>Command</th>
<th>Exceptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>/RSTART</td>
<td></td>
</tr>
<tr>
<td>/SET</td>
<td>/SET LTERM, /SET TRAN</td>
</tr>
<tr>
<td>/SMCOPY</td>
<td></td>
</tr>
<tr>
<td>/START</td>
<td>/START APPC, /START ISOLOG, /START PROG, /START TRKAUTOARCH</td>
</tr>
<tr>
<td>/STOP</td>
<td>/STOP APPC</td>
</tr>
<tr>
<td>/TEST MFS</td>
<td>/TEST LINE, /TEST NODE, /TEST USER</td>
</tr>
<tr>
<td>/UNLOCK</td>
<td>/UNLOCK LTERM, /UNLOCK NODE, /UNLOCK PTERM, /UNLOCK SYSTEM</td>
</tr>
<tr>
<td>UPDATE TRAN</td>
<td>UPDATE TRAN START(TRACE), UPDATE TRAN STOP(TRACE)</td>
</tr>
</tbody>
</table>

Restriction: If an IMS outage (abend, modify, or cancel of IMS) occurs immediately after a command is entered, the command status might not be carried across an emergency restart or XRF takeover.

The command log records are logged asynchronously (no check write or wait write). If there is no other IMS activity that forces the log buffer to be written to the OLDS or WADS data set, the status set by the command, for restart purposes, did not occur.

There are many events in IMS where log records are check-written to the log. Any one of these events subsequent to the command causes the command log record to be written to the OLDS or WADS data set.

Commands Logged to the Secondary Master Terminal

The secondary master terminal provides a hardcopy log of system activity, including checkpoint information and error messages. If the hardcopy logging facility has been selected and not disabled (using the /SMCOPY command), certain IMS commands and responses are logged on the secondary master terminal.

You can select whether only commands issued from the master terminal are logged, only commands entered from other terminals are logged, or both are logged. Only the commands listed in Table 6 are logged to the secondary master terminal.

For more information on logging to the secondary master terminal, see IMS Version 8: Operations Guide.

Table 6. Commands Logged to the Secondary Master Terminal

<table>
<thead>
<tr>
<th>Commands</th>
<th>Commands (continued)</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ACTIVATE</td>
<td>/PURGE</td>
</tr>
<tr>
<td>/ALLOCATE</td>
<td>/QUIESCE</td>
</tr>
<tr>
<td>/ASSIGN</td>
<td>/RCLSDST</td>
</tr>
<tr>
<td>/CHECKPOINT</td>
<td>/RCOMPT</td>
</tr>
<tr>
<td>/CLSDST</td>
<td>/RECOVER</td>
</tr>
<tr>
<td>/COMPT</td>
<td>/RMCHANGE</td>
</tr>
<tr>
<td>/CQCHKPT</td>
<td>/RMDELETE</td>
</tr>
<tr>
<td>/CQUERY</td>
<td>/RMGENJCL</td>
</tr>
<tr>
<td>/CQSET</td>
<td>/RMINIT</td>
</tr>
</tbody>
</table>
Commands on the Secondary Master Terminal

Table 6. Commands Logged to the Secondary Master Terminal (continued)

<table>
<thead>
<tr>
<th>Commands</th>
<th>Commands (continued)</th>
</tr>
</thead>
<tbody>
<tr>
<td>/DBDUMP</td>
<td>/RMLIST</td>
</tr>
<tr>
<td>/DBRECOVERY</td>
<td>/RMNOTIFY</td>
</tr>
<tr>
<td>/DELETE</td>
<td>/RSTART</td>
</tr>
<tr>
<td>/DEQUEUE</td>
<td>/RTAKEOVER</td>
</tr>
<tr>
<td>/DISPLAY</td>
<td>/SECURE</td>
</tr>
<tr>
<td>/IDLE</td>
<td>/START</td>
</tr>
<tr>
<td>/MODIFY</td>
<td>/STOP</td>
</tr>
<tr>
<td>/MONITOR</td>
<td>/SWITCH</td>
</tr>
<tr>
<td>/MSASSIGN</td>
<td>/TRACE</td>
</tr>
<tr>
<td>/OPNDST</td>
<td>/UNLOCK SYSTEM</td>
</tr>
<tr>
<td>/PSTOP</td>
<td>/VUNLOAD</td>
</tr>
</tbody>
</table>

Commands Supported from an AO Application

Automated operator (AO) applications are application programs that issue IMS operator commands using DL/I calls. AO applications can use two different DL/I calls to issue commands: CMD and ICMD. This section lists which IMS commands can be issued using each of these calls and describes command security for AO applications.

AO applications using the CMD call use the Security Maintenance utility for security. AO applications using the ICMD call use RACF (or the equivalent) and/or the Command Authorization user exit DFSCCMD0 for security.

The Control Center, TSO SPOC, and REXX SPOC API are considered automated operator applications. For more information on these environments, see IMS Version 8: Common Service Layer Guide and Reference.

For an overview of AO applications, see IMS Version 8: Operations Guide. For more detailed information about securing AO applications, see IMS Version 8: Administration Guide: System.

Using CMD Call

If you are using the CMD call to issue IMS commands, transactions can be defined as AO applications by the Security Maintenance utility. AO transactions are invoked in the same way any IMS transaction is invoked. AO transactions run as IMS applications with the authority to issue a planned series of IMS commands. For example, an AO application can be called in by an AO transaction after a normal restart of IMS to start IMS resources. The AO application would consist of those commands regularly used by the master terminal operator (MTO) after IMS is active. Fast Path exclusive transactions cannot be defined as AO transactions.

The Security Maintenance utility defines which transactions can issue commands, and which commands are allowed for each authorized transaction. Table 7 shows the IMS commands that can be issued in an AO application using the CMD call. The table includes the IMS Command, the restrictions, and the application environment (MPP or BMP running under DB/DC or MPP or BMP running under DCCTL).
Table 7. Commands Supported from an AO Application Using CMD

<table>
<thead>
<tr>
<th>IMS Command</th>
<th>Restrictions</th>
<th>Application Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ACTIVATE</td>
<td></td>
<td>MPP or BMP Running Under DB/DC</td>
</tr>
<tr>
<td>/ALLOCATE</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/ASSIGN</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/BROADCAST</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/CHANGE</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/CHECKPOINT</td>
<td>simple form (no keywords), SNAPQ, or STATISTICS</td>
<td>Yes</td>
</tr>
<tr>
<td>/CLSDST</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/COMPT</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/CQCHKPT</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/CQUERY</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/CQSET</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/DBDUMP</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/DBRECOVERY</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/DELETE</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/DEQUEUE</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/DISPLAY</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/END</td>
<td>with keywords</td>
<td>Yes</td>
</tr>
<tr>
<td>/EXCLUSIVE</td>
<td>with keywords</td>
<td>Yes</td>
</tr>
<tr>
<td>/EXIT</td>
<td>with LINE and NODE keywords</td>
<td>Yes</td>
</tr>
<tr>
<td>/FORMAT</td>
<td>with LTERM keyword</td>
<td>Yes</td>
</tr>
<tr>
<td>/IDLE</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/LOCK</td>
<td>without LTERM, NODE, or PTERM keywords</td>
<td>Yes</td>
</tr>
<tr>
<td>/LOG</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/LOOPTEST</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/MONITOR</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/MSASSIGN</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/OPNDST</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/PSTOP</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/PURGE</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/QUIESCE</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/RDISPLAY</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/RECOVER</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>/RMCHANGE</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/RMDELETE</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Chapter 1. IMS Command Language 27
AOI Application Commands

Table 7. Commands Supported from an AO Application Using CMD (continued)

<table>
<thead>
<tr>
<th>IMS Command</th>
<th>Restrictions</th>
<th>Application Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>/RMGENJCL</td>
<td></td>
<td>MPP or BMP Running Under DB/DC</td>
</tr>
<tr>
<td>/RMINIT</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/RMLIST</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/RMNOTIFY</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/RSTART</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/SECURE</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/SMCOPY</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/SSR</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/START</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/STOP</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/SWITCH</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/TEST MFS</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>with LINE/NODE keywords</td>
<td></td>
</tr>
<tr>
<td>/TRACE</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/UNLOCK</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>without LTERM, NODE, PTERM, or SYSTEM keywords</td>
<td></td>
</tr>
<tr>
<td>/VUNLOAD</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

If the 3270 message facility service (MFS) bypass option is selected, the output message specified is MODNAME=DFSEDTN, and the terminal is in preset mode, then the only command recognized by IMS is the /RESET command issued from an unformatted screen. All other commands are passed to the application program.

Using ICMD Call

Table 8 shows by application program type the commands that can be issued in an AO application using the ICMD call. This includes DRA thread running under DBCTL or DB/DC; BMP running under DBCTL; MPP, BMP, IFP running under DB/DC; and MPP, BMP, or IFP running under DCCTL. Commands that cause the IMS control region to terminate, such as /CHE FREEZE, cannot be issued.

You can secure the commands issued by an ICMD call using RACF (or the equivalent) and/or the Command Authorization user exit DFSCCMD0. RACF lets you specify which applications can issue operator commands and which commands they can issue. DFSCCMD0 and RACF let you do authorization checking during ICMD processing.

Table 8. Commands Supported from an AO Application Using ICMD

<table>
<thead>
<tr>
<th>IMS Command</th>
<th>Application Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ACTIVATE</td>
<td>DBRA Thread Running Under DBCTL or DB/DC</td>
</tr>
<tr>
<td></td>
<td>N/A</td>
</tr>
</tbody>
</table>
Table 8. Commands Supported from an AO Application Using ICMD (continued)

<table>
<thead>
<tr>
<th>IMS Command</th>
<th>Application Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DBRA Thread Running Under DB/DC</td>
</tr>
<tr>
<td>/ALLOCATE</td>
<td>N/A</td>
</tr>
<tr>
<td>/ASSIGN</td>
<td>N/A</td>
</tr>
<tr>
<td>/BROADCAST</td>
<td>N/A</td>
</tr>
<tr>
<td>/CANCEL</td>
<td>N/A</td>
</tr>
<tr>
<td>/CHANGE</td>
<td>Yes</td>
</tr>
<tr>
<td>/CHECKPOINT</td>
<td>Yes</td>
</tr>
<tr>
<td>(simple form)</td>
<td></td>
</tr>
<tr>
<td>/CHECKPOINT</td>
<td>N/A</td>
</tr>
<tr>
<td>SNAPQ</td>
<td></td>
</tr>
<tr>
<td>/CHECKPOINT</td>
<td>Yes</td>
</tr>
<tr>
<td>STATISTICS</td>
<td></td>
</tr>
<tr>
<td>/CLS DST</td>
<td>N/A</td>
</tr>
<tr>
<td>/COMPT</td>
<td>N/A</td>
</tr>
<tr>
<td>/CQ CHKPT</td>
<td>N/A</td>
</tr>
<tr>
<td>/CQ QUERY</td>
<td>N/A</td>
</tr>
<tr>
<td>/CQ SET</td>
<td>N/A</td>
</tr>
<tr>
<td>/DB DUMP</td>
<td>Yes</td>
</tr>
<tr>
<td>/DB RECOVERY</td>
<td>Yes</td>
</tr>
<tr>
<td>/DELETE</td>
<td>Yes</td>
</tr>
<tr>
<td>/DEQUEUE</td>
<td>Yes</td>
</tr>
<tr>
<td>/DISPLAY</td>
<td>Yes</td>
</tr>
<tr>
<td>/END</td>
<td>N/A</td>
</tr>
<tr>
<td>/ER RESTART</td>
<td>No</td>
</tr>
<tr>
<td>/EXCLUSIVE</td>
<td>N/A</td>
</tr>
<tr>
<td>/EXIT</td>
<td>N/A</td>
</tr>
<tr>
<td>/ FORMAT</td>
<td>N/A</td>
</tr>
<tr>
<td>/HOLD</td>
<td>N/A</td>
</tr>
<tr>
<td>/IAM</td>
<td>N/A</td>
</tr>
<tr>
<td>/IDLE</td>
<td>N/A</td>
</tr>
<tr>
<td>/LOCK DATABASE</td>
<td>Yes</td>
</tr>
<tr>
<td>/LOCK PROGRAM</td>
<td>Yes</td>
</tr>
<tr>
<td>/LOCK TRANSACTION</td>
<td>N/A</td>
</tr>
<tr>
<td>/LOG</td>
<td>Yes</td>
</tr>
<tr>
<td>/LOOPTEST</td>
<td>N/A</td>
</tr>
<tr>
<td>/MODIFY</td>
<td>No</td>
</tr>
<tr>
<td>/MONITOR</td>
<td>N/A</td>
</tr>
</tbody>
</table>
### AOI Application Commands

**Table 8. Commands Supported from an AO Application Using ICMD (continued)**

<table>
<thead>
<tr>
<th>IMS Command</th>
<th>Application Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DBRA Thread Running Under DBCTL or BMP Running Under DBCTL</td>
</tr>
<tr>
<td>/MSASSIGN</td>
<td>N/A</td>
</tr>
<tr>
<td>/MSVERIFY</td>
<td>N/A</td>
</tr>
<tr>
<td>/NRESTART</td>
<td>No</td>
</tr>
<tr>
<td>/OPNDST</td>
<td>N/A</td>
</tr>
<tr>
<td>/PSTOP</td>
<td>Yes</td>
</tr>
<tr>
<td>/PURGE</td>
<td>N/A</td>
</tr>
<tr>
<td>/QUIESCE</td>
<td>N/A</td>
</tr>
<tr>
<td>/RCLSDST</td>
<td>N/A</td>
</tr>
<tr>
<td>/RCOMPT</td>
<td>N/A</td>
</tr>
<tr>
<td>/RDISPLAY</td>
<td>N/A</td>
</tr>
<tr>
<td>/RECOVER</td>
<td>Yes</td>
</tr>
<tr>
<td>/RELEASE</td>
<td>N/A</td>
</tr>
<tr>
<td>/RESET</td>
<td>N/A</td>
</tr>
<tr>
<td>/RMCHANGE</td>
<td>Yes</td>
</tr>
<tr>
<td>/RMDELETE</td>
<td>Yes</td>
</tr>
<tr>
<td>/RMGENJCL</td>
<td>Yes</td>
</tr>
<tr>
<td>/RMINIT</td>
<td>Yes</td>
</tr>
<tr>
<td>/RMLIST</td>
<td>Yes</td>
</tr>
<tr>
<td>/RMNOTIFY</td>
<td>Yes</td>
</tr>
<tr>
<td>/RSTART</td>
<td>N/A</td>
</tr>
<tr>
<td>/RTAKEOVER</td>
<td>No</td>
</tr>
<tr>
<td>/SECURE</td>
<td>N/A</td>
</tr>
<tr>
<td>/SET</td>
<td>N/A</td>
</tr>
<tr>
<td>/SIGN</td>
<td>N/A</td>
</tr>
<tr>
<td>/SMCOPY</td>
<td>N/A</td>
</tr>
<tr>
<td>/SSR</td>
<td>No</td>
</tr>
<tr>
<td>/START</td>
<td>Yes</td>
</tr>
<tr>
<td>/STOP</td>
<td>Yes</td>
</tr>
<tr>
<td>/SWITCH</td>
<td>Yes</td>
</tr>
<tr>
<td>/TEST MFS LINE or NODE or USER</td>
<td>N/A</td>
</tr>
<tr>
<td>/TRACE</td>
<td>Yes</td>
</tr>
<tr>
<td>/UNLOCK DATABASE</td>
<td>Yes</td>
</tr>
<tr>
<td>/UNLOCK PROGRAM</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Table 8. Commands Supported from an AO Application Using ICMD (continued)

<table>
<thead>
<tr>
<th>IMS Command</th>
<th>DBRA Thread Running Under DBCTL or DB/DC</th>
<th>BMP Running Under DBCTL</th>
<th>MPP, BMP, or IFP Running Under DB/DC</th>
<th>MPP, BMP, or IFP Running Under DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/UNLOCK TRANSACTION</td>
<td>N/A</td>
<td>N/A</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/VUNLOAD</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>N/A</td>
</tr>
</tbody>
</table>

The following commands and keywords are not permitted:

- /CHECKPOINT keywords ABDUMP, DUMPQ, FREEZE, PURGE, and QUIESCE
- The commands /END, /EXIT, and /EXCLUSIVE if they have no keywords
- /LOCK keywords LTERM, NODE, and PTERM
- /UNLOCK keywords LTERM, NODE, PTERM, and SYSTEM

Command Security When Using OM

For IMS command security, you have your choice of OM command security using RACF or equivalent, or IMS command security.

Recommendation: Use OM command security instead of IMS security.

By allowing OM to perform the security checks, commands which fail security authorization are not routed to IMS, reducing processing overhead and network traffic. When IMS command security is used, it is up to the user to ensure that all IMS systems use the same security profiles and/or user exits. If IMS systems in the same IMSplex use different security rules, the results of command security checking may be unpredictable. For more information about the IMS command verbs and keywords, resource names, and authorizations that are used for RACF security checking, see Appendix I, “IMS Commands, RACF Access Authorities and Resource Names Table,” on page 807.

Commands Mirrored on an XRF Alternate

Certain commands that successfully alter IMS resources are written to the system log as X'02' or X'22' log records. IMS classic commands that alter resources write an X'02' log record. IMSplex commands that alter resources write an X'22' log record. In an XRF environment, the X'02' or X'22' log records are read and processed by the alternate system as it tracks the active system. The effect of these commands is mirrored on the alternate system when it takes over and becomes the active system. These commands, along with exceptions, are listed in Table 9.

Table 9. List of IMS Commands Mirrored on an XRF Alternate

<table>
<thead>
<tr>
<th>Command</th>
<th>Exceptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ASSIGN</td>
<td>/ASSIGN is mirrored only if the assignment does not involve the master terminal.</td>
</tr>
<tr>
<td>/CHANGE</td>
<td></td>
</tr>
<tr>
<td>/DELETE</td>
<td></td>
</tr>
<tr>
<td>/END</td>
<td></td>
</tr>
<tr>
<td>/EXCLUSIVE</td>
<td></td>
</tr>
</tbody>
</table>
Table 9. List of IMS Commands Mirrored on an XRF Alternate (continued)

<table>
<thead>
<tr>
<th>Command</th>
<th>Exceptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>/EXIT</td>
<td></td>
</tr>
<tr>
<td>/HOLD</td>
<td></td>
</tr>
<tr>
<td>/LOCK</td>
<td></td>
</tr>
<tr>
<td>/LOG</td>
<td></td>
</tr>
<tr>
<td>/MONITOR</td>
<td></td>
</tr>
<tr>
<td>/MSASSIGN</td>
<td></td>
</tr>
<tr>
<td>/PSTOP</td>
<td>/PSTOP REGION</td>
</tr>
<tr>
<td>/PURGE</td>
<td>/PURGE APPC</td>
</tr>
<tr>
<td>/RELEASE</td>
<td></td>
</tr>
<tr>
<td>/RESET</td>
<td></td>
</tr>
<tr>
<td>/RSTART</td>
<td></td>
</tr>
<tr>
<td>/SECURE</td>
<td>/SECURE APPC</td>
</tr>
<tr>
<td>/SET</td>
<td></td>
</tr>
<tr>
<td>/SMCOPY</td>
<td></td>
</tr>
<tr>
<td>/START</td>
<td>/START APPC, /START REGION</td>
</tr>
<tr>
<td>/STOP</td>
<td>/STOP APPC, /STOP REGION</td>
</tr>
<tr>
<td>/TEST</td>
<td>/TEST is usually not mirrored on an XRF alternate system. However, /TEST MFS is mirrored if the alternate system is tracking the state of the terminal that entered the /TEST MFS command.</td>
</tr>
<tr>
<td>/TRACE</td>
<td>/TRACE is usually not mirrored on an XRF alternate system. However, /TRACE SET LINE and /TRACE SET LINK are mirrored for lines and links that can be restarted. /TRACE SET NODE is mirrored for all node types.</td>
</tr>
<tr>
<td>/UNLOCK</td>
<td>/UNLOCK SYSTEM</td>
</tr>
<tr>
<td>UPDATE TRAN</td>
<td>UPDATE TRAN START(TRACE), UPDATE TRAN STOP(TRACE)</td>
</tr>
</tbody>
</table>

### Commands Supported on the XRF Alternate

The commands that are valid on the XRF alternate, along with the exceptions, are shown in Table 10.

Table 10. List of Commands Supported on the XRF Alternate

<table>
<thead>
<tr>
<th>Command</th>
<th>Exceptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ACTIVATE</td>
<td></td>
</tr>
<tr>
<td>/CANCEL</td>
<td></td>
</tr>
<tr>
<td>/CHANGE</td>
<td></td>
</tr>
<tr>
<td>/CLSDST</td>
<td></td>
</tr>
<tr>
<td>/COMPT</td>
<td></td>
</tr>
<tr>
<td>/DISPLAY</td>
<td>/DISPLAY QCNT</td>
</tr>
<tr>
<td>/END</td>
<td></td>
</tr>
<tr>
<td>/ERERESTART</td>
<td></td>
</tr>
<tr>
<td>/FORMAT</td>
<td></td>
</tr>
</tbody>
</table>
Table 10. List of Commands Supported on the XRF Alternate (continued)

<table>
<thead>
<tr>
<th>Command</th>
<th>Exceptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>/IDLE</td>
<td></td>
</tr>
<tr>
<td>/NRESTART</td>
<td></td>
</tr>
<tr>
<td>/OPNDST</td>
<td></td>
</tr>
<tr>
<td>/PSTOPT REGION</td>
<td></td>
</tr>
<tr>
<td>QUERY TRAN</td>
<td></td>
</tr>
<tr>
<td>/RCLSDST</td>
<td></td>
</tr>
<tr>
<td>/RCOMPT</td>
<td></td>
</tr>
<tr>
<td>/RDISPLAY</td>
<td></td>
</tr>
<tr>
<td>/RMLIST</td>
<td></td>
</tr>
<tr>
<td>/SECURE</td>
<td></td>
</tr>
<tr>
<td>/SMCOPY</td>
<td></td>
</tr>
<tr>
<td>/START DC</td>
<td></td>
</tr>
<tr>
<td>/START LUNAME</td>
<td></td>
</tr>
<tr>
<td>/START REGION</td>
<td></td>
</tr>
<tr>
<td>/START RTCODE</td>
<td></td>
</tr>
<tr>
<td>/START SURVEILLANCE</td>
<td></td>
</tr>
<tr>
<td>/STOP</td>
<td></td>
</tr>
<tr>
<td>/STOP BACKUP</td>
<td></td>
</tr>
<tr>
<td>/STOP DC</td>
<td></td>
</tr>
<tr>
<td>/STOP LUNAME</td>
<td></td>
</tr>
<tr>
<td>/STOP REGION</td>
<td></td>
</tr>
<tr>
<td>/STOP RTCODE</td>
<td></td>
</tr>
<tr>
<td>/STOP SURVEILLANCE</td>
<td></td>
</tr>
<tr>
<td>/SWITCH</td>
<td></td>
</tr>
<tr>
<td>/TEST</td>
<td></td>
</tr>
<tr>
<td>/TRACE</td>
<td></td>
</tr>
<tr>
<td>UPDATE TRAN SET(MAXRGN)</td>
<td></td>
</tr>
<tr>
<td>UPDATE TRAN START</td>
<td>STOP(TRACE)</td>
</tr>
</tbody>
</table>

Commands and Keywords Supported on an RSR Tracking Subsystem

Only commands and keywords required to manage RSR tracking are supported on an RSR tracking subsystem. For example, commands and keywords relating to transactions are not supported, because transactions are not allowed on a tracking subsystem. See Table 11 on page 34 for the commands and keywords supported on an IMS DB/DC tracking subsystem. The subset of commands and keywords relating to databases are the only ones allowable on a DBCTL tracking subsystem.

Commands entered on an IMS tracking subsystem that are not supported on a tracking subsystem result in message

DF5136I  COMMAND xxxxxxxxxxxx INVALID FOR TRACKER
RSR Tracker Commands

Commands entered on a DCCTL tracking subsystem that are not supported on the tracking subsystem or on DCCTL result in message

DFS136I COMMAND xxxxxxxxxxx INVALID FOR DCCTL

Keywords entered on an IMS tracking subsystem that are not supported on a tracking subsystem result in message

DFS110 COMMAND KEYWORD yyyyyyyyyyyyy INVALID FOR TRACKER

Keywords entered on a DBCTL or DCCTL tracking subsystem that are not supported on a tracking subsystem or with DBCTL or DCCTL result in message

DFS110 KEYWORD yyyyyyyyyyyyy INVALID FOR DBCTL|DCCTL

Table 11 below lists the commands and keywords that are allowed on an IMS DB/DC RSR tracking. The table also includes comments.

Table 11. Commands and Keywords Allowable on an IMS DB/DC RSR Tracking Subsystem

<table>
<thead>
<tr>
<th>Commands</th>
<th>Keywords</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ACTIVATE</td>
<td>NODE</td>
<td></td>
</tr>
<tr>
<td>/ASSIGN</td>
<td>COMPONENT, ICOMPONENT,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LINE, LTERM, NODE, PTERM,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>USER</td>
<td></td>
</tr>
<tr>
<td>/BROADCAST</td>
<td>ACTIVE, LINE, LTERM, NODE,</td>
<td>BTAM lines are not supported.</td>
</tr>
<tr>
<td></td>
<td>PTERM, USER</td>
<td></td>
</tr>
<tr>
<td>/CANCEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/CHECKPOINT</td>
<td>ABDUMP, DUMPQ, FREEZE,</td>
<td>Simple checkpoint (that is, with no keywords) is also supported.</td>
</tr>
<tr>
<td></td>
<td>SNAPQ, STATISTICS</td>
<td></td>
</tr>
<tr>
<td>/CLSDST</td>
<td>NODE, USER</td>
<td></td>
</tr>
<tr>
<td>/COMPT</td>
<td>CNS, CRD, NODE, NOTRDY,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PCH, PDS, PRT, RDR, READY,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TDS, UDS, USER, VID, WPM1,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WPM2, WPM3</td>
<td></td>
</tr>
<tr>
<td>/DBRECOVERY</td>
<td>AREA, DATABASE, DATAGROUP,</td>
<td>Command only valid for a DATABASE level tracking system. Keywords only valid for areas and databases tracked at the DATABASE level.</td>
</tr>
<tr>
<td></td>
<td>LOCAL, NOFEOV</td>
<td></td>
</tr>
<tr>
<td>/DEQUEUE</td>
<td>LINE, LTERM, NODE, PTERM,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PURGE, PURGE1, USER</td>
<td></td>
</tr>
<tr>
<td>/DISPLAY</td>
<td>ACTIVE, AREA, ASSIGNMENT,</td>
<td>• For /DISPLAY POOL ALL, only pools needed on the tracking subsystem are displayed.</td>
</tr>
<tr>
<td></td>
<td>DATABASE, DBD, DC, LINE,</td>
<td>• For /DISPLAY POOL pool1, some parameters are not supported.</td>
</tr>
<tr>
<td></td>
<td>LTERM, MODE, MODIFY,</td>
<td>• For /DISPLAY STATUS with no keywords, only resources needed on a tracking subsystem are displayed.</td>
</tr>
<tr>
<td></td>
<td>MONITOR, NODE, OLDS,</td>
<td>• For /DISPLAY TRACE ALL, only resources needed on a tracking subsystem are displayed.</td>
</tr>
<tr>
<td></td>
<td>POOL, PTERM, SHUTDOWN</td>
<td></td>
</tr>
<tr>
<td></td>
<td>STATUS, TRACE, TRACKING</td>
<td></td>
</tr>
<tr>
<td></td>
<td>STATUS, USER, XTRC</td>
<td></td>
</tr>
<tr>
<td>/END</td>
<td>LINE, NODE, PTERM, USER</td>
<td></td>
</tr>
</tbody>
</table>
### Table 11. Commands and Keywords Allowable on an IMS DB/DC RSR Tracking Subsystem (continued)

<table>
<thead>
<tr>
<th>Commands</th>
<th>Keywords</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ERESTART</td>
<td>BUILDQ, CHECKPOINT, COLDBASE, COLDCOMM, COLDSYS, FORMAT, NOPASSWORD, NOTERMINAL, NOUSER, OVERRIDE, PASSWORD, TERMINAL, USER</td>
<td></td>
</tr>
<tr>
<td>/FORMAT</td>
<td>LTERM</td>
<td></td>
</tr>
<tr>
<td>/IDLE</td>
<td>LINE, NODE, NOSHUT</td>
<td></td>
</tr>
<tr>
<td>/LOG</td>
<td>ABORT, COMMIT, LTERM, PASSWORD, PREPARE, TERMINAL</td>
<td>The following parameters are supported: ACBLIB, BLDL, FMTLIB, MODBLKS, and RACF.</td>
</tr>
<tr>
<td>/MODIFY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/NRESTART</td>
<td>BUILDQ, CHECKPOINT, FORMAT, NOBUILDQ, NOPASSWORD, NOTERMINAL, NOUSER, PASSWORD, TERMINAL, USER</td>
<td></td>
</tr>
<tr>
<td>/OPNDST</td>
<td>ID, LOGOND, MODE, NODE, Q, UDATA, USER, USERD</td>
<td></td>
</tr>
<tr>
<td>/PSTOP</td>
<td>LINE, LTERM, PTERM</td>
<td>BTAM lines are not supported.</td>
</tr>
<tr>
<td>/PURGE</td>
<td>LINE, LTERM, PTERM</td>
<td>BTAM lines are not supported.</td>
</tr>
<tr>
<td>/RCLS DST</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/RCOMPT</td>
<td>CNS, CRD, NODE, NOTRDY, PCH, PDS, PRT, RDR, READY, TDS, UDS, USER, VID, WPM1, WPM2, WPM3</td>
<td></td>
</tr>
<tr>
<td>/RDISPLAY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/RMxxxxxx</td>
<td>LTERM</td>
<td>Only applies to tracking subsystem RECON data set.</td>
</tr>
<tr>
<td>/RSTART</td>
<td>LINE, LOPEN, NODE, PTERM, USER</td>
<td>BTAM lines are not supported.</td>
</tr>
<tr>
<td>/RTAKEOVER</td>
<td>UNPLAN, NOVERSE</td>
<td></td>
</tr>
<tr>
<td>/SIGN</td>
<td>ON, USERD</td>
<td></td>
</tr>
<tr>
<td>/SMCOPY</td>
<td>ON, TERMINAL</td>
<td></td>
</tr>
<tr>
<td>/START</td>
<td>AREA, AUTOARCH, DATABASE, DATAGROUP, DC, ISOLOG, LINE, LOCAL, LTERM, NODE, OLDS, PTERM, SERVGRP, USER, WADS</td>
<td>/START AREA, /START DATABASE, and /START DATAGROUP are only valid on a DATABASE level tracking subsystem. BTAM lines are not supported.</td>
</tr>
<tr>
<td>/STOP</td>
<td>ADS, AUTOARCH, DC, LINE, LTERM, NODE, OLDS, PTERM, SERVGRP, TRKAUTOARCH, USER, WADS</td>
<td>BTAM lines are not supported.</td>
</tr>
<tr>
<td>/SWITCH</td>
<td>CHECKPOINT, OLDS</td>
<td></td>
</tr>
<tr>
<td>/TEST MFS</td>
<td>LINE, NODE, PTERM, USER</td>
<td></td>
</tr>
</tbody>
</table>
RSR Tracker Commands

Table 11. Commands and Keywords Allowable on an IMS DB/DC RSR Tracking Subsystem (continued)

<table>
<thead>
<tr>
<th>Commands</th>
<th>Keywords</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>/TRACE</td>
<td>LEVEL, LINE, MODULE, NODE,</td>
<td>No LUMI, RETR, SCHD, or SUBS TABLE tracing is</td>
</tr>
<tr>
<td></td>
<td>ON, OPTION, SET, TABLE,</td>
<td>allowed on a tracking subsystem.</td>
</tr>
<tr>
<td></td>
<td>UNI TYP E, USER, VOLUME</td>
<td></td>
</tr>
</tbody>
</table>

BTAM Terminals in an RSR Environment

Since BTAM terminals are not supported for an RSR tracking subsystem, the following commands are not supported on an RSR tracking subsystem (that is, they will cause a DFS058 COMMAND COMPLETED EXCEPT ... message to be issued):

- /BROADCAST LINE
- /BROADCAST PTERM
- /PSTOP LINE [PTERM]
- /PURGE LINE [PTERM]
- /RSTART LINE [PTERM]
- /START LINE [PTERM]
- /STOP LINE [PTERM]

If the parameter ALL is used with one of these commands, the BTAM terminals affected are simply skipped.

Commands Supported from LU 6.2 Devices and OTMA

Only certain commands are valid from LU 6.2 devices and OTMA. The commands that are supported from LU 6.2 devices and OTMA are listed in Table 12.

Table 12. Commands Supported from LU 6.2 Devices and OTMA

<table>
<thead>
<tr>
<th>Commands</th>
<th>Commands (continued)</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ALLOCATE*</td>
<td>/OPNDST*</td>
</tr>
<tr>
<td>/ASSIGN</td>
<td>/PSTOP</td>
</tr>
<tr>
<td>/BROADCAST*</td>
<td>/PURGE</td>
</tr>
<tr>
<td>/CHANGE*</td>
<td>/QUIESCE</td>
</tr>
<tr>
<td>/CHECKPOINT</td>
<td>/RDISPLAY</td>
</tr>
<tr>
<td>/CLSDST</td>
<td>/RMCHANGE*</td>
</tr>
<tr>
<td>/COMPT</td>
<td>/RMDELETE*</td>
</tr>
<tr>
<td>/DBDUMP</td>
<td>/RMGENJCL*</td>
</tr>
<tr>
<td>/DBRECOVERY</td>
<td>/RMINIT*</td>
</tr>
<tr>
<td>/DELETE</td>
<td>/RMLIST*</td>
</tr>
<tr>
<td>/DEQUEUE</td>
<td>/RMNOTIFY*</td>
</tr>
<tr>
<td>/DISPLAY</td>
<td>/RSTART</td>
</tr>
<tr>
<td>/ERESTART*</td>
<td>/SECURE</td>
</tr>
<tr>
<td>/IDLE</td>
<td>/SMCOPY</td>
</tr>
<tr>
<td>/LOG</td>
<td>/SSR</td>
</tr>
<tr>
<td>/MODIFY</td>
<td>/START</td>
</tr>
<tr>
<td>/MONITOR</td>
<td>/STOP</td>
</tr>
<tr>
<td>/MSASSIGN</td>
<td>/SWITCH</td>
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</table>
Table 12. Commands Supported from LU 6.2 Devices and OTMA (continued)

<table>
<thead>
<tr>
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<th>Commands (continued)</th>
</tr>
</thead>
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<td>/MSVERIFY</td>
<td>/TRACE</td>
</tr>
<tr>
<td>/NRESTART</td>
<td></td>
</tr>
</tbody>
</table>

Note: * Multisegment commands are not supported by OTMA.

Terminal Security Defaults for LU 6.2 Devices and OTMA

Table 13 shows the terminal security defaults for IMS commands from LU 6.2 devices and OTMA when RACF is not used (RACF=NONE) and the command security exit (DFSCCMD0) is also not used. Only the commands shown in the table will be authorized in these environments.

Table 13. Terminal Security Defaults for IMS Commands from LU 6.2 Devices and OTMA

<table>
<thead>
<tr>
<th>LU 6.2 Devices</th>
<th>OTMA</th>
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<td>/BROADCAST</td>
<td>/LOC</td>
</tr>
<tr>
<td>/LOC</td>
<td>/LOG</td>
</tr>
<tr>
<td>/LOG</td>
<td>/RDISPLAY</td>
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<tr>
<td>/RDISPLAY</td>
<td>/UNL</td>
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<td>/RMLIST</td>
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</table>

Commands Supported by the OM API

Table 14 is a list of IMS command verbs and primary keywords that can be issued through the Operations Manager (OM) API. The command verb can be specified in the long form or short form, as specified in column one and two respectively. The primary keyword is the first keyword following the command verb, as specified in column three.

Table 14. Commands Supported by the OM API

<table>
<thead>
<tr>
<th>Command (long form)</th>
<th>Command (short form)</th>
<th>Primary Keywords</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ACTIVATE</td>
<td>/ACT</td>
<td>LINK, NODE</td>
</tr>
<tr>
<td>/ALLOCATE</td>
<td>/ALL</td>
<td>LU</td>
</tr>
<tr>
<td>/ASSIGN</td>
<td>/ASS</td>
<td>CLASS, CPRI, INPUT, LCT, LPRI, LTERM, NPRI, OUTPUT, PARLIM, PLCT, SEGNO, SEGSZ, TRAN, USER</td>
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<tr>
<td>/BROADCAST</td>
<td>/BRO</td>
<td>ACT, LINE, LTERM, MASTER, NODE, PTERM, USER</td>
</tr>
<tr>
<td>/CHANGE</td>
<td>/CHA</td>
<td>APPC, CCTL, CPLOG, DESC, DIR, FDR, LINK, NODE, PSWD, SUBSYS, SURV, TRAN, UOR, USER</td>
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<tr>
<td>/CHECKPOINT</td>
<td>/CHE</td>
<td>DUMPQ, FREEZE, PURGE, STATISTICS</td>
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<tr>
<td>/CLSDST</td>
<td>/CLS</td>
<td>NODE</td>
</tr>
<tr>
<td>/CQCHKPT</td>
<td>/CQC</td>
<td>SHAREDQ, SYSTEM</td>
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</table>
### Table 14. Commands Supported by the OM API (continued)

<table>
<thead>
<tr>
<th>Command (long form)</th>
<th>Command (short form)</th>
<th>Primary Keywords</th>
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</thead>
<tbody>
<tr>
<td>/CQUERY</td>
<td>/CQQ</td>
<td>STATISTICS, STRUCTURE</td>
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<tr>
<td>/CQSET</td>
<td>/CQS</td>
<td>SHUTDOWN, SHAREDQ, STRUCTURE</td>
</tr>
<tr>
<td>/DBDUMP</td>
<td>/DBD</td>
<td>DB</td>
</tr>
<tr>
<td>/DBRECOVERY</td>
<td>/DBR</td>
<td>AREA, DB, DATAGRP</td>
</tr>
<tr>
<td>/DELETE</td>
<td>/DEL</td>
<td>DESC, PSWD, TERM</td>
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<tr>
<td>DELETE</td>
<td>DEL</td>
<td>LE</td>
</tr>
<tr>
<td>/DEQUEUE</td>
<td>/DEQ</td>
<td>AOITKN, LINE, LTERM, LU, MSNAME, NODE, SUSPEND, TMEM, TRAN, USER</td>
</tr>
<tr>
<td>/DISPLAY</td>
<td>/DIS</td>
<td>ACT, AFFIN, AOITKN, APPC, AREA, ASMT, CCTL, CONV, CPLOG, CQS, DB, DDB, DESC, FDR, FPV, HSB, HSSP, LINE, LINK, LTERM, LU, MASTER, MODIFY, MSNAME, NODE, OASN, OLDS, OTMA, OVERFLOWQ, PGM, POOL, PSB, PTERM, Q, QCNT, RECOVERY, RTC, SHUTDOWN, STATUS, STRUC, SUBSYS, SYSID, TIMEOVER, TMEM, TRACE, TRACKING, TRAN, UOR, USER</td>
</tr>
<tr>
<td>/END</td>
<td>/END</td>
<td>LINE, NODE, USER</td>
</tr>
<tr>
<td>/ERESTART</td>
<td>/ERE</td>
<td>BACKUP, COLDB, COLDCOMM, COLDSYS</td>
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<tr>
<td>/EXCLUSIVE</td>
<td>/EXC</td>
<td>LINE, NODE, USER</td>
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<tr>
<td>/EXIT</td>
<td>/EXI</td>
<td>CONV (with another keyword)</td>
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<td>/IDL</td>
<td>LINE, LINK, NODE</td>
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<tr>
<td>INITIATE</td>
<td>INIT</td>
<td>OLC</td>
</tr>
<tr>
<td>/LOCK</td>
<td>/LOC</td>
<td>DB, PGM, TRAN</td>
</tr>
<tr>
<td>/LOG</td>
<td>/LOG</td>
<td></td>
</tr>
<tr>
<td>/MODIFY</td>
<td>/MOD</td>
<td>ABORT, COMMIT, PREPARE</td>
</tr>
<tr>
<td>/MONITOR</td>
<td>/MON</td>
<td>LINE</td>
</tr>
<tr>
<td>/MSASSIGN</td>
<td>/MSA</td>
<td>LINK, MSNAME, SYSID, TRAN</td>
</tr>
<tr>
<td>/NRESTART</td>
<td>/NRE</td>
<td>CHKPT</td>
</tr>
<tr>
<td>/OPNDST</td>
<td>/OPN</td>
<td>NODE</td>
</tr>
<tr>
<td>/PSTOP</td>
<td>/PST</td>
<td>LINE, LINK, LTERM, MSPLINK, REGION, TRAN</td>
</tr>
<tr>
<td>/PURGE</td>
<td>/PUR</td>
<td>APPC, FPPROG, FPRGN, LINE, LTERM, MSNAME, TRAN</td>
</tr>
</tbody>
</table>

---

OM API Supported Commands
### Table 14. Commands Supported by the OM API (continued)

<table>
<thead>
<tr>
<th>Command (long form)</th>
<th>Command (short form)</th>
<th>Primary Keywords</th>
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</thead>
<tbody>
<tr>
<td>QUERY</td>
<td>QRY</td>
<td>IMSPLEX, LE, MEMBER, OLC, STRUCTURE, TRAN</td>
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<tr>
<td>/QUIESCE</td>
<td>/QUI</td>
<td>NODE</td>
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<tr>
<td>/DISPLAY</td>
<td>/RDI</td>
<td>MASTER</td>
</tr>
<tr>
<td>/RECOVER</td>
<td>/REC</td>
<td>ADD, REMOVE, START, STOP, TERMINATE</td>
</tr>
<tr>
<td>/RMCHANGE</td>
<td>/RMC</td>
<td></td>
</tr>
<tr>
<td>/RMDELETE</td>
<td>/RMD</td>
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</tr>
<tr>
<td>/RMGENJCL</td>
<td>/RMG</td>
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</tr>
<tr>
<td>/RMINIT</td>
<td>/RMI</td>
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<td>/RMLIST</td>
<td>/RML</td>
<td></td>
</tr>
<tr>
<td>/RMNOTIFY</td>
<td>/RMN</td>
<td></td>
</tr>
<tr>
<td>/RSTART</td>
<td>/RST</td>
<td>LINE, LINK, MSPLINK, NODE, USER</td>
</tr>
<tr>
<td>/RTAKEOVER</td>
<td>/RTA</td>
<td>DUMPQ, FREEZE, UNPLAN</td>
</tr>
<tr>
<td>/SECURE</td>
<td>/SEC</td>
<td>APPC, OTMA</td>
</tr>
<tr>
<td>/SMCOPY</td>
<td>/SMC</td>
<td></td>
</tr>
<tr>
<td>/START</td>
<td>/STA</td>
<td>APPC, AREA, AUTOARCH, CLASS, DB, DATAGRP, DC, DESC, ISOLOG, LINE, LTERM, LU, MAdSIOT, MSNAME, NODE, OLDS, OTMA, PGM, REGION, RTC, SB, SERVGRP, SUBSYS, SURV, THREAD, TMEM, TRAN, TRKARCH, USER, VGR, WADS, XRCrack</td>
</tr>
<tr>
<td>/STOP</td>
<td>/STO</td>
<td>ADS, APPC, AREA, AUTOARCH, BACKUP, CLASS, DB, DATAGRP, DC, LINE, LTERM, LU, MAdSIOT, MSNAME, NODE, OLDS, OTMA, PGM, REGION, RTC, SB, SERVGRP, SUBSYS, SURV, THREAD, TMEM, TRAN, USER, VGR, WADS, XRCrack</td>
</tr>
<tr>
<td>/SWITCH</td>
<td>/SWI</td>
<td>OLDS, SYSTEM, WADS</td>
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<td>TERMINATE</td>
<td>TERM</td>
<td>OLC</td>
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<tr>
<td>/TEST</td>
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<td>/TRACE</td>
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<td>SET</td>
</tr>
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<td>/UNLOCK</td>
<td>/UNL</td>
<td>DB, PGM, SYSTEM, TRAN</td>
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<tr>
<td>UPDATE</td>
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<td>LE, TRAN</td>
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<td>/VUNLOAD</td>
<td>/VUN</td>
<td>AREA</td>
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</table>
OM API Supported Commands
Chapter 2. Keyword Table and Definitions

All IMS keywords and their synonyms and environments are listed in Table 15. The section following the table describes the keywords in greater detail. IMS ignores misspelled keywords; IMS issues an error message when it encounters an invalid keyword. In an IMSplex, invalid or misspelled keywords will result in an “UNKNOWN POSITIONAL PARAMETER” message.

ALL=NO or ALL=DIS can be specified on the KEYWD macro to prevent use of the ALL parameter. ALL=NO and ALL=DIS can be specified for all keywords. ALL=NO indicates that the ALL parameter is invalid on all the commands for the keyword. ALL=DIS indicates the ALL parameter is invalid on all the /DISPLAY commands for the keyword. For more information on the KEYWD macro, see IMS Version 8: Customization Guide. If no synonyms are listed, none are permitted.

Table 15. Keywords, Synonyms, and Their Environments

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Synonym</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
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### Table 15. Keywords, Synonyms, and Their Environments (continued)

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Synonym</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
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Table 15. Keywords, Synonyms, and Their Environments (continued)

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Notes:

1 When using the OM API, DB is the only accepted synonym for DATABASE.

2 ISOLOG and TRKAUTOARCH are valid only for an RSR tracking subsystem.

ABDUMP

Requests abnormal termination and a dump of the following:
- Application program executing in a region specified in the /STOP REGION command. The parameter stated with ABDUMP must be the name of a transaction currently scheduled for the specified region.
- IMS control region when used with the /CHECKPOINT FREEZE, PURGE, or DUMPQ command.
- Active control region in an XRF environment when used with either of the following commands:
  - The /SWITCH command in the active system
  - The /SWITCH command in the alternate system, when it is on the same processor as the active system

ABDUMP is also valid with /STOP BACKUP, when it is used to request abnormal termination and a dump of the backup system.

ABORT

Is used with the /MODIFY command to terminate an online change process. This keyword prevents the libraries from being switched and resets the QSTOP status for transactions. ABORT is also used with /CHANGE CCTL or /CHANGE UOR to back out changes for a unit of recovery.
Keyword Summary

ACCESS
Is used with the /START DATABASE command to indicate the type of access intended for the named database. This keyword overrides the database access specified at system definition.

ACTIVE
Refers to IMS resources currently in use with the following commands:
- /BROADCAST, to refer to any terminal that:
  - Is not stopped
  - Is not locked (VTAM)
  - Is not being polled (BTAM BSC)
  - Has not had the /PSTOP command issued and completed against it
- /DISPLAY, to refer to transaction codes, programs, regions, classes, terminals, the VTAM ACB, and subsystems. It is also used with /DISPLAY CCTL to show the active threads associated with the coordinator controller.
- /SWITCH, to indicate that the command is being entered on the active system in an XRF environment.

ADS
Is used with the /STOP command to refer to an area data set.

AFFINITY
Is used with the /DISPLAY command to display VTAM affinities that the IMS subsystem has with specific nodes.

ALLENTRIES
Is used with the following commands:
- /RECOVER REMOVE, to specify that the recovery list will be eliminated.
- /RECOVER STOP, to specify that recovery will abort for all database data sets and areas (all entries) in the recovery list.

AOITOKEN
Is used with the following commands:
- /DEQUEUE, to dequeue and discard messages associated with the specified AOI token name.
- /DISPLAY, to show all the AOI tokens in the system.
- /PSTOP REGION, to post an application program waiting for messages associated with an AOI token.

APDB
Is used with the /TRACE MONITOR command to monitor activity between application programs and databases, including Fast Path activity.

APMQ
Is used with the /TRACE MONITOR command to monitor activity between application programs and message queues, including Fast Path activity.

APPC
Is used with the following commands:
- /DISPLAY, to show LU 6.2 related activities.
- /PURGE, to purge transaction schedule requests from APPC/MVS.
- /SECURE, to control the RACF security level from LU 6.2 application programs.
- /START, to start transaction schedule requests from APPC/MVS.
- /STOP, to stop transaction schedule requests from APPC/MVS.
AREA
Refers to the areas of a data entry database (DEDB). Areas are data sets that contain entire physical records. AREA is used with the following commands:
• /DBRECOVERY, to allow recovery by DEDB area.
• /DISPLAY, to show the DEDB areas being processed.
• /START, to make DEDB areas available for processing.
• /STOP, to stop the processing of DEDB areas.

ASR
Is used with the /CHANGE LINK and /CHANGE NODE commands to change the automatic session restart designation of a link or node.

ASSIGNMENT
Is used with the /DISPLAY command to refer to resource assignments.

AUTO
Is used with the /TRACE SET ON TIMEOUT command to support the IMS VTAM I/O Timeout facility. The AUTO keyword automatically issues a message along with VTAM INACT and VTAM ACT commands to attempt activation of a node, if I/O exceeded the timeout value specified in the /TRACE command.

AUTOARCH
Is used with the /START and /STOP commands to start and stop automatic archiving of online log data sets.

AUTOLOGON
Is used with the following commands:
• /CHANGE, to specify that the autologon information previously specified by a user descriptor, output creation exit routine (DFSINSX0), or signon exit routine (DFSSGNX0) is being updated dynamically.
• /DISPLAY USER, to display the current autologon information for the specified user.

BACKUP
Is used with the following commands:
/ERESTART, to indicate that the control region is an alternate system in an XRF environment.
/STOP, to terminate an alternate system.
/SWITCH, to indicate the command is being entered on the alternate system.

BALGRP
Is used with the /DISPLAY QUEUE and /DISPLAY QCNT commands to display statistical information about the Fast Path balancing group queues.

BKERR
Is used with the /DISPLAY DATABASE command to display error queue elements associated with a DL/I or DEDB database. It also displays incomplete backouts preventing the use of a DL/I database.

BUILDQ
Is used with the /NRESTART and /ERESTART commands to request reconstruction of the message queue data sets.

CAGROUP
Is used with the following commands:
/RECOVER ADD, to specify that one or more change accumulation groups as defined in the RECON data sets will have their database data sets and areas added to the recovery list.
/RECOVER REMOVE, to specify that one or more change accumulation groups as defined in the RECON data sets will have their database data sets and areas removed from the recovery list.

/RECOVER STOP, to specify that recovery processing is to be stopped for the database data sets and areas in the specified change accumulation groups as defined in the RECON data sets.

CANCEL
Is used with the /STOP REGION command to cancel a message region, and it is only valid after a /STOP REGION ABNDUMP command. It is also used with the /STOP APPC command to cause APPC/MVS to initiate a shutdown sequence.

CCTL
Is used in /DISPLAY CCTL or /CHANGE CCTL to represent a CICS subsystem that is connected to a DBCTL or IMS subsystem.

CHECKPOINT
Is used with the following commands:
/ERESTART, to identify the desired shutdown/restart sequence. Valid parameters are 0 or the checkpoint number provided by IMS when the system was shut down.
/NRESTART, to identify the desired shutdown/restart sequence. The only valid parameter for /NRESTART is 0.
/SWITCH OLDS, to take a simple checkpoint after switching OLDS.

CLASS
Is used with the /ASSIGN, /START, and /STOP commands to indicate that the specified command will affect the class-scheduling capability of IMS. /DISPLAY STATUS CLASS displays the status of classes. Valid parameters are one or more decimal numbers from 1 through 255 that represent class numbers assigned during IMS system definition.

This keyword is also used with /DISPLAY QUEUE, /PSTOP TRANSACTION, and /PURGE TRANSACTION.

CMDAUTH
Is used with the /ERESTART and /NRESTART commands to specify that both signon (user identification verification) and command authorization for static and ETO terminals are in effect at the end of the emergency restart.

CMDAUTHHE
Is used with the /ERESTART and /NRESTART commands to specify that command authorization for ETO terminals (same as RCF=S on the startup parameter) is in effect at the end of the emergency restart. CMDAUTHHE also resets command authorization for static terminals, if it was set.

CNS
Is used with the /COMPT and /RCOMPT commands to notify IMS that the console component is either operable or inoperable.

COLDBASE
Is used with the /ERESTART command to cold start the database component of IMS.

COLDCOMM
Is used with the /ERESTART command to indicate a data communication cold start.

COLDSESS
Is used with the /CHANGE LINK and /CHANGE NODE commands. COLDSESS is
used with the /CHANGE LINK to reset the specified link or links. Use this keyword only after the /PSTOP command has been issued and completed against the link or links.

COLDSESS is used with the /CHANGE NODE command to set up the SLU P or FINANCE session so that the session can be cold started.

COLDSYS
Is used with /ERESTART to cold start both the database component and data communications components of IMS.

COMMIT
Is used to make the changes indicated by the /MODIFY PREPARE command or the INITIATE OLC PHASE(PREPARE) command. This keyword is also used with /CHANGE CCTL or /CHANGE UOR to commit changes for a unit of recovery.

COMP
Is used with the /TRACE SET PSB command to generate program communication block (PCB) and data compare statement images.

COMPONENT
Is used with the /ASSIGN command to refer to an output component member of a physical terminal complex. Valid parameters are numeric values from 1 through 4.

CONTINUOUS
Is used with the /RSTART LINK command to keep the link running by sending dummy data blocks when there is no data to be sent.

CONVERSATION
Is used only in IMS systems using conversational processing with the following commands:

/DISPLAY, to identify the status of conversations.

(EXIT, to terminate an active or held conversation; a valid parameter when terminating a held conversation is the identification of the conversation provided by IMS when the /HOLD command was used to suspend the conversation.

/RELEASE, to resume a previously held conversation; a valid parameter is the identification of the conversation provided by IMS when the /HOLD command was used to suspend the conversation.

/SET, to establish the destination of the next message entered on a terminal that is in a conversation.

CPLOG
Is used with the /DISPLAY command to display the value of the IMS execution parameter, CPLOG. The CPLOG keyword is also used with the /CHANGE command to change the value of the CPLOG IMS execution parameter. The CPLOG parameter specifies the number of log records written between system-generated checkpoints.

CPRI
Is used with the /ASSIGN command to refer to the current priority of a transaction code. The current priority of a transaction code is the current priority at which the transaction is scheduled. Valid parameters are 1- or 2-character numeric priorities, from 0 through 14.

CQS
Is used with the /DISPLAY command to display information about the IMS Common Queue Server subsystem that manages the IMS shared queues.
Keyword Summary

CRD
Is used with the /COMPT and /RCOMPT commands to notify IMS that the card component is operative or inoperative.

DATABASE
Refers to a database. Valid parameters are database names consisting of 1 to 8 alphanumeric characters. DATABASE is used with the following commands:
- /DBDUMP
- /OBRECOVERY
- /DELETE
- /DISPLAY
- /LOCK
- /START
- /STOP
- /UNLOCK

DATAGROUP
Refers to groups of DL/I databases and Fast Path DEDBs to be processed. Data groups are logical groupings of databases and areas; they allow simplified command processing for the databases and areas. DATAGROUP is used with the following commands:
- /OBRECOVERY, to allow recovery by data group.
- /START, to make data groups available for processing.
- /STOP, to stop the processing of data groups.
DATAGROUP is valid on active and RSR tracking subsystems.

DBALLOC
Is used with the /START DATABASE and /START DATAGROUP commands to indicate that databases will be allocated. If not specified, DBALLOC is the default for /START DATABASE 'dbname' commands only. For /START DATABASE ALL and /START DATAGROUP commands, the default is NODBALLOC. This keyword is not allowed on the RSR tracking system.

DBD
Is used with the /DISPLAY command, if Fast Path is installed, to display Fast Path and IMS databases, the PSBs that access them, and the type of access.

DBDS
Is used with the following commands:
- /RECOVER ADD, to specify that one or more full function database data sets will be added to a recovery list.
- /RECOVER REMOVE, to specify that one or more full function database data sets will be removed from the recovery list.
- /RECOVER STOP, to specify that recovery processing is to be stopped for the specified full function database data sets.

DBDSGRP
Is used with the following commands:
- /RECOVER ADD, to specify that one or more DBDS groups as defined in the RECON data sets will have their database data sets added to the recovery list.
- /RECOVER REMOVE, to specify that one or more DBDS groups as defined in the RECON data sets will have their database data sets removed from the recovery list.
/RECOVER STOP, to specify that recovery processing will stop for the database
data sets and areas making up the specified DBDS groups as defined in the
RECON data sets.

DBS
Is used with the /DISPLAY MODIFY command to display databases or areas with
work in progress that could prevent an online change from succeeding.

DC
Is used with the /START command to initiate IMS data communication
processing, including processing VTAM logons. DC is used with the /STOP
command to prohibit logging on to VTAM. DC is also used with /DISPLAY
ACTIVE to show VTAM ACB status, as well as line and node activity.

DESCRIPTOR
Is used with the /CHANGE, /DELETE, and /DISPLAY commands to alter, delete, or
show the LU 6.2 descriptor values. Valid parameters are from 1 to 8
alphanumeric characters long.

DIRECTORY
Is used with the /CHANGE command to restore the MFS Dynamic Directory back
to its status after initialization.

DONE
Is used with the /IAM command to disconnect a terminal on a switched line from
IMS.

DUMPQ
Is used with the /CHECKPOINT command to request that termination of IMS
include DUMPQ functions.

DUMPQ is also used with the /RTAKEOVER command on an active subsystem for
a planned RSR takeover. /RTAKEOVER DUMPQ indicates that a /CHECKPOINT DUMPQ
type of shutdown is performed before the planned takeover occurs.

EMHQ
Causes global queue count information to display on the Expedited Message
Handler queue (EMHQ) when both EMHQ and QCNT are specified. EMHQ is
used with the following commands:
   /DISPLAY LTERM, for terminal queues.
   /DISPLAY NODE, for terminals connected to the node.
   /DISPLAY USER, for users on terminal queues.

ERRORABORT
Is used with the /RECOVER START command and specifies that recovery will stop
for all entries in the recovery list if any database data set or area is unable to
complete recovery.

ERRORCONT
Is used with the /RECOVER START command and specifies that recovery is to
continue if any database data set or area is able to complete recovery.

EXIT
Is used with the /DISPLAY TRACE and /TRACE EXIT commands and displays user
exit tracing. Currently, only tracing for the DFSMSCE0 user exit is supported.

FDR
Is used with the /CHANGE and /DISPLAY commands to change or display
information for IMS Fast Database Recovery regions.
FORCE
Is used with the /SWITCH command to cause immediate termination of the active system in an XRF environment.

FORCE is used with the /PSTOP command for VTAM links and is intended to be used when an MSC VTAM link will not cleanup and idle during normal PSTOP processing, even though VTAM has terminated the session.

FORCE also can be used in conjunction with some VTAM commands to idle and cleanup the VTAM link within IMS, so that a /RSTART LINK can be issued to restart the link again.

FORCE is also used with the /CLSDST command to re-initialize a hung node with I/O in progress.

FORCSESS
Is used with the /CHANGE command to allow session though message resynchronization was not successful. This change remains in effect until the next /CHANGE command or IMS cold start and overrides the FORCSESS/SYNCSSESS specification on the TERMINAL or MSLINK macro. FORCSESS is valid for multiple system coupling (MSC) VTAM or Intersystem Communication (ISC).

FORMAT
Is used with /NRESTART and /ERESTART commands to request reformatting of one or more system data sets. Valid parameters are 2-character data set identifications.

FPPROG
Is used with the /PURGE command to terminate Fast Path message-driven programs by PSB name.

FPREGION
Is used with the /PURGE command to specify the region identifier of the message-driven programs to be terminated.

FPVIRTUAL
Is used with the /DISPLAY command to show DEDB areas loaded into MVS data spaces for the Fast Path Virtual Storage Option (VSO). FVPVIRTUAL is valid only on active DB/TM and DBCTL subsystems.

FREEZE
Is used with the /CHECKPOINT command to request termination of IMS.

FREEZE is also used with the /RTAKEOVER command on an active subsystem for a planned RSR takeover. /RTAKEOVER FREEZE indicates that a /CHECKPOINT FREEZE type of shutdown is performed before the planned takeover occurs.

GLOBAL
Is used with the /DBDUMP, /DBRECOVERY, /START, and /STOP commands to specify that the command applies to all subsystems sharing a database.

GRSNAME
Is used with the /START VGRS command to specify a VTAM generic resource name for an IMS subsystem when it joins a generic resource group.

HSB
Is used with the /DISPLAY command to show XRF related information.

HSSP
Is used with the /DISPLAY command to display high speed sequential processing (HSSP) information.
ICOMPONENT
Is used with the /ASSIGN command to refer to an input component number of a physical terminal complex. Valid parameters are numbers 1 through 4.

ID
Is used with the /OPNDST NODE USER command to identify the other system half-session qualifier.

IMS PLEX
Is used with the IMSplex commands to refer to an IMSplex in a Parallel Sysplex® environment.

INDOUBT
Is used with the /DISPLAY CCTL command to show in-doubt threads.

INPUT
Is used with the following commands:
  /ASSIGN, to change a logical terminal input assignment without changing the output assignment.
  /DISPLAY LUNAME, to display information about LU 6.2 application programs.
  /START LUNAME, to make the LUNAME available for inbound and synchronous outbound activities.
  /STOP LUNAME, to stop the LUNAME for inbound and synchronous outbound activities.
  /TRACE LUNAME, to trace the LUNAME for inbound and synchronous outbound activities.

INTERVAL
Is used with the /CHANGE SURVEILLANCE command to change the interval value of a particular surveillance mechanism in an XRF environment. The interval value controls how often the alternate system surveys the state of the active system.

ISOLOG
Is used with the /START command on an RSR tracking subsystem to request isolated log data (a gap in the log data) from the isolated log sender at the active site.

The ISOLOG keyword is valid only on an RSR tracking subsystem.

JOBNAME
Is used with the following commands to specify the job name on the JOB statement of a region's JCL member:
  • /PSTOP REGION
  • /START REGION
  • /STOP REGION

LA
Is used with the /TRACE MONITOR command to monitor line and logical link events.

LE
Is used on DELETE, UPDATE, and QUERY commands to specify Language Environment (LE) runtime parameter overrides.

LEAVEPLEX
In an IMSplex, this keyword is specified if the IMS that is being shut down is not going to rejoin the IMSplex. Specify the LEAVEPLEX keyword when you do not intend to bring the IMS back up in the IMSplex.
Keyword Summary

LEAVEGR
Is used with the /CHECKPOINT command to delete all affinities from the VTAM affinities table for an IMS subsystem during IMS shutdown. This keyword also causes IMS to leave the VTAM generic resources group.

LEVEL
Is used with the /TRACE command to indicate the extent of desired trace information. Valid parameters are numeric values from 1 through 4.

LINE
Refers to a communication line. Valid parameters are line numbers that are 1 to 4 characters long.

LINE is used with the following commands:
/ASSIGN  /LOOPTEST
/BROADCAST  /MONITOR
/DELETE PASSWORD  /PSTOP
/DEQUEUE  /PURGE
/DISPLAY  /RSTART
/END  /START
/EXCLUSIVE  /STOP
/EXIT  /TEST MFS
/IDLE  /TRACE

LINK
Refers to a logical link in a multiple systems configuration. Valid parameters are numbers 1 through 255.

LINK is used with the following commands:
/ACTIVATE  /MSASSIGN
/CHANGE  /PSTOP
/DISPLAY  /RSTART
/IDLE  /TRACE

LMCT
Is used with the /ASSIGN command to refer to the limit count of a transaction code. The limit count is the queue count number for which the current priority is changed to the limit priority. Valid parameters are numeric values from 1 through 65535.

LOCAL
Is used with the /DBDUMP, /DBRECOVERY, /MSASSIGN TRANSACTION, /START, and /STOP commands to specify that the command applies only to the subsystem in which the command is issued.

LOGOND
Is used with the /OPNDST command to indicate the logon descriptor used for session establishment for dynamic terminals.

LOPEN
Is used with the /RSTART LINE command to enable communication lines again when the next I/O operation occurs.

LPRI
Is used with the /ASSIGN command to refer to the limit priority of a transaction code. The LPRI is the priority to which this transaction is raised if the queue count is equal to, or exceeds, the limit count. Valid parameters are 1- or 2-character numeric priorities, from 0 through 14.

LTERM
Refers to a logical terminal. Valid parameters are logical terminal names
consisting of 1 to 8 alphanumeric characters. The LTERM can be defined to IMS in the system definition or it can be dynamically introduced if ETO is enabled.

This keyword is used with the following commands:

/ASSIGN    /MODIFY
/BROADCAST /PSTOP
/DELETE    /PURGE
/DEQUEUE   /RMxxxxxx
/DISPLAY   /SET
/FORMAT    /START
/IAM        /STOP
/LOCK       /UNLOCK

LTERM is also used with IMSplex commands.

LUNAME
Refers to the logical unit name of an LU 6.2 application program or destination. A network-qualified LU name is optional on the LUNAME keyword. A network-qualified LU name is 1 to 8 alphanumeric characters long (the network identifier of the originating system), followed by a period, and then followed by the LU name that is also 1 to 8 alphanumeric characters long. IMS commands that include network-qualified LU names must enclose the network-qualified LU name in single quotes; for example, 'NETID001.LUAPPC02'. No blanks are allowed in a network-qualified LU name.

An LU name that is not network-qualified consists of 1 to 8 alphanumeric characters.

This keyword can be used with the following commands:

/ALLOCATE   /START
/CHANGE DESCRIPTOR /STOP
/DEQUEUE    /TRACE
/DISPLAY

MADSIOT
Is used with the following commands:

/DISPLAY AREA, to display only those areas that are currently in a long busy condition or are in long busy recovery mode.

/START, to specify the MADS I/O timing function. The /START MADSIOT command is valid only after the long busy handling function is disabled for a link failure, a structure failure, or a rebuild failure.

MASTER
Is used with the /BROADCAST, /DISPLAY, /RDISPLAY, and /SMCOPY commands to issue commands to or receive information from the IMS master terminal.

MAXRGN
Is used with the /CHANGE TRANSACTION command to change the maximum number of regions that can be simultaneously scheduled for a given transaction.

MEMBER
Is used with the QUERY command to refer to IMSplex components in an IMSplex.

MODE
Is used with the /ALLOCATE, /CHANGE DESCRIPTOR, /DISPLAY, /OPNDST, and /RSTART LINK commands to refer to the various modes in which VTAM terminals can operate. The mode parameter causes selection of the corresponding entry in the VTAM LOGON MODE table.
Keyword Summary

MODIFY
Is used with the /DISPLAY command to indicate the status of the resources to be deleted or changed.

MODULE
Is used with the /TRACE command to indicate the calls to trace. Valid parameters are DDM, MFS, and ALL.

MONITOR
Is used with the /TRACE command to activate the IMS Monitor. Valid parameters are LA, SCHD, APMQ, APDB, and ALL. MONITOR is also used with the /DISPLAY TRACE command.

MSDBLOAD
Is used with the /NRESTART command during warm starts to load MSDBs from the MVS/ESA sequential data set MSDBINIT.

MSG
Is used with /TRACE SET ON TIMEOUT to support the IMS VTAM I/O Timeout facility. The MSG keyword is used with /TRACE SET ON TIMEOUT to issue a message when I/O has exceeded the timeout value specified in the /TRACE command.

MSGAGE
Is used with /DISPLAY QCNT command to display a count of messages in a shared queue in which the oldest message exceeds the specified message age (in days).

MSNAME
Is used with the following commands to refer to a logical link path in a multiple systems configuration:
- /BROADCAST MASTER
- /DEQUEUE
- /DISPLAY
- /MSASSIGN
- /MSVERIFY
- /PURGE
- /START
- /STOP

MSPLINK
Is used with the following commands to refer to a physical link in a multiple systems configuration:
- /DISPLAY ASSIGNMENT
- /MSASSIGN LINK
- /PSTOP
- /RSTART

MULTSIGN
Is used with the /ERESTART and /NRESTART commands to permit multiple signons for each user ID. It also indicates user identification verification is in effect at the end of emergency restart.

NOBACKOUT
Is used with the /START DATABASE command to suppress backout restart for a database not registered in DBRC.
NOBMP
Is used with the /RESTART command to prevent backout of updates made by batch message processing programs active when the system failure occurred.

NOBUILDS
Is used with the /NRESTART command to allow IMS to come up quickly when queues are reformatted.

NOCHECK
Is used with the /RECOVER START command. If a member of a recovery group is in the recovery list being started, NOCHECK specifies that the Online Recovery Service will not stop a timestamp recovery or a timestamp recovery to any prior point in time (PITR) if one of the following situations occurs:
- All members of the recovery group are not in the same recovery list.
- All members of the recovery group do not need to be recovered to the same point in time.

NOCMDAUTH
Is used with the /RESTART and /NRESTART commands to reset command authorization on static and ETO terminals.

NOCMDAUTHENO
Is used with the /RESTART and /NRESTART commands to reset command authorization for static and ETO terminals. The command authorization is reset for static terminals because the command authorization for static terminals cannot exist without the command authorization for ETO terminals.

NOCOMP
Is used with the /TRACE SET PSB command to suppress PCB and data compare statement images.

NOCQSSHUT
Is used with the /CHE DUMPQ, /CHE FREEZE, or /CHE PURGE commands to not shut down the CQS address space when the IMS control region terminates. The CQS address space remains active and connected to the message queue structures. NOCQSSHUT is applicable only when IMS is running in a shared-queues environment. The default is to shut down the CQS address space when the IMS control region terminates.

NODBALLOC
Is used with the /START DATABASE and /START DATAGROUP commands to indicate that databases are not to be allocated. This is the default for /START DATABASE ALL and /START DATAGROUP commands. For /START DATABASE 'dbname' commands, the default is DBALLOC, and NODBALLOC must be specified if the database is not to be allocated. If not allocated, the database will be allocated when it is scheduled. This keyword is not allowed on the RSR tracking system. NODBALLOC is valid only on an active subsystem.

NODE
Refers to a valid VTAM node. The node can be defined to IMS via system definition or dynamically introduced if ETO is enabled. If the NODE parameter is associated with ISC parallel sessions, the USER keyword should be used to specify the proper half-session. When the USER keyword is omitted, all half-sessions of the specified node are affected by the command.

When the NODE and USER keywords are both used, the USER keyword must follow the NODE keyword. For restrictions on the use of NODE USER keyword combinations, see Appendix E, “Commands with the NODE USER Keyword Combination,” on page 789.
Keyword Summary

NODE is used with the following commands:

/ACTIVATE  /EXIT
/ASSIGN  /IDLE
/BROADCAST  /LOCK
/CHANGE  /OPNDST
/CLSDST  /QUIESCE
/COMPT  /RSTART
/DELETE PASSWORD  /START
/DEQUEUE  /STOP
/DISPLAY  /TEST MFS
/END  /TRACE
/EXCLUSIVE  /UNLOCK

NODE is also used with IMSplex commands.

Several commands that affect NODEs are valid only for static terminals. These commands are valid only for static nodes:

- /END NODE
- /EXCLUSIVE NODE
- /TEST MFS NODE

The following commands are valid for static nodes with ISC parallel sessions:

- /END NODE USER p1 USER p2
- /EXCLUSIVE NODE p1 USER p2
- /TEST MFS NODE p1 USER p2

NOFEOV
Is used with the /DBDUMP and /DBRECOVERY commands to allow the commands to execute without forcing end-of-volume on the system log.

NOOPEN
Is used with the /START DB command to indicate that the named database should not be opened in the processing of this command.

NOPASSWORD
Is used with the /NRESTART command to negate the password security specifications of the IMS Security Maintenance utility.

NOPFA
Is used with the following commands to specify that DBRC is not to be notified of a change in status for a database or area:

- /DBDUMP
- /DBRECOVERY
- /STOP DATABASE | AREA

By using this keyword, DBRC does not prevent further authorizations for the database or area.

NOREVERSE
Is used with the /RTAKEOVER UNPLAN command to specify that an unplanned remote takeover cannot be reversed. The primary effect of this keyword is that the IMS tracking subsystem saves and processes all data it has received from an active site, regardless of whether that data was committed.

NOSAVE
Is used with the following commands:
/ASSIGN, to indicate that the assignment changes specified by the /ASSIGN command are lost when control blocks are deleted by the system when they are no longer needed.

/CHANGE, to indicate that the changed autologon information should not be retained.

**NOSHUT**
Is used with the /IDLE LINE command to stop input and output activities on 3270 remote BTAM lines without having to initiate a checkpoint shutdown. NOSHUT is not valid with the /IDLE NODE command.

**NOTERMINAL**
Is used with the /NRESTART command to negate the terminal security specifications of the IMS Security Maintenance utility.

**NOTRANAUTH**
Is used with the /ERESTART and /NRESTART commands to turn off transaction authorization. NOTRANAUTH is not the opposite of TRANAUTH. TRANAUTH sets transaction authorization and also turns on signon (user identification verification).

**NOTRANCMDS**
Is used with the /ERESTART and /NRESTART commands to negate transaction command security.

**NOTRDY**
Is used with the /COMPT and /RCOMPT commands to make a terminal component not ready.

**NOUSER**
Is used with the /NRESTART command to request that neither security authorization nor transaction authorization be in effect at the end of the normal restart.

**NPRI**
Is used with the /ASSIGN command to refer to the normal priority of a transaction code. The normal priority is assigned to the transaction as the current priority when the transaction queue count is less than the limit count. Valid parameters are 1- or 2-character numeric priorities from 0 through 14.

**OASN**
Is used with the /CHANGE and /DISPLAY commands to specify a specific outstanding recovery element related to an external subsystem being deleted from IMS. The origin application schedule number (OASN) is used by IMS to identify recovery information.

**OFFLINE**
Is used with the following commands:
- /RECOVER ADD, to specify that the databases and areas undergoing recovery will be left offline after recovery is complete.
- /RECOVER START, to specify that the database data sets and areas in the recovery list will remain offline after recovery is complete.

**OLC**
Is used with the INITIATE, QUERY, and TERMINATE commands to initiate, query, or terminate a global online change.

**OLDS**
Is used with the /DISPLAY, /START, /STOP, and /SWITCH commands to refer to online log data sets.
Keyword Summary

OPEN
Is used with the /START DBcommand to indicate that the named database should be opened in the processing of this command.

OPTION
Is used with the /TRACE command. When used with the PI keyword, OPTION indicates a request for a specific program isolation trace option. Valid parameters are LOG, TIME, and ALL. When used with the TABLE keyword, OPTION indicates whether or not the trace tables will be logged.

OSAMGTF
Is used with the /TRACE command to activate or deactivate tracing of GTF trace records for every OSAM buffer request of LOCATE or CREATE.

OSAMGTF keyword is also used with the /DISPLAY TRACE command to display whether the OSAM Buffer Trace facility is active or inactive.

OTMA
Is used with the /DISPLAY, /START, and /STOP commands to display, start, or stop IMS Open Transaction Manager Access (OTMA). OTMA is also used with the /SECURE command to control the RACF security level for OTMA.

OUTBND
Is used with the /CHANGE command to change the current outbound LU.

OUTPUT
Is used with the /ASSIGN command to change a logical terminal output assignment without changing the input assignment.

OUTPUT is also used with the following commands:
/DISPLAY LUNAME, to display LU 6.2 application programs.
/START LUNAME, to make the LU name available for asynchronous outbound activities.
/STOP LUNAME, to stop the LU name for asynchronous outbound activities.
/TRACE SET LUNAME, to trace the LU name for asynchronous outbound activities.

OVERFLOWQ
Is used with the /DISPLAY command to display queues on an overflow list structure in a shared-queues environment.

OVERRIDE
Is used with the /ERESTART command to restart the system after failure of power, machine, MVS/ESA, or DBRC.

PARLIM
Is used with the /ASSIGN command when message regions are parallel processing a transaction. PARLIM is the maximum number of messages that can be enqueued, but not yet processed, by each active message region currently scheduled for this transaction. An additional message region is scheduled whenever the transaction queue count exceeds the PARLIM value multiplied by the number of regions currently scheduled for this transaction (for shared queues environments, the successful consecutive GU count is used instead of the queue count). Valid parameters are numeric values from 0 through 32767, and 65535, where 65535 disables transaction load balancing.

PASSWORD
Refers to the password security specifications of the IMS Security Maintenance utility. PASSWORD is used with the following commands:
/CHANGE, to replace a password known to the password security specifications of the IMS Security Maintenance utility with a new password.

/DELETE, to eliminate password security of the IMS Security Maintenance utility for a currently password-protected resource.

/MODIFY PREPARE, to add a password security definition.

/NRESTART, to request that the password security specifications of the IMS Security Maintenance utility be in effect at completion of the restart process.

PCH
Is used with the /COMPT and /RCOMPT commands to notify IMS that a punch component is either operable or inoperable.

PDS
Is used with the /COMPT and /RCOMPT commands to notify IMS that a print data set is operable or inoperable.

PI
Is used with the /TRACE command to request that program isolation be traced along with all calls to ENQ/DEQ and the DL/I buffer handler. PI is also used with the /DISPLAY TRACE command to display the status of the program isolation trace.

PITR
Is used with the /RECOVER START command and specifies that timestamp recovery (TSR) was specified or a point-in-time recovery is to be performed against the database data sets and areas specified with preceding /RECOVER ADD commands.

PLMCT
Is used with the /ASSIGN command to refer to the processing limit count of a transaction code. The processing limit count is the number of messages of this transaction code that a program can process in a single scheduling. Valid parameters are values from 0 through 65535.

POOL
Is used with the /DISPLAY command to refer to a buffer pool within the IMS system. Valid parameters are 3- and 4-character pool names.

PREPARE
Is used with the /MODIFY and INITIATE OLC commands to initiate the prepare phase to change resources online. These commands refer to local online change or global online change.

PRIORITY
Is used with the /DISPLAY Q command to request transaction scheduling information, such as queue count, class, and current priority.

PROGRAM
PROGRAM refers to an IMS application program. PROGRAM is used with the following commands:

/DELETE
/DISPLAY
/LOCK
/START
/STOP
/TRACE
/UNLOCK

Valid parameters are program names that are 1 to 8 alphanumeric characters long.
Use of the ALL parameter for /DISPLAY PROGRAM can be prevented by specifying
ALL=NO on the KEYWD macro. For more information on the KEYWD macro, see
[IMS Version 8: Customization Guide]

**PRT**
Is used with the /COMPT and /RCOMPT commands to notify IMS that a printer
cOMPonent is either operable or inoperable.

**PRTKN**
Indicates the pseudo recovery token to be used with the /CHANGE CCTL
command.

**PSB**
Is used with the /DISPLAY command if Fast Path is installed, to display Fast
Path and IMS PSBs, the transactions they are processing, the databases they
are accessing, and any Fast Path routing codes associated with the
transactions.

This keyword is also used with the /TRACE command to record all DL/I calls
issued for a specified PSB.

**PTERM**
Is used with the commands listed below to refer to a relative physical terminal:

- /ASSIGN
- /BROADCAST
- /DELETE PASSWORD
- /DEQUEUE
- /DISPLAY
- /END LINE
- /EXCLUSIVE LINE
- /EXIT LINE
- /IAM
- /LOCK
- /LOOPTEST LINE
- /MONITOR LINE
- /PSTOP LINE
- /PURGE LINE
- /RSTART LINE
- /START LINE
- /STOP LINE
- /TEST MFS LINE
- /UNLOCK
- /DEQUEUE
- /PURGE LINE
- /STOP LINE
- /TEST MFS LINE
- /UNLOCK
- /DEQUEUE
- /PURGE LINE
- /STOP LINE
- /TEST MFS LINE
- /UNLOCK

Valid parameters are numbers corresponding to the relative position of the
terminal on the line. When used without the LINE keyword on the /DISPLAY
command, valid parameters are physical terminal attributes.

**PURGE**
Is used with the following commands:

- CHECKPOINT, to request termination of IMS.
- /DEQUEUE, to cancel all output messages enqueued on a logical terminal or
destined to a physical terminal.
- /PSTOP, to stop a channel-to-channel partner link that is not idle after a
system failure.

**PURGE1**
Is used with the /DEQUEUE command to delete only the first message currently
queued to an LTERM.

**Q**
Is used with the /DISPLAY command to request message queue information.
The keyword is also valid with /0PNDST NODE to request VTAM to queue
SIMLOGON requests for VTAM/SNA-supported terminals.

**QCNT**
Is used with the following commands to display the global count of messages in
a shared-queues environment:

- /DISPLAY
- /DISPLAY LINE
- /DISPLAY LINK
Keyword Summary

- /DISPLAY LTERM
- /DISPLAY LUNAME
- /DISPLAY MSNAME
- /DISPLAY NODE
- /DISPLAY Q
- /DISPLAY T MEMBER
- /DISPLAY TRANSACTION
- /DISPLAY USER

With this keyword, local queue counts are not displayed; any numbers displayed for local queue counts should be ignored.

QMGR
Is used with the /TRACE TABLE command to indicate that the queue manager trace is to be activated or deactivated.

QUIESCE
Is used with the /CHECKPOINT command to shut down the network only after normal processing is complete on all VTAM nodes.

RCS
Is used with the /DISPLAY MODIFY command to display routing codes with work in progress that could prevent an online change from succeeding.

RCVTIME
Is used with the /RECOVER REMOVE and /RECOVER START commands to specify a recovery to a point in time.

RCVTOKEN
Is used with the following commands:
- /DISPLAY RECOVERY, to specify the recovery token associated with the specific recovery list to display.
- /RECOVER ADD, to specify the unique identifier associated with the recovery list that the /RECOVER ADD command operates against.
- /RECOVER REMOVE, to specify the unique identifier associated with the recovery list that the /RECOVER ADD command operates against.
- /RECOVER START, to specify the logical terminal (including IMS master terminal and MVS system console) that owns the recovery list that the /RECOVER START command operates against.

RDR
Is used with the /COMPT and /RCOMPT commands to notify IMS that a reader component is either operable or inoperable.

READNUM
Is used with the /RECOVER REMOVE and /RECOVER START commands to specify the number of input devices used in parallel during recovery.

READY
Is used with the /COMPT and /RCOMPT commands to make a terminal component ready.

RECOVERY
Is used in the /DISPLAY RECOVERY command to display the list of database data sets and areas being recovered by Online Recovery Service. Is also used with the /DISPLAY NODE RECOVERY or /DISPLAY USER RECOVERY commands to display status recovery settings for a node or user.
Keyword Summary

RECOVGRP
Is used with the /RECOVER ADD, /RECOVER REMOVE, and /RECOVER STOP commands to specify that the listed groups are recovery groups. A recovery group is a group of full-function databases or DEDB areas that are related.

REGION
Requests an action be taken with respect to a message processing region, batch message processing region, or Fast Path region.
REGION is used with the /ASSIGN, /DISPLAY ACTIVE, /PSTOP, /START, and STOP commands.
Valid REGION parameters used with /ASSIGN, /PSTOP, and /STOP are the decimal numbers from 1 through the number of regions defined during system definition.
When used with /PSTOP, REGION returns a QC status code to an application program active in the specified region.
Valid REGION parameters used with /START are names of IMS.JOBS members.
When used with /DISPLAY ACTIVE, REGION shows the status of active regions.

REMOTE
Is used with the /DISPLAY QCNT command to display remote LTERMs and remote transactions on shared queues.

REMOVE
Is used with the /RECOVER command to remove some or all database data sets and areas from the recovery list.

RESET
Is used with the /CHANGE command to indicate that an incomplete unit of work, identified via OASN and assigned to an external subsystem, will be deleted.

RTCDE
Refers to Fast Path routing codes and is used with the following commands:
 /DISPLAY, to display the status of programs with specified routing codes.
 /DISPLAY STATUS, to display routing codes that are not active.
 /START, to activate routing codes and allow transactions associated with the routing codes to process.
 /STOP, to prevent transactions associated with the routing code from being processed.

SAVE
Is used with the following commands:
 /ASSIGN, to prevent deletion of user and LTERM control blocks across session and IMS restarts.
 /CHANGE, to indicate that the changed autologon information should be retained.
 /RECOVER STOP, to specify that the recovery list is not to be deleted when recovery is stopped.

SB
Is used with the /START and /STOP commands to dynamically enable and disable the usage of sequential buffering.

SCHD
Is used with the /TRACE TABLE command to indicate that the scheduler trace is to be activated or deactivated.
SEGNO
Is used with the /ASSIGN command to specify the maximum number of application program output segments allowed into the message queues per Get-Unique (GU). Valid parameters are numbers 0 through 65535. The default value is 0.

SEGSIZE
Is used with the /ASSIGN command to specify the maximum number of bytes allowed for one output segment. Valid values are 0, 5, or greater than 5 to the maximum of 65535. The default value is 0.

SERVGRP
Is used with the /START or /STOP command to start or stop an RSR service group.
SERVGRP is valid on active and RSR tracking subsystems.

SET
Is used with the /TRACE command to indicate whether tracing of internal IMS events should be turned on or off. It is also used to start or stop the IMS Monitor.

SHAREDQ
Is used with the /CQCHKPT and /CQSET commands to specify the IMS shared queues.

SHUTDOWN
Is used with the /DISPLAY STATUS command to request the status of a shutdown-in-progress. Is also used with the /CQSET command to initiate a structure checkpoint when the IMS Common Queue Server shuts down.

SIDE
Is used with the /CHANGE DESCRIPTOR command to refer to the APPC/MVS side information table entry name. The side information table entry contains default values for APPC conversation attributes such as LUNAME, TPNAME, or MODE.
 Valid parameters are from 1 to 8 alphanumeric characters long.

SNAPQ
Is used with the /CHECKPOINT command to dump the contents of the message queues to the system log tape without causing a shutdown of IMS.

SNGLSIGN
Is used with the /ERESTART and /NRESTART commands to permit a single signon for each user ID. It also indicates that user ID verification is in effect at the end of an emergency restart.

SQTT
Is used with the /TRACE TABLE command to indicate that the shared queues trace is to be activated or deactivated.

SSM
Is used with the /START SUBSYSTEM command to allow external subsystem connection processing to be started if the SSM= parameter is not specified on the IMS startup JCL.
SSM can have one parameter associated with it. The subsystem member name can have a maximum of four characters.

STAGLOBAL
Is used with the /RECOVER ADD and /RECOVER START commands. If IRLM is
available, STAGLOBAL specifies that a /START DB or AREA command will be processed on all IMSs that have the databases and areas defined when recovery successfully completes.

**STALOCAL**
Is used with the /RECOVER ADD and /RECOVER START commands to specify that the databases and areas that have entries in the recovery list will be brought online only on the IMS that ran the recovery. However, database data sets and areas with OFFLINE or STAGLOBAL specified on /RECOVER ADD commands will not be brought online. STALOCAL is ignored if PITR is specified.

**START**
Is used with the /RECOVER command to begin recovery for all database data sets and areas specified in the preceding /RECOVER ADD with the same recovery token that was specified in /RECOVER START.

**STATISTICS**
Is used with the /CHECKPOINT command to generate statistics records that are used for performance measurements and tuning an IMS system. Is also used with the /CQUERY command to display statistics for coupling facility list structures.

**STATUS**
Is used with the /DISPLAY command to request the status of one or more system resources that are in exceptional states. STATUS also can be used with the SHUTDOWN keyword to request status of a shutdown-in-progress, and with the TRACKING keyword to get the status of the tracking system in an RSR complex.

**STOP**
Is used with the /RECOVER command to stop recovery for some or all database data sets and areas in the recovery list.

**STRUCTURE**
Is used with the following commands to refer to a primary coupling facility list structure used by IMS for shared queues or a coupling facility structure used by RM for resources:

- /CQCHKPT
- /CQUERY
- /CQSET
- /DISPLAY
- QUERY

**SUBLUR**
Is used with the /CHANGE, /DISPLAY, /START, and /STOP commands to identify the subsystem name that the command action will affect.

**SURVEILLANCE**
Is used with the /CHANGE, /START, and /STOP commands to refer to the XRF surveillance function. During XRF surveillance, the active XRF IMS subsystem sends signals to the alternate system. From these signals, the alternate system learns that the active system is running satisfactorily. If these signals stop, then the alternate system knows that there might be a problem in the active system. The parameters used with the SURVEILLANCE keyword describe a particular surveillance mechanism:

**LNK**
ISC Link
**RDS**
Restart Data Set

**LOG**
System Log

**SUSPEND**
Is used with the /DEQUEUE command to reschedule all transactions that have been suspended.

**SYNCLEVEL**
Is used with the /CHANGE DESCRIPTOR command to refer to the APPC synchronous level. This level is either NONE or CONFIRM.

**SYNCSESS**
Is used with the /CHANGE command to force a message resynchronization when the session is initiated. This remains in effect until the next /CHANGE command or IMS cold start.

SYNCSESS, which overrides the FORCSESS/SYNCSNESS specification on the TERMINAL macro or the MSPLINK macro, is valid for MSC VTAM links or ISC nodes.

**SYSID**
Is used with the /BROADCAST MASTER, /DISPLAY ASSIGNMENT, /MSASSIGN, and /MSVERIFY commands to refer to the system identification of a system in a multiple systems configuration.

SYSID is also used with the /DISPLAY TRANSACTION command to refer to the local or remote systems associated with the transaction. Valid values are from 1 through 255.

Each SYSID has an MSNAME. The MSNAME keyword can be used in place of the SYSID keyword.

SYSID TRANSACTION is used with the /DISPLAY command to refer to the IDs of the local and remote systems associated with the transaction.

**SYSTEM**
Is used with the /UNLOCK and /SWITCH commands to refer to an XRF capable IMS system. Is also used with the /CQCHKPT command to refer to an IMS Common Queue Server subsystem.

**TABLE**
Is used with the /TRACE command to start online tracing, which allows a given trace table to be started or stopped, and specifies which components should be traced in a common trace table. This keyword is also valid with /DISPLAY TRACE, which shows the status of table traces.

**TAKEOVER**
Is used with /TRACE LINK, /TRACE LINE, and /TRACE NODE to trace terminals during XRF takeover.

**TCO**
Is used with the /TRACE command to activate or deactivate tracing for the Time-Controlled Operation (TCO). TCO is also used with the /DISPLAY TRACE command to show whether the tracing for the TCO is active or inactive.

**TDS**
Is used with the /COMPT and /RCOMPT commands to notify IMS that a transmit data set is operable or inoperable.
Keyword Summary

TERMINAL
Refers to the terminal security specifications of the IMS Security Maintenance utility. TERMINAL is used with the following commands:

/DELETE, to eliminate terminal security for a specified transaction.
/MODIFY PREPARE, to add terminal security.
/NRESTART, to request that the terminal security specifications of the IMS Security Maintenance Utility be in effect at completion of the restart process.
/SCCOPY, to control the printing of command output to the secondary master terminal when commands are issued from terminals other than the master terminal.

THREAD
Is used with the /STOP command to stop a CCTL thread.

TIMEOUT
Is used with the /CHANGE SURVEILLANCE command to change a timeout value of a particular surveillance mechanism in an XRF environment. The timeout value controls the length of time the alternate system allows to elapse without a positive signal from the active system before requesting takeover or informing the operator of the potential failure.

TIMEOUT is also used with the /TRACE SET command to start or stop the IMS VTAM I/O Timeout facility. /DISPLAY TRACE TIMEOUT displays the status of the Timeout facility.

TIMEOVER
Supports the IMS VTAM I/O Timeout facility. The TIMEOVER keyword is used with the /DISPLAY command to display the VTAM nodes that have been waiting for a VTAM response for a longer time than your installation has specified with the /TRACE SET ON TIMEOUT command.

TMEMBER
Is used with the /DISPLAY command to display IMS Open Transaction Manager Access (OTMA) client status. It is also used with the /DISPLAY STATUS command to display all OTMA transaction pipes that are stopped.

It is used with the /DEQUEUE command to dequeue messages associated with an OTMA transaction pipe.

It is used with the /START and /STOP commands to cause IMS to resume or suspend sending of output to OTMA clients.

It is used with the /TRACE SET and /DISPLAY TRACE commands to set and display traces for OTMA transaction pipes.

TPIPE
Is used with the /DISPLAY command to display IMS Open Transaction Manager Access (OTMA) client status.

It is used with the /DEQUEUE command to dequeue messages associated with an OTMA transaction pipe.

It is used with the /START and /STOP commands to cause IMS to resume or suspend sending of output to OTMA clients.

It is used with the /TRACE command to trace transaction pipe activity for OTMA clients.

To remove TPIPEs from the IMS memory, perform a COLD START or COLD COMM.
TPNAME
Refers to the TPNAME of an LU 6.2 application program or destination. When used with the LUNAME keyword, TPNAME must follow LUNAME.

With any command other than /CHANGE DESCRIPTOR, a TPNAME parameter of DFSSIDE can be used to indicate that the specified LUNAME parameter represents the APPC/MVS side information entry name.

The TPNAME parameter can be up to 64 alphanumeric characters long.

This keyword can be used with the following commands:
/ALLOCATE /START
/CHANGE DESCRIPTOR /STOP
/DEQUEUE /TRACE
/DISPLAY

TRACE
Is used with the /DISPLAY command to examine the status and options of the current IMS traces.

TRACKING
Is used with the /DISPLAY command to display the RSR tracking status on either the active or RSR tracking subsystem.

TRACKING is valid on active or RSR tracking subsystems.

TRACKING STATUS
Is used with the /DISPLAY TRACKING STATUS command to display the status of a tracking subsystem.

TRANAUTH
Is used with the /ERESTART and /NRESTART commands to specify both the transaction authorization and user identification, with or without RACF, that will be in effect at the end of the restart.

TRANCMDS
Is used with the /ERESTART and /NRESTART commands to request that transaction command security be in effect at the end of the restart.

TRANCMDS is also used with the /MODIFY PREPARE command to add transaction command security.

TRANSACTION
Refers to a transaction code. Valid parameters are from 1 to 8 alphanumeric characters long.

This keyword is used with the following commands:
/ASSIGN /PURGE
/CHANGE QUERY
/DELETE /SET
/DEQUEUE /START
/DISPLAY /STOP
/LOCK /TRACE
/MSASSIGN /UNLOCK
/PSTOP UPDATE

TRAP
Is used with the /TRACE command to enable certain MFS serviceability enhancements. TRAP is also used with /DISPLAY TRACE to show the status of the trap trace.

TRKAUTOARCH
Is used to indicate that the RSR tracking system is to initiate a request to start the automatic archiving of the tracking log data sets. TRKAUTOARCH allows
the user to start automatic archive after automatic archive has been terminated following archive data set full conditions.

**TRS**
Is used with the /DISPLAY MODIFY command to display transactions with work in progress that could prevent an online change from succeeding.

**TYPE**
Is used with the /CHANGE DESCRIPTOR command to refer to the APPC conversation type, which is either BASIC or MAPPED.

**UDATA**
Is used with the /OPNDST command to indicate the user data used with the logon. (The format of keyword and data: UDATA user data). The user data can include a logon descriptor name, a signon descriptor name, resource access control facility (RACF) access and authorization data, and user information used by a user exit.

**UDS**
Is used with the /COMPT and /RCOMPT commands to notify IMS that a user data set is operable or inoperable.

**UNITYPE**
Is used with the /TRACE command to trace all terminals of a specific type.

**UNPLAN**
Is used with the /RTAKEOVER command to specify an unplanned remote takeover. UNPLAN is valid only on the RSR tracking subsystem.

**UOR**
Is used with the /DISPLAY and /CHANGE commands to determine and specify units of recovery involved in protected conversations using RRS/MVS.

**USEDBDS**
Is used with the /RECOVER ADD command and specifies that Online Recovery Service will not restore database data sets or areas specified in the command with image copies.

**USER**
A user can be a person signed onto a terminal or an ISC subpool. The USER keyword is used with:
- The /NRESTART command to request that user identification verification be in effect at the end of the normal restart.
- Commands that support ISC nodes, in which case the user can be either:
  - A dynamically created ISC user
  - An ISC static user, which is an ISC user defined by the SUBPOOL macro in a system definition.

In this case, the USER keyword refers to a collection of logical terminals that can be allocated to an ISC node and used with parallel sessions. It is valid only for ISC nodes defined with a dynamically allocated set of logical terminals.

When the USER keyword is specified with the NODE keyword, the USER keyword must follow the NODE specification. When the NODE is statically defined, the NODE USER combination can be used only with a command related to an ISC parallel session on that terminal.

- Commands that support dynamic terminals and users, in which case the user is created dynamically and can be ISC or non-ISC. If the term “dynamic user” is used in reference to signing on to a node, the user is a non-ISC user.
In this case, the USER keyword refers to a collection of logical terminals associated with a user ID that can be signed on to an ACF/VTAM node. When specified with the NODE keyword, USER must follow the NODE specification. If the NODE USER descriptor is used to sign on, the USER keyword parameter must be the node name.

- The /DISPLAY command, in which case the user is signed onto a static terminal and is a non-ISC static user.

The USER keyword refers to a user ID that is defined to an enhanced security product such as RACF. A user ID signed on to a statically defined terminal can be used only as a parameter with the /DISPLAY USER command. Table 16 shows the commands that support the USER keyword. It also includes commands that support the USER keyword for dynamic users only.

**Table 16. Commands That Support the USER Keyword**

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**USERD**

Is used with the /OPNDST command to indicate the user descriptor used with the signon.

**USERID**

Is used in the DELETE LE, QUERY LE, and UPDATE LE commands. It is used as a filter to add, delete, or display entries in the Language Environment (LE) runtime parameter override table.

**VGRS**

Is used with the /START and /STOP commands to cause IMS to join or leave a VTAM generic resources group. For the /START command, this keyword also allows you to specify the generic resource name if IMS does not already have one.
Keyword Summary

**VID**
Is used with the `/COMPT` and `/RCOMPT` commands to notify IMS that a display component is either operable or inoperable.

**VOLUME**
Is used with the `/TRACE SET ON|OFF TABLE|PI` command to specify the volume of tracing to be done: low, medium, or high.

**VTAMPOOL**
Is used with the `/ASSIGN USER` command to deallocate an entire string of LTERMs defined for a user.

**WADS**
Is used with the `/START`, `/STOP`, and `/SWITCH` commands to add a write-ahead data set (WADS) to the pool of available WADS, to remove one from the pool, or to switch to a new one.

**WPM1**
Is used with the `/COMPT` and `/RCOMPT` commands to notify IMS that the word-processing component is either operable or inoperable.

**WPM2**
Is used with the `/COMPT` and `/RCOMPT` commands to notify IMS that the word-processing component is either operable or inoperable.

**WPM3**
Is used with the `/COMPT` and `/RCOMPT` commands to notify IMS that the word-processing component is either operable or inoperable.

**XRCTRACK**
Is used in the `/START` and `/STOP` commands. This keyword results in calls to the log router to initiate or terminate XRC tracking. It is only valid on a tracking IMS system.

**XTRC**
Is used with `/DISPLAY TRACE` to show the XTRC status in order to determine which external trace data set is active, whether the OLDS is used for trace logging, whether XTRC is usable, and the status of the XTRC data sets.
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Chapter 3. /ACTIVATE

Format

```
ACTivate
```

Environments and Keywords

Table 17 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

**Table 17. Valid Environments for the /ACTIVATE Command and Keywords**

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ACTIVATE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LINK</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NODE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/ACTIVATE is used to activate VTAM nodes or MSC links with a VTAM "VARY NET, ACTIVE" command. /ACTIVATE can also be used to undo the conditions set by the /IDLE command. /ACTIVATE is used with the IMS VTAM I/O Timeout Detection Facility.

**LINK**

Specifies the MSC links to be activated.

**NODE**

Specifies the VTAM nodes to be activated.

Examples

**Example 1 for /ACTIVATE Command**

**Entry ET:**

```
/ACTIVATE LINK 1
```

**Response ET:**

```
DFS058I ACTIVATE COMMAND COMPLETED
```

Explanation: Link 1 has been activated.

**Example 2 for /ACTIVATE Command**

**Entry ET:**

```
/ACTIVATE NODE ABC
```
Response ET:
DFS058I ACTIVATE COMMAND COMPLETED

Explanation: Node ABC has been activated.
Chapter 4. /ALLOCATE

Format

```
/ALLOCATE LUNAME luname TPNAME tpname
/ALL

MODE modename
NONE
```

Environments and Keywords

Table 18 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ALLOCATE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LUNAME</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>MODE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TPNAME</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/ALLOCATE is a multisegment command similar to the /OPNDST command for VTAM terminals. It causes IMS to allocate a conversation to the specified LUNAME and TPNAME if any output is queued in IMS for that destination. If no such output exists, the command has no effect and (in a nonshared-queues environment) an error message is issued.

The /ALLOCATE command is used for delivering asynchronous output when the LU 6.2 device is available. The command can be originated by the remote LU 6.2 device for this purpose.

/ALLOCATE requires an end-of-message (EOM) indicator. An end-of-segment (EOS) indicator must be included for all segments preceding the last segment. For more information, see "Multisegment Command Input" on page 7.

After the syntax checking of the /ALLOCATE command is successfully completed, the DFS058 ALLOCATE COMMAND COMPLETED message is issued and processing of the command continues asynchronously.

LUNAME

Specifies the LU name of the LU 6.2 application program that is to be allocated. A network-qualified LU name is optional for the LUNAME keyword.

MODE

Identifies the LOGON MODE table entry that VTAM uses to determine the session operating characteristics. NONE, which can be used as a MODE keyword parameter, resets the MODE field to its null state.

For more information on the MODE value, see IMS Version 8: Administration Guide: Transaction Manager.
TPNAME

Specifies the TP name of the LU 6.2 application program that is to be allocated.
Chapter 5. /ASSIGN

Format

```
/ASSIGN

CLASS cls# TO
REGION reg#

CPRI cpri# TO
TRANSACTION tranname

INPUT LTERM ltermname

LMCT lct# TO

LPRI lpri# TO

LTERM ltermname

TRANSACTION tranname

PRIMARY

NPRI npri# TO
TRANSACTION tranname

OUTPUT LTERM ltermname

TRANSACTION tranname

PARLIM parlim#

PLMCT plct#

SEGNO seg#

SEGSIZE segsz#

TRANSACTION tranname

CLASS cls#

USER username

USER username

SAVE

NOSAVE

VTAMPOOL

A:

LINE line# PTERM pterm#

ICOMPONENT icompt#

B:

LINE line# PTERM pterm#

LTERM ltermname

NODE nodename

USER username

SAVE

NOSAVE
```
Environments and Keywords

Table 19 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 19. Valid Environments for the /ASSIGN Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ASSIGN</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>CLASS</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>COMPONENT</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>CPRI</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>ICOMPONENT</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>INPUT</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LINE</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LMCT</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>LPRI</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>LTERM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NODE</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NOSAVE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NPRI</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>OUTPUT</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PARLIM</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>PLMCT</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PTERM</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>REGION</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Table 19. Valid Environments for the /ASSIGN Command and Keywords (continued)

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAVE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SEGNO</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SEGSIZE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TRANSACTION</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>USER</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>VTAMPOOL</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/ASSIGN alters the relationships between various IMS resources and resets certain values specified during IMS system definition.

Most changes made by the /ASSIGN command remain in effect until changed with another /ASSIGN command, or an IMS cold start (/NRESTART CHECKPOINT 0) is performed.

When dynamic LTERMs are assigned to dynamic users with the /ASSIGN LTERM TO USER command, or dynamic users are assigned to dynamic users with the /ASSIGN USER TO USER command, changes remain in effect only if the following conditions are true:

- The SAVE keyword is used.
- SAVE and NOSAVE keywords are omitted, but ASSNCHANGE=S SAVE is specified in the DFSDCxxx PROCLIB member.

Otherwise, changes are lost when the destination user is deleted during user sign-off or IMS checkpoint.

Changes that affect regions, such as CLASS, are only in effect until the region terminates. For information on changing multiple systems assignments, see Chapter 35, “/MSASSIGN,” on page 417.

**Recommendation:** Use the /ASSIGN command consistently on all IMS subsystems that are members of a VTAM generic resources group or share IMS queues. For example, assign an LTERM to a specific node for all IMS subsystems; assigning one LTERM to different nodes on different IMS subsystems could cause unpredictable results.

The /ASSIGN command is mirrored on an XRF alternate environment unless the assignment involves the primary or secondary master terminal, or the assignment of a CLASS to a REGION.

/ASSIGN commands attempting to assign LTERMs or users between static and dynamic terminals receive a unique error message. An error message is issued if /ASSIGN attempts any of the following:

- To assign a dynamic LTERM to a static USER.
- To assign a static USER to a dynamic USER.
- To assign a dynamic USER to a static USER.
- To assign a dynamic LTERM to a LINE or NODE.
- To assign a static LTERM to a dynamic USER.
Restriction: You cannot use the /ASSIGN command to assign a user structure to a node that does not exist. Use the /OPN NODE nodename USER username command instead.

/ASSIGN in an IMSplex

In an IMSplex, the /ASSIGN LTERM and /ASSIGN USER commands alter the relationships between one or more logical terminals and a physical terminal or user.

Static Terminals

For static terminals in an IMSplex, the control blocks should exist in all the IMS systems where a user could possibly log on to that terminal. If /ASSIGN LTERM TO NODE is specified in an IMSplex, it should be issued from the Single Point Of Control (SPOC) application. If ROUTE is specified, it should be specified as ROUTE(*). Otherwise, the /ASSIGN command may not be processed consistently across the IMSplex and could cause unpredictable results. If one of the /ASSIGN commands fails, that IMS will send back a completion code to the Operations Manager (OM) indicating failure. It will be up to the IMS installation to correct that problem.

/ASSIGN LTERM TO NODE assigns the input and output capabilities of a logical terminal to a static VTAM node. The logical terminal may not be in conversational, response, or preset destination mode. The source and destination terminals do not need to be stopped or logged off.

If global resource information is not kept in the Resource Manager (RM) and the node exists locally, this command applies locally. If global resource information is kept in RM, this command applies globally, if the control blocks exist in RM. However, the assignment changes are not considered significant, and if the resource is deleted, the assignment changes are deleted as well. An LTERM that exists in the RM could be deleted if the static node to which it is assigned does not exist in the RM. If NODEA and LTERMA exist in the RM because the node is in exclusive mode, but static NODEB is not in RM, an /ASSIGN LTERM LTERMA NODE NODEB command would result in LTERMA being deleted in RM.

The IMS where the LTERM and node are active, or the command master if the resources are not active, will make the changes in the RM. In this case, “active” includes the case where the terminal is logged off, but has an RM affinity to a particular IMS. For /ASSIGN LTERM TO NODE, the LTERM and node might not be active in different IMSs.

When the log on of a static node attempts to write its LTERM names to the RM, but one or more of the LTERM names are already in use, IMS will reject the log on. This error should occur only if there are inconsistent definitions, or there have been inconsistent /ASSIGN commands issued in the IMSplex.

Dynamic Terminals

/ASSIGN LTERM TO USER assigns the input and output capabilities of an ETO logical terminal to an ETO user or a static ISC logical terminal to a static ISC subpool. The logical terminal may not be in conversational, response, or preset destination mode. The source user associated with the ETO LTERM might not be signed on. The destination ETO user does not have to be stopped. If global resource information is not kept in RM and the user exists locally, this command applies locally. If global resource information is kept in RM, this command applies globally (if the control blocks exist in RM). However, the assignment changes are not considered significant, and if the resource is deleted, the assignment changes are deleted as well. The IMS where the LTERM and node are active, or the command master if the resources are not active, will make the changes in the RM.
Use /ASSIGN LTERM TO USER with the SAVE keyword in an RM environment, to cause the assignment to persist and to apply the change to future IMSs that join the IMSplex. The SAVE keyword is valid only for dynamic terminals, so this persistence function is not available for static terminals. Use /ASSIGN LTERM TO USER with the NOSAVE keyword in an RM environment, to stop applying the change to future IMSs that join the IMSplex.

/ASSIGN USER TO USER assigns all the logical terminals associated with the source user to the destination user. The destination user, if dynamic, does not have to be stopped. If global resource information is not kept in RM and the user exists locally, this command applies locally. If global resource information is kept in RM, this command applies globally. Use /ASSIGN USER TO USER with the SAVE keyword in an RM environment to cause the assignment to persist and to apply the change to future IMSs that join the IMSplex. The SAVE keyword is valid only for dynamic terminals, so this persistence function is not available for static terminals. Use /ASSIGN USER TO USER with the NOSAVE keyword in an RM environment to stop applying the change to future IMSs that join the IMSplex.

The /ASSIGN command is allowed when the destination user does not exist. However, when resource information is being kept in RM, unless the SAVE keyword is used, this command will not be allowed. Assignments are not considered significant without the SAVE keyword, and if the user doesn’t already exist due to some other significant status, there is no reason to create the user.

IMS will dynamically create the source LTERM or user (if it does not exist) to enable the /ASSIGN command. If the destination also does not exist, the SAVE keyword must be specified on the /ASSIGN command. Otherwise, the SAVE keyword is optional.

**BTAM and VTAM**

IMS supports the assignment of an LTERM between BTAM and VTAM terminals. However, IMS will not save any BTAM status. For example, if an LTERM is assigned from VTAM to BTAM, the LTERM will be deleted from the RM, and any status that might have been associated with that LTERM will no longer be recoverable.

**Keywords and Parameters**

**CLASS**

Specifies either the classes of transactions that a message processing region can schedule or the message processing class of a transaction.

The /ASSIGN CLASS cls# (TO) REGION reg# command can include up to four class parameters and replaces the class values that existed previously. Valid class parameters are numeric values from 1 to 255.

For static transactions, the CLASS parameter (cls#) is initially set by system definition using the TRANSACT macro statement. For CPI communications driven transactions, the initial value is obtained from the TP profile. For more information on the CPI Communications interface transactions, see IMS Version 8: Administration Guide: Transaction Manager.

**COMPONENT**

Allows output for a logical terminal to be directed to a specific component of a physical terminal. The COMPONENT parameter, which can have values 1, 2, 3 or 4, indicates the terminal component that should receive the output. Parameter values other than 1 are valid for the 3275 and SLU 1 terminals, as well as type 1 and type P secondary logical units. When assigning a
COMPONENT value from a terminal with components to a terminal without components, give the compt# a value of 1.

Table 20 shows the relationships between COMPONENT values and terminals. The first column lists the terminal, the second and third columns list the COMPONENT parameters that can have values of 1, 2, 3, or 4.

Table 20. Relationships Between COMPONENT/ICOMPONENT Values and Terminals

<table>
<thead>
<tr>
<th>Terminal</th>
<th>1</th>
<th>2/3/4</th>
</tr>
</thead>
<tbody>
<tr>
<td>3275</td>
<td>Video</td>
<td>Printer</td>
</tr>
<tr>
<td>3770</td>
<td>Console/Printer</td>
<td>Defined in TERMINAL macro on logon descriptor during system definition.</td>
</tr>
<tr>
<td>SLU 1</td>
<td>Defined in TERMINAL macro on logon descriptor during system definition.</td>
<td></td>
</tr>
<tr>
<td>SLU P terminal</td>
<td>Defined in TERMINAL macro on logon descriptor during system definition.</td>
<td></td>
</tr>
<tr>
<td>SLU 4</td>
<td>Defined in TERMINAL macro during system definition.</td>
<td></td>
</tr>
</tbody>
</table>

CPRI
Specifies a new value for the current priority of a transaction. The CPRI keyword is not allowed for BMP transactions, since BMP transactions should always have a priority of 0. The new CPRI value takes effect the next time the transaction is scheduled. Valid CPRI parameters are numeric values from 0 to 14.

ICOMPONENT
Specifies the input component of a logical terminal to be directed to a specific component of a physical terminal. The ICOMPONENT parameter, which can have values 1, 2, 3, or 4, indicates the terminal component that should receive the input. Parameter values other than 1 are valid for the 3275 and SLU 1 terminals, as well as type 1 and type P secondary logical units. When assigning from a terminal with components to a terminal without components, give icompt# a value of 1. See Table 20 for relationships between ICOMPONENT values and terminal components.

INPUT
Specifies that the input capability of a logical terminal is to be assigned to a given nonswitched physical terminal without affecting the output assignment. More than one physical terminal can be assigned as input for a logical terminal, but the logical terminal used must be the first logical terminal in a “chain.”

LINE
Specifies the BTAM line to which the input or output capabilities (or both) of a logical terminal are to be assigned. The physical terminal must not be on a switched line, in conversational, response, or preset destination modes.

LMCT
Specifies a new value for the limit count of a transaction. The new LMCT value takes effect during execution of the transaction. Valid LMCT parameters are numeric values from 1 to 65535.

LPRI
Specifies a new value for the limit priority of a transaction. The LPRI keyword is not allowed for BMP transactions, since BMP transactions should always have a priority of 0. The new LPRI value takes effect the next time the transaction is scheduled. Valid LPRI parameters are numeric values from 0 to 14.
LTERM

LTERM assigns the input and output capabilities of a logical terminal to the given nonswitched physical terminal or terminals.

If you specify /ASSIGN LTERM with LINE/PTERM selected, the first physical terminal (LINE/PTERM specification) is the input assignment. The second physical terminal (LINE/PTERM specification) is the output assignment. If there is no second physical terminal specification, then the first physical terminal specification is also the output assignment.

If you specify /ASSIGN LTERM [TO] NODE, the node specification is the input and output assignment.

No response is sent to a terminal referenced in an /ASSIGN command. The logical terminal must not be an inquiry logical terminal and must not have queueing or dequeuing of messages in progress.

LTERMs created dynamically can be assigned to dynamically created users. Static logical terminals can be assigned to other static terminals. Dynamic logical terminals cannot be assigned to lines, static nodes, dynamic nodes, or static users. /ASSIGN commands that split the logical terminal so that the input LTERM is associated with one node and the output is associated with another node are not allowed for any ACF/VTAM terminals.

Physical Terminal Considerations

The physical terminal named in the command or indirectly referred to by being associated with a logical terminal in the command must not be on a switched line, in conversational, response, or preset destination modes. If a user logical terminal is specified, no logical terminal in the subpool can be currently signed on, and the line and physical terminal for input and output must be the same. If message processing programs are dependent upon a particular LTERM-to-component assignment, this relationship must be maintained by the operator.

MSGDEL processing for an LTERM is based on how the MSGDEL option was defined:

- For static LTERMs defined during system definition as part of the VTAMPOOL for ISC support and for dynamic LTERMs, the MSGDEL options of the users must match when moving LTERMs between the users.
- For all other static LTERMs, the MSGDEL option is defined in the TERMINAL macro for the associated physical terminal.
- If a terminal’s MSGDEL capabilities are defined in the TERMINAL macro as MSGDEL=NONIOPCB, assignment of an LTERM can take place only if the LTERM’s message queues are empty, except when the LTERM is assigned to a terminal also defined as MSGDEL=NONIOPCB.
- If a terminal’s MSGDEL capabilities are defined as MSGDEL=SYSINFO or NOTERM, assignment of an LTERM can take place only if the LTERM’s system message queue is empty, except when the LTERM is assigned to a terminal defined as MSGDEL=SYSINFO or NOTERM, or MSGDEL=NONIOPCB.

Master Terminal Considerations

The primary and secondary master terminals cannot be assigned to a user, an input-only or output-only device, a terminal in response mode, an unattended type 1 secondary logical unit terminal, an ISC node, or NTO terminal, or dynamic node. The LINE/PTERM or NODE to which the master
terminal is to be assigned must be started and in an operable state. The line and physical terminal for input and output must be the same.

When a 3270 is designated as the master terminal during IMS system definition, two master logical terminals are generated. One, referred to as the primary master terminal, must be assigned to a 3270 display (3275/3276/3278/3279) for all input and output messages. The other, referred to as the secondary master terminal, must be assigned to a 3270 printer (3284/3286/3287/3288/3289) for certain IMS-selected output messages.

To move a single master logical terminal from one physical terminal to another physical terminal (for example, the secondary master from one 3284 to another 3284, or the primary master from one 3277 to another 3277) without moving the other, use the formats of /ASSIGN LTERM command with one LINE/PTERM or NODE, and specify the LTERM name of the master terminal.

You can use either of the following commands:
- /ASSIGN LTERM ltermname (TO) NODE nodename
- /ASSIGN LTERM ltermname (TO). LINE line# PTERM pterm#

**PRIMARY Parameter**

The reserved parameter PRIMARY can be used with the LTERM keyword to change both the primary and secondary master terminals assignments to other physical terminals concurrently. The command formats used with the PRIMARY parameter are:

- /ASSIGN LTERM PRIMARY (TO) LINE line#1 PTERM pterm#1/NODE nodename#1
- /ASSIGN LTERM PRIMARY (TO) (LINE line#1 PTERM pterm#1/NODE nodename1)(LINE line#2 PTERM pterm#2/NODE nodename2)

These two formats can reassign:
- The 3270 primary and 3270 secondary master terminals to different 3270 physical terminals, where pterm#1 or nodename1 is a 3270 display and pterm#2 or nodename2 is a 3270 printer.
- A 3270 master terminal complex to a non-3270 master terminal, where pterm#1 or nodename1 is a 2740.
- A non-3270 master terminal to a 3270 display and 3270 printer, where pterm#1 or nodename1 is a 3270 display and pterm#2 or nodename2 is a 3270 printer.

The first LINE/PTERM or NODE specifies the display device to which the primary master logical terminal is to be assigned. The second LINE/PTERM or NODE specifies the printer device to which both the input and output capabilities of the secondary are to be assigned. If only one LINE/PTERM or NODE is specified, then the input and output capabilities of the primary
master logical terminal and the secondary master logical terminal are assigned to the same LINE/PTERM or NODE.

**Data Considerations**

IMS does not edit data destined for a logical terminal when an /ASSIGN LTERM or /ASSIGN USER command is executed that affects physical terminal to logical terminal relationships. Ensure that data that is to be sent to a given physical terminal is suitable for transmission to a different physical terminal. For example, a print line (segment) 144 characters long destined for a 2780 terminal with a terminal 144-character printer will not print correctly if the logical terminal is assigned to a 2740 terminal with a maximum line size of 130 characters. If the Message Format Service (MFS) is used and the FMT definition included the second device, the change of physical terminal from one MFS-supported device to another MFS-supported device will produce correct output.

For a description of logical terminals (LTERMs), see [IMS Version 8: Administration Guide: System](https://www.ibm.com). The command formats used with the /ASSIGN LTERM ltermname command are:

- `/ASSIGN LTERM ltermname [TO] LINE line#1 PTERM pterm#1`

This command format assigns the input and output capabilities of the logical terminal to LINE line#1 PTERM pterm#1. This command is not valid if the LTERM is dynamic.

- `/ASSIGN LTERM ltermname [TO] LINE line#1 PTERM pterm#1 LINE line#2 PTERM pterm#2`

This command format assigns the input capability of the logical terminal to the first LINE/PTERM pair and assigns the output capability of the logical terminal to the second LINE/PTERM pair. This command is not valid if the LTERM is dynamic.

- `/ASSIGN LTERM ltermname [TO] LINE line#1 PTERM pterm#1 PTERM pterm#2`

This command format assigns the input capability of the logical terminal to LINE line#1 PTERM pterm#1 and assigns the output capability of the logical terminal to the same LINE, line#1, but to a different PTERM, pterm#2. This command is not valid if the LTERM is dynamic.

- `/ASSIGN LTERM ltermname [TO] NODE nodenamez`

This command format assigns the input and output capabilities of the logical terminal to NODE nodename. This command is not valid if the LTERM or NODE is dynamic.

- `/ASSIGN LTERM ltermname1 [TO] LTERM ltermname2`

This command format allows an input chain to be moved to a symbolic location, rather than to a specific line and physical terminal. The [TO] line and terminal are determined by the current assignment of the specified [TO] logical terminal. With this format, the output assignment is not affected. This form of the /ASSIGN command is invalid for ISC nodes defined for parallel sessions, and it is not supported for LTERMs associated with VTAM terminals.

- `/ASSIGN LTERM ltermname [TO] USER username`
ASSIGN

This command format assigns the logical terminal to the given user. When moving logical terminals between users, the MSGDEL options of the users as defined during system definition or on user descriptor must match. The user related to LTERM ltermname must not be signed on in conversation, in response mode, or in preset mode. For 3600/FINANCE, SLU P, and ISC, the user (username) can remain allocated due to terminal message resynchronization requirements. However, the user cannot be signed on because the associated terminal session must be stopped and idle. The user can be allocated, but, if allocated, must be associated with a session that is stopped and idle. This command will turn off the DEADQ status for the user associated with LTERM ltermname.

NODE
Specifies the VTAM terminal to which the input and output capabilities of a logical terminal are to be assigned. The node must not be dynamic, or in conversational, response, or preset destination modes. If a session with a VTAM terminal is terminated after a message is sent but before the response has been received, message resynchronization is necessary for this terminal. The output message for which no response was received must remain associated with this terminal until message resynchronization determines when the terminal received the message. If you use the /ASSIGN command to move the message to a different terminal, message resynchronization is no longer possible.

NOSAVE
Indicates that the assignment changes specified by the /ASSIGN command are lost when control blocks are deleted by the system when they are no longer needed. Omitting SAVE and NOSAVE causes the system-wide default to be used, as specified by the ASSNCHANGE parameter in the DFSDCxxx PROCLIB member.

NPRI
Specifies a new value for the normal priority of a transaction. The NPRI keyword is not allowed for BMP transactions, because BMP transactions should always have a priority of 0. The new NPRI value takes effect the next time the transaction is scheduled. Valid NPRI parameters are numeric values from 0 to 14.

OUTPUT
Specifies that the output capability of a logical terminal is to be assigned to a given nonswitched physical terminal, without affecting the input assignment. OUTPUT is invalid for ISC nodes defined for parallel sessions.

PARLIM
Specifies a new value for the parallel processing limit count of a transaction. parlim# is the maximum number of messages that can currently be queued, but not yet processed, by each active message region currently scheduled for this transaction. An additional region will be scheduled whenever the transaction queue count (for shared queues environments, the successful consecutive GU count is used instead of the queue count) exceeds the PARLIM value multiplied by the number of regions currently scheduled for this transaction. Valid PARLIM parameters are numeric values from 0 to 32767 and 65535, where 65535 disables transaction load balancing. /ASSIGN PARLIM is not valid for CPI Communications driven transactions.

PLMCT
 Specifies a new value for the processing limit count of a transaction. The
PLMCT is the number of messages of this transaction code that a program can process in a single scheduling. The new PLMCT values take effect the next time the transaction is scheduled. Valid PLMCT parameters are numeric values from 0 to 65535.

/ASSIGN PLMCT is not valid for CPI Communications driven transaction programs.

**PTERM**
Specifies the BTAM physical terminal to which the input or output capabilities (or both) of a logical terminal are to be assigned.

**REGION**
Specifies the message processing region being assigned new classes of transactions that the region can schedule.

**SAVE**
Prevents deletion of user and LTERM control blocks across session and IMS restarts. Control blocks will be retained until the NOSAVE keyword is used with the /ASSIGN command. Omitting SAVE and NOSAVE causes the system-wide default to be used, as specified by the ASSNCHANGE parameter in the DFSDCxxx PROCLIB member.

**SEGNO**
Creates or changes the limit on the number of application program output segments allowed in message queues for each GU call. Segment limits will be established by transaction code, thereby allowing specification of more than one value for each application program. The new SEGNO value takes effect during execution of the transaction. Valid SEGNO parameters are numeric values from 0 to 65535.

/ASSIGN SEGNO is not valid for CPI Communications driven transaction programs.

**SEGSIZE**
Creates or changes the limit on the size of application program output segments allowed in message queues for each GU call. The new SEGSIZE value takes effect during execution of the transaction. Valid SEGSIZE parameters are numeric values from 0 to 65535.

/ASSIGN SEGSIZE is not valid for CPI Communications driven transaction programs.

**TRANSACTION**
Specifies the transaction being assigned to a message processing class or being assigned a value. The new class takes effect the next time the transaction is scheduled.

**USER**
Assigns logical terminals to ISC half-sessions or to dynamic users. When moving logical terminals between users, the MSGDEL options of the users must match. The MSGDEL option for the static ISC users is defined in the SUBPOOL macro during system definition. The MSGDEL option for dynamic terminals is defined in the OPTIONS keyword of the ETO USER descriptor. /ASSIGN USER to VTAMPPOOL is not valid if USER is not ISC.

/ASSIGN LTERM ltermname (TO) USER username assigns the logical terminal to another USER. The user associated with LTERM ltermname must not be allocated. The USER username can be allocated, but it must be associated with a session that is stopped and idle, if allocated.
Note: Assigning an LTERM is not a permanent action. When the destination structure is deleted (for example, with \SIGN OFF) IMS discards information about the assignment. When the original dynamic user who owned that dynamic LTERM signs on again or gets a message switch, the dynamic LTERM is recreated for the original dynamic user.

If SAVE is specified, the dynamic user is not deleted unless another \ASSIGN command with the NOSAVE keyword is issued.

\ASSIGN USER username1 (TO) USER username2 assigns a string of logical terminals to another USER. The first user (username1) in the command must contain at least one logical terminal and must not be signed on, in conversation, in response mode, or in preset mode. For 3600/FINANCE, SLU P, and ISC, the second user (username2) can remain allocated due to terminal message resynchronization requirements. However, the user cannot be signed on and associated terminal sessions must be stopped and idle. This command turns off the DEADQ status for USER username1.

In addition to the ISC rules and restrictions, following dynamic terminal restrictions also apply. The \ASSIGN USER to USER and \ASSIGN LTERM to USER commands are rejected if the source or destination dynamic user is in conversation mode, response mode, or preset mode. The second USER can be allocated, but it must be associated with a session that is stopped and idle, if allocated.

When existing dynamic LTERMs or dynamic users are assigned to a destination user that doesn’t exist, the destination user is created unless it is rejected by the DFSINSX0 user exit.

VTAMPOOL
Is valid only for VTAM ISC sessions. It is used to force a cold start of an ISC session that cannot perform a successful restart.

\ASSIGN VTAMPOOL deallocates an entire string of logical terminals allocated to a given USER. The user must not be signed on, in conversation mode, response mode, or preset mode, and the terminal must be stopped and idle. This command is valid for static and dynamic ISC users.

Examples

Example 1 for /ASSIGN Command

Entry ET:

/ASSIGN CLASS 5 TO REGION 3

Response ET:

DFS058I ASSIGN COMMAND COMPLETED

Explanation: Class 5 is assigned to region 3. Class 5 transactions are scheduled into region 3. This command resets any previous class assignments to this region.

Example 2 for /ASSIGN Command

Entry ET:

/ASSIGN CLASS 4 6 2A TO REGION 5

Response ET:
DFS058I ASSIGN COMMAND COMPLETED EXCEPT CLASS 2A

Explanation: The requested assignment is complete except for 2A, which is an invalid class number.

Example 3 for /ASSIGN Command

Entry ET:
/ASSIGN CPRI 8 TO TRANSACTION PIT, SEED

Response ET:
DFS058I ASSIGN COMMAND COMPLETED

Explanation: A current priority of 8 is set for the transactions named PIT and SEED.

Example 4 for /ASSIGN Command

Entry ET:
/ASSIGN INPUT LTERM JONES TO LINE 4 PTERM 3

Response ET:
DFS058I ASSIGN COMMAND COMPLETED

Explanation: Logical terminal JONES is assigned to LINE 4 PTERM 3 for input identification and security. It associates the chain of logical terminals, of which LTERM JONES will be chained in first, with LINE 4 PTERM 3 for input. LTERM JONES must not be in the interior of an input chain (no other logical terminal can point to it). A physical terminal can point (for input only) to the first logical terminal of any chain. The output physical terminal for LTERM JONES is not changed.

Example 5 for /ASSIGN Command

Entry ET:
/ASSIGN LTERM APPLE TO LINE 5 PTERM 1

Response ET:
DFS058I ASSIGN COMMAND COMPLETED

Explanation: Logical terminal APPLE has both its input and output capabilities assigned to LINE 5 PTERM 1. The components present on LINE 5 PTERM 1 must be compatible with the physical terminal previously related to logical terminal APPLE.

Example 6 for /ASSIGN Command

Entry ET:
/ASSIGN LTERM APPLE TO NODE JONES

Response ET:
DFS058I ASSIGN COMMAND COMPLETED

Explanation: Logical terminal APPLE has both its input and output capabilities assigned to node JONES. The components present on node JONES must be compatible with the physical terminal previously related to logical terminal APPLE.
/ASSIGN

Example 7 for /ASSIGN Command
Entry ET:
/ASSIGN LTERM SMITH TO LINE 4 PTERM 6 PTERM 7 COMPONENT 2

Response ET:
DFS058I  ASSIGN COMMAND COMPLETED

Explanation: Logical terminal SMITH is assigned to LINE 4 PTERM 6 for input and LINE 4 PTERM 7 for output. Output for LINE 4 PTERM 7 is directed to COMPONENT 2.

Example 8 for /ASSIGN Command
Entry ET:
/ASSIGN LTERM X TO LINE 5 PTERM 7 PTERM 6 COMPONENT 4 ICOMPONENT 3

Response ET:
DFS058I  ASSIGN COMMAND COMPLETED

Explanation: Logical terminal X is assigned to LINE 5 PTERM 7 for input and to LINE 5 PTERM 6 for output. Input is only received from input component 3, while output is directed to component 4.

Example 9 for /ASSIGN Command
Entry ET:
/ASSIGN LTERM JONES TO LINE 4 PTERM 6 LINE 9 PTERM 1

Response ET:
DFS058I  ASSIGN COMMAND COMPLETED

Explanation: Logical terminal JONES is assigned to LINE 4 PTERM 6 for input capability and LINE 9 PTERM 1 for output capability. The component assignment is unaffected.

Example 10 for /ASSIGN Command
Entry ET:
/ASSIGN LTERM SMITH NODE JONES

Response ET:
DFS058I  ASSIGN COMMAND COMPLETED

Explanation: Logical terminal SMITH is assigned to node JONES for both input and output.

Example 11 for /ASSIGN Command
Entry ET:
/ASSIGN LTERM BROWN TO LTERM WHITE

Response ET:
DFS058I  ASSIGN COMMAND COMPLETED
Explanation: Logical terminal BROWN is removed from its present input chain (if one exists) of logical terminals and added to the end of the input chain (if one exists) of logical terminal WHITE. The output physical terminal for LTERM BROWN is not changed.

Example 12 for /ASSIGN Command

Entry ET:
/ASSIGN LTERM LAX USER ILL ICOMPONENT 1 COMPONENT 2

Response ET:
DFS058I  ASSIGN COMMAND COMPLETED

Explanation: Logical terminal LAX is reassigned from its existing user to the user ILL. The user associated with LAX cannot be allocated to an active session.

Example 13 for /ASSIGN Command

Entry ET:
/ASSIGN LTERM PRIMARY TO LINE 4 PTERM 3

Response ET:
DFS058I  ASSIGN COMMAND COMPLETED

Explanation: PTERM 3 on LINE 4 becomes the master terminal. PTERM 3 must be a 3270 display.

Example 14 for /ASSIGN Command

Entry ET:
/ASSIGN LTERM PRIMARY TO NODE BOSS

Response ET:
DFS058I  ASSIGN COMMAND COMPLETED

Explanation: The node, BOSS, becomes the primary master terminal and the secondary master terminal.

Example 15 for /ASSIGN Command

Entry ET:
/ASSIGN LTERM PRIMARY TO LINE 1 PTERM 2 LINE 2 PTERM 4

Response ET:
DFS058I  ASSIGN COMMAND COMPLETED

Explanation: PTERM 2 on LINE 1 becomes the primary master terminal and PTERM 4 on LINE 2 becomes the secondary master terminal. PTERM 2 is a 3270 display station and PTERM 4 is a 3270 printer.

Example 16 for /ASSIGN Command

Entry ET:
/ASSIGN SEGNO 50 TO TRANSACTION APPLE

Response ET:
DFS058I  ASSIGN COMMAND COMPLETED
Explanation: A limit of 50 output segments is set for the transaction APPLE.

Example 17 for /ASSIGN Command

Entry ET:
/ASSIGN SEGSIZE 1000 TO TRANSACTION APPLE

Response ET:
DFS058I ASSIGN COMMAND COMPLETED

Explanation: A maximum size of 1000 bytes is set for any one output segment of transaction APPLE.

Example 18 for /ASSIGN Command

Entry ET:
/ASSIGN USER ILL TO USER CAL

Response ET:
DFS058I ASSIGN COMMAND COMPLETED

Explanation: All the logical terminals of user ILL are appended to the existing LTERM string of user CAL. Use of this form of the /ASSIGN command leaves ILL with no LTERMs and therefore unavailable for allocation to a session. Both user ILL and CAL cannot be allocated to a session.

Example 19 for /ASSIGN Command

Entry ET:
/ASSIGN USER CAL TO VTAMPOOL

Response ET:
DFS058I ASSIGN COMMAND COMPLETED

Explanation: The entire allocated LTERM string defined for user CAL is reassigned to the VTAM pool. The node to which user CAL is allocated must not be in session and must be stopped and idle. User CAL is then available for allocation to any ISC session.

Example 20 for /ASSIGN Command

Entry ET:
/ASSIGN TRANSACTION APPLE TO CLASS 5

Response ET:
DFS058I ASSIGN COMMAND COMPLETED

Explanation: The transaction named APPLE is assigned to class 5.
Chapter 6. /BROADCAST

Format

Environments and Keywords

Table 21 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 21. Valid Environments for the /BROADCAST Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BROADCAST</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>ACTIVE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LINE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LTERM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Table 21. Valid Environments for the /BROADCAST Command and Keywords (continued)

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>MASTER</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>MSNAME</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NODE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PTERM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SYSID</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>USER</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**Usage**

/BROADCAST is a multisegment command used to send a message to terminals in one or more IMS systems. For /BROADCAST commands entered by the master terminal operator, the multisegment input from this command is combined into 79-character segments for output transmission. The first input segment contains only the broadcast destination. The second and subsequent input segments must contain the data to be broadcast. Messages that are broadcast are sent even if the line, terminal, or both, are stopped at the time the broadcast is issued.

All /BROADCAST formats require an EOM indication to denote end-of-message; an EOS indication must be included for all segments that precede the last segment. See “Multisegment Command Input” on page 7 for more detail on using EOM and EOS.

**Requirement:** When the /BROADCAST command is issued from an MCS/E-MCS console, OM API, or an AOI application, a period must appear as a delimiter between the command and the message text.

Unlike message switches, broadcast messages are sent to a terminal even when the terminal, associated line, or both, are not available (stopped, process stopped, or locked). However, broadcast messages are never sent to terminals if the MSGDEL parameter of the TERMINAL macro is specified MSGDEL=NONIOPCB.

Broadcast messages are always queued for logical terminals. When the ACTIVE, LINE, NODE, PTERM, or USER keywords are used, IMS queues the message for the first logical terminal found that is associated for output purposes with the specified line or physical terminal.

**ACTIVE**

Specifies that the supplied message is queued to the first LTERM allocated to each active node.

When operating on a dynamic terminal, the /BROADCAST ACTIVE command only succeeds if a signed on user exists. A signed on user must exist, otherwise there is no destination to which to send the message.

**LINE**

Specifies that a message is to be sent to all terminals associated with the specified line. PTERM specifies that the message is to be sent to specific terminals on the associated line.

**LTERM**

Specifies that a message is queued to each named LTERM in the local system or any remote system. The remote logical terminal must be defined in the input system.
Where a LTERM does not exist, IMS attempts to create the LTERM and associated user structure if ETO is active. LTERM parameters can be generic, where the generic parameter specifies logical terminals that already exist.

When /BROADCAST LTERM ALL is specified, one copy of the message is queued for each logical terminal in the local system. In a multiple systems configuration, the message is not sent to remote systems when the ALL parameter is used. When more than one logical terminal is assigned to a physical terminal for output purposes, multiple copies of the message will result.

When the LTERM keyword specifies a logical terminal assigned to the VTAM pool, broadcast messages are queued for the first logical terminal in a subpool.

MASTER
Specifies that a message is to be sent to the IMS master terminal and to any specified secondary master terminal. Keywords SYSID and MSNAME can be used to further qualify the reserved parameter MASTER.

MSNAME
Specifies the logical link path in a multiple systems configuration.

NODE
Specifies that the supplied message is queued to the first output LTERM allocated to a terminal. If a terminal has no signed on user, no message can be queued. NODE parameters can be generic, where the generic parameter specifies nodes that already exist.

When operating on a dynamic terminal, the /BROADCAST NODE command only succeeds if a signed on user exists. A signed on user must exist, otherwise there is no destination to which to send the message.

PTERM
Specifies the physical terminal to which a message is to be sent.

SYSID
Specifies the system identification of a system in a multiple system configuration.

USER
Specifies the supplied message is queued to the first LTERM associated with an existing USER parameter can be generic. The /BROADCAST USER command applies only to existing dynamic users.

In an IMSplex, /BROADCAST USER queues the supplied message to the first LTERM associated with a dynamic user, if the user is signed on locally. /BROADCAST USER may not be used to queue a message to an LTERM associated with a user signed on to another IMS in the IMSplex, or not signed on at all.

Examples

Example 1 for /BROADCAST Command

Entry ET:
/BROADCAST ACTIVE (EOS)
SYSTEM WILL BE SHUTDOWN FOR PM (EOS)
IN 5 MINUTES (EOM)

Response ET:
DFS058I  BROADCAST COMMAND COMPLETED
/BROADCAST

Response RT:

SYSTEM WILL BE SHUTDOWN FOR PM IN 5 MINUTES

Explanation: The entered message is transmitted to all active terminals.

**Example 2 for /BROADCAST Command**

Entry ET:

/BROADCAST TO LTERM APPLE, TREE (EOS)
DON'T USE TRANSACTION GREENTRE UNTIL FURTHER (EOS)
NOTICE. (EOM)

Response ET:

DFS058I BROADCAST COMMAND COMPLETED

Response RT:

DON'T USE TRANSACTION GREENTRE UNTIL FURTHER NOTICE.

Explanation: The entered message is transmitted to the logical terminals named APPLE and TREE.

**Example 3 for /BROADCAST Command**

Entry ET:

/BROADCAST TO LINE ALL (EOS)
SYSTEM WILL SHUTDOWN AT 5PM (EOM)

Response ET:

DFS058I BROADCAST COMMAND COMPLETED

Response RT:

SYSTEM WILL SHUTDOWN AT 5PM

Explanation: The entered message is transmitted to all physical terminals.

**Example 4 for /BROADCAST Command**

Entry ET:

/BROADCAST TO LINE 13 PTERM ALL (EOS)
EXPECT DEMO YOUR LINE AT 9PM (EOM)

Response ET:

DFS058I BROADCAST COMMAND COMPLETED

Response RT:

EXPECT DEMO YOUR LINE AT 9PM

Explanation: The entered message is transmitted to all physical terminals on line 13.

**Example 5 for /BROADCAST Command**

Entry ET:

/BROADCAST MASTER SYSID 2 (EOS)
SYSTEM WILL SHUTDOWN AT 5:00 PM (EOM)
Response ET:
DFS058I  BROADCAST COMMAND COMPLETED

Response RT:
SYSTEM WILL SHUTDOWN AT 5:00 PM

Explanation: The message is transmitted to the master terminal of the system specified by the SYSID 2.

Example 6 for /BROADCAST Command

Entry ET:
/BROADCAST MASTER MSNAME BOSTON, CHICAGO (EOS)
SYSTEM WILL SHUTDOWN AT 5:00 PM (EOM)

Response ET:
DFS058I  BROADCAST COMMAND COMPLETED

Response RT:
SYSTEM WILL SHUTDOWN AT 5:00 PM

Explanation: The message is transmitted to the master terminals of the remote systems specified by the MSNAMEs BOSTON and CHICAGO.

Example 7 for /BROADCAST Command

Remote Terminal entry:
/FORMAT DFSMO4
/BRO LTERM WTOR (eos)
this is segment 1 (eos)
this is segment 2 (eos)
this is segment 3 (eom)

Response ET:
DFS058I  BROADCAST COMMAND COMPLETED

Response RT:
THIS IS SEGMENT 1
THIS IS SEGMENT 2
THIS IS SEGMENT 3

Explanation: The remote terminal is first formatted via the /FORMAT command, where default format DFSMO4 supports the input of four segments. This is followed by /BROADCAST with four segments.
Chapter 7. /CANCEL

Format

```
/CANCEL
/CAN
```

Environments

Table 22 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command can be issued.

<table>
<thead>
<tr>
<th>Command</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/CANCEL</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Usage

/CANCEL cancels all segments of a multisegment input message. It must be entered prior to the end-of-message (EOM) indicator from the terminal that was entering the message. Because a /CANCEL command must comprise a segment, it cannot be used to cancel a single-segment message.

On a non-3270 device, you can cancel a single-segment message by entering two asterisks (**), followed immediately by an end-of-segment (EOS) indicator. When MFS is used, you can define delete characters other than (**) to cancel other segments besides the first.

/CANCEL command has no meaning on display terminals where it is not possible to have some segments of a message already received by IMS while receiving subsequent segments.

Example for /CANCEL Command

Entry ET:

```
/BROADCAST TO ACTIVE (EOS)
SYSTEM WILL BE AVAILABLE (EOS)
```

Entry ET:

```
/CANCEL
```

Response ET:

```
 DFS058I  CANCEL COMMAND COMPLETED
```

Explanation: All previously entered segments of the current message are discarded.
/CHANGE Command: APPC Through NODE

APPC
  TIMEOUT
  OUTBND
  luname

CCTL
  cctlname
  PRTKN
  prtken
  ABORT
  COMMIT

CPLOG
  cp_log

DESCRIPTOR
  descriptor
  LUNAME
  luname
  MODE
  modename
  NONE
  SIDE
  sidename
  SYNCLEVEL
  NONE
  CONFIRM
  TPNAME
  tpname
  TYPE
  BASIC
  MAPPED

DIRECTORY MFS
  FDR
  TIMEOUT
  timeout

LINK
  link#
  FORCSESS
  ALL
  SYNCESS
  A
  COLDSESS
  C

NODE
  nodename
  USER
  username
  ALL
  nodename
  nodename*
  ALL

A:

ASR
  ON
  OFF

MODE
  modename
  NONE
Environments and Keywords

Table 23 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 23. Valid Environments for the /CHANGE Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/CHANGE</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>ABORT</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>APPC</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>ASR</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>AUTOLOGON</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>CCTL</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>COLDSESS</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
Table 23. Valid Environments for the /CHANGE Command and Keywords (continued)

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMIT</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>CPLOG</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>DESCRIPTOR</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>DIRECTORY</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>FDR</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>FORCSESS</td>
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<td></td>
<td>X</td>
</tr>
<tr>
<td>ID</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>INTERVAL</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LINK</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LOGOND</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LUNAME</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>MAXRGN</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>MODE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NODE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NOSAVE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>OASN</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>OUTBND</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PASSWORD</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>RESET</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SAVE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SIDE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SUBSYS</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SURVEILLANCE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SYNCLEVEL</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SYNCSESS</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TIMEOUT</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>TPNAME</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TRANSACTION</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TYPE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>UOR</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>USER</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/CHANGE is a multisegment command used to change or delete internal resources within IMS.

All /CHANGE formats require an EOM indication to denote end-of-message; an EOS indication must be included for all segments that precede the last segment. See "Multisegment Command Input" on page 7 for more detail on using EOS and EOM.
**APPC TIMEOUT**

Specifies a change to the timeout value for APPC/IMS. This value is set in the DFSDCxxx member of IMS.PROCLIB. IMS passes this value to APPC/MVS for every implicit APPC/IMS conversation.

The timeout value (#minutes) must be between zero and 1440. If the timeout value is zero, APPC/IMS timeout will be deactivated.

A DFS34091 or DFS3491I message is issued after the `/CHANGE APPC TIMEOUT` command is issued to inform the operator of the new timeout value.

**OUTBND**

Specifies a different outbound LU. The specified LU must be one of the APPC LUs defined in the APPCPMxx member of the SYS1.PROCLIB library. The default outbound LU is BASE LU.

**CCTL**

Specifies the coordinator control subsystem. The recovery elements are resolved by IMS.

`cctlname`

Specifies CCTL subsystem ID.

`prtkn`

Specifies the pseudo recovery token, which designates the unit of recovery to be aborted or committed. Use the `/DISPLAY CCTL` command to determine the pseudo recovery token name.

**ABORT**

Backs out changes for a unit of recovery. After completion of backout, the recoverable indoubt structure (RIS) is removed.

**COMMIT**

Commits changes for a unit of recovery. After the process is complete, the RIS is removed.

**CPLOG**

Is used to change the value of the IMS execution parameter, CPLOG. The IMS CPLOG execution parameter specifies the number of system log records between system-generated checkpoints.

`cp_log`

This value must be specified as one or more numeric characters followed by either K or M. Values can range from 1K to 16M.

**DESCRIPTOR**

Specifies the name of an LU 6.2 descriptor that will be updated with new values. An error message is issued if the specified descriptor is not found.

**Note:** The `/CHANGE DESCRIPTOR` command changes the destination for future messages only. It does not change the destination for existing messages. The existing output messages are delivered only to the luname and tpname that had been previously specified for that message. This restriction is required by security requirements so message delivery to the intended destination only occurs at the time the messages are created.

**LUNAME**

Specifies the LU name that is updated in the LU 6.2 descriptor.
The luname value in the descriptor is set to blanks unless the LUNAME keyword is also specified. A network-qualified LU name is optional for the LUNAME keyword.

**MODE**

Specifies the VTAM mode table entry name that is updated in the LU 6.2 descriptor. The NONE parameter resets the mode field to its null state.

The MODE value in the descriptor is set to blanks unless the MODE keyword is also specified.

**SIDE**

Specifies the APPC/MVS side information that is set in the LU 6.2 descriptor. The side information contains default values for APPC conversation attributes such as LUNAME, TPNAME, and MODE.

**SYNCLEVEL**

Specifies the APPC sync level that is updated in the LU 6.2 descriptor. One of the following must be specified:

- **CONFIRM**
  - IMS sync point processing continues.

- **NONE**
  - IMS sync processing continues despite a session failure.

**TPNAME**

Specifies the tpname that is updated in the LU 6.2 descriptor. Message DFS182 is issued if the TPNAME parameter specified is DFSSIDE.

The TPNAME value in the descriptor is set to blanks unless the TPNAME keyword is also specified.

**TYPE**

Specifies the APPC conversation type that is updated in the LU 6.2 descriptor.

The conversation types are:

- **BASIC**
  - Specifies that the data is to be formatted by the transaction programs, using the pattern “LL,data,LL,data”.

- **MAPPED**
  - Specifies that the data is to be formatted by APPC.

**DIRECTORY**

Specifies that the entries in the MFS dynamic directory are to be deleted. This restores the dynamic directory to the original state that it was in just after IMS was initialized.

When IMS is initialized, IMS creates an MFS block primary directory based on the contents of all the $$IMSDIR members found. At the same time, IMS issues GETMAINs to acquire additional storage that is large enough to hold approximately 10% of the members in the active format library. While IMS is running, entries are only added to the dynamic directory, they are not deleted. Therefore, the dynamic directory continues to get larger until it runs out of space. When this happens, IMS can extend the amount of space in the dynamic directory to hold another 10%. IMS can extend the size of the dynamic directory a maximum of 9 times.
If you want to delete the in-storage (or index) entries from the dynamic directory without restarting IMS or performing an online change for the format library, use the /CHANGE DIRECTORY MFS command.

**FDR**
Specifies a change to the timeout value for IMS Fast Database Recovery surveillance. This value is set in the DFSFDRxx member of IMS.PROCLIB. IMS uses this value to determine how long to wait before initiating a Fast Database Recovery takeover.

The timeout value (#seconds) must be at least 3 but no greater than 999.
IMS rejects this command if the active IMS subsystem is not connected to a Fast Database Recovery region.

**LINK**
Applies only to IMS systems linked by MSC using VTAM.

Use the LINK keyword with FORCSESS, SYNCSESS, COLDSESS to override the system definition option defined for forcing resynchronization until the next /CHANGE LINK command or IMS cold start.

**FORCSESS**
Forces a session to come up, whether or not the message sequence numbers agree. When FORCSESS is used with COLDSESS, the session is set up so that cold start can occur, and, when it is cold started, it is forced to come up, whether or not the message sequence numbers agree. The use of FORCSESS could cause messages to be lost, so it should be used if a session could not be brought up, and loss of messages is of little importance while a session is being brought up.

**SYNCSESS**
Is used to complete session initiation, only if the message sequence numbers and the restart modes agree. When this keyword is used with COLDSESS, the session is set up so that it can be cold started, and, after cold start, it can be initiated only if the sequence numbers and the restart modes agree.

**COLDSESS**
When used in conjunction with the LINK keyword, COLDSESS enables a session to be cold started. If used with FORCSESS or SYNCSESS, the COLDSESS keyword is always processed first. Use of this keyword could cause messages to be lost. This keyword should be used if one of the systems associated with an MSC link goes down, and the only way to bring the session up is to cold start it.

The COLDSESS keyword can be specified to terminate control blocks associated with the specified link or links and reset the link to COLD. COLDSESS should be used only after the /PSTOP command is issued and completes against the link or links and the links appear to be hung. If COLDSESS is specified, it should be used on both sides of the link or links. Gather documentation to determine why the link or links did not come down normally.

**ASR**
Changes the automatic keyword session restart designation of a link. The default parameter for ASR is ON.
Automatic session restart is not necessarily activated for a link just because a status of ASR is displayed for that link. You must also have coded SONSCIP=YES on the APPL definition statement for VTAM when defining the network for the VTAM.

**MODE**
Changes the default mode table name of a link. This default is usually established by system definition. Parameter NONE resets this field to its null state (as if no mode table name was specified at system definition).

Changing ASR or mode table name for non-VTAM MSC links is invalid. If non-VTAM MSC links are referred to specifically in the /CHANGE LINK ASR or /CHANGE LINK MODE commands, they will be marked in error.

**NODE**
Specifies a VTAM node to be changed. The NODE parameter can be generic if the USER keyword is not present. The generic parameter specifies nodes that already exist.

**ASR**
The ASR keyword allows you to change the automatic session restart designation of a node. The default parameter for ASR is ON.

Automatic session restart is not necessarily activated for a node just because a status of ASR is displayed for that node. You must also have coded SONSCIP=YES on the APPL definition statement for VTAM when defining your network.

**COLDSESS**
When COLDSESS is used with the NODE keyword, it sets up the SLU P or FINANCE session so that the session can be cold started. The COLDSESS keyword should be used if the SLU P or FINANCE session has experienced problems and attempts to warm start the session fail. The COLDSESS keyword terminates terminal and user control blocks associated with the specified node or nodes, and resets the node status to COLD.

In an IMSplex, if global resource information is not kept in Resource Manager (RM), the change is applied locally. If global resource information is kept in RM, the change is applied globally.

A DFS0581 COMMAND COMPLETE EXCEPT message may be received if the node is temporarily in use by another task even if the criteria (node is terminated and idle) for successful completion of the command is met.

**FORCSESS, SYNCSSESS**
The FORCSESS and SYNCSSESS keywords are only valid for ISC nodes. Specify FORCSESS and SYNCSSESS to override the system definition or logon descriptor option defined to force or not force synchronization of sessions. This override is effective until the next /CHANGE command is issued or an IMS cold start is effected.

**MODE**
Changes the default mode table name of a node. This default is usually established by system definition or logon descriptor. MODE resets this field to its null state (as if no mode table name had been specified at system definition).

Changing ASR or the mode table name for VTAM 3270 nodes is invalid. If nodes of this type are referred to specifically in the /CHANGE ASR or /CHANGE MODE commands, they are marked in error.
/CHANGE

USER
Indicates the ISC user that is allocated to the node or the dynamic user that is signed on to the node.

/CHANGE USER AUTOLOGIN SAVE changes the autologon information previously specified by a user descriptor, output creation exit routine (DFSINSX0), or signon exit routine (DFSSGNX0). The autologon change is saved. The autologon information includes the node name, the mode table, the logon descriptor, and the ID. If the Resource Manager is active, the user will be dynamically created if it does not already exist. The SAVE keyword must be specified. If SAVE is not specified, the command is rejected with message DFS1199.

OUTBND
This keyword lets you change the current outbound LU. The default outbound LU is BASE LU. A different outbound LU can be specified with the OUTBND= parameter in the DFSDCxxx PROCLIB member. The specified LU must be one of the APPC LUs defined in the APPCPMxx member of the SYS1.PROCLIB library.

PASSWORD
Password security is created by the IMS Security Maintenance utility and invoked during IMS restart through the presence of the PASSWORD operand. PASSWORD pswdname must be defined prior to the entry of this command. Passwords are defined by use of the Security Maintenance utility or by a previous /CHANGE command. Command execution results in a direct password replacement. If the password operand pswdname does not exist in the user’s IMS system, the /CHANGE command is rejected. Because duplicate passwords are not acceptable, PASSWORD pswdname (where this password name is the second name given in the command) must not have been previously defined when /CHANGE PASSWORD is entered or the password will be rejected.

SUBSYS
Specifies the subsystem name from which IMS recovery elements are to be deleted. OASN specifies the outstanding recovery element to be deleted. RESET causes an incomplete unit of work assigned to an external subsystem (not a CCTL subsystem) to be deleted.

SURVEILLANCE
Specifies that the interval or timeout value on the active or alternate system in an XRF environment is changed. The following keyword parameters identify the surveillance mechanism:

- **LNK**: IMS ISC link
- **LOG**: IMS system log
- **RDS**: IMS restart data set
- **ALL**: Same as specifying LNK, LOG, and RDS

The INTERVAL or TIMEOUT keyword identifies the new value in seconds and must be in the range 1 through 99. When /CHANGE SURVEILLANCE is entered on the active system, it becomes effective on both the active and alternate systems, if the alternate system is up. If entered on the alternate system, only the alternate system is changed.

It is recommended that surveillance be changed on the active system and allowed to take affect on the alternate system.

Additional considerations when changing the TIMEOUT values are shown in Table 24 on page 129. Listed in the table are the TIMEOUT value requirements.
for certain systems where the command is entered on and the action taken for exceptions.

Table 24. Changing the TIMEOUT Value

<table>
<thead>
<tr>
<th>System the Command is Entered on</th>
<th>Requirement</th>
<th>Action Taken for Exceptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>New timeout value must be ≥ twice the active interval value.</td>
<td>DFS3832 issued. Active timeout value forced to twice the active interval value.</td>
</tr>
<tr>
<td>Alternate</td>
<td>Alternate interval value must be ≥ active interval value.</td>
<td>DFS3812 issued. Alternate interval value forced to active interval value.</td>
</tr>
<tr>
<td>Alternate</td>
<td>New timeout value must be ≥ twice the alternate interval value.</td>
<td>DFS3832 issued. Alternate timeout value forced to twice the alternate interval value.</td>
</tr>
</tbody>
</table>

Additional considerations when changing the INTERVAL values are shown in Table 25. Listed in the table are the INTERVAL value requirements for certain systems where the command is entered and the action taken for exceptions.

Table 25. Changing the INTERVAL Value

<table>
<thead>
<tr>
<th>System the Command is Entered on</th>
<th>Requirement</th>
<th>Action Taken for Exceptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>Twice the new interval value must be ≤ active timeout value.</td>
<td>DFS3832 issued. Active timeout value forced to twice the new interval value.</td>
</tr>
<tr>
<td>Alternate</td>
<td>Alternate interval value must be ≥ active interval value.</td>
<td>DFS3812 issued. Alternate interval value forced to active interval value.</td>
</tr>
<tr>
<td>Alternate</td>
<td>New alternate interval value must be ≥ alternate LOG interval value (LNK and RDS).</td>
<td>DFS3833 issued. Alternate interval value forced to alternate log interval value.</td>
</tr>
<tr>
<td>Alternate</td>
<td>New alternate interval value ≤ alternate RDS and LNK interval value (LOG only).</td>
<td>DFS3833 issued. Alternate interval value forced to alternate RDS then LNK interval value.</td>
</tr>
<tr>
<td>Alternate</td>
<td>Twice the new interval value must be ≤ alternate timeout value.</td>
<td>DFS3832 issued. Alternate timeout value forced to twice the new interval value.</td>
</tr>
</tbody>
</table>

TRANSACTION, MAXRGN

The MAXRGN keyword is used with the TRANSACTION keyword to change the maximum number of regions that can be simultaneously scheduled for a given transaction. The transaction must be eligible for parallel scheduling (load balancing). For static transactions, the MAXRGN parameter (#regions) is initially set by system definition using the TRANSACT macro statement. For CPI Communications driven transactions, the initial value is obtained from the TP profile. The value of #regions must be between 0 and the number specified on the MAXPST= region parameter.

Related Reading: For more information on the TP profile, see the IMS Version 8: Administration Guide: Transaction Manager. For more information about the MAXPST= parameter, see the IMS Version 8: Installation Volume 2: System Definition and Tailoring.
The /DISPLAY TRANSACTION command indicates whether a transaction is eligible for load balancing with a status of BAL, followed (in parentheses) by the current maximum number of regions that can be simultaneously scheduled.

UOR
Specifies that IMS should resolve units of recovery (UORs) for protected resources on the RRS/MVS recovery platform.

Recommendation: Use /CHANGE UOR only when you are certain that no other resource managers would be adversely affected after IMS resolves the UOR.

**prtkn**
Specifies the six-byte pseudotoken that designates the UOW to be committed. Use the /DISPLAY UOR command to obtain the **prtkn**.

If you specify ALL, the /CHANGE UOR command affects all units of recovery.

ABORT
Specifies that IMS back out changes for the protected resources.

COMMIT
Specifies that IMS make changes permanent for the protected resources.

USER
Specifies that an ETO will change. The user parameter cannot be generic.

AUTOLOGON
Specifies that the autologon information previously specified by a user descriptor, the output creation exit routine (DFSINSX0), or the signon exit routine (DFSSGNX0) is being updated dynamically.

**nodename**
Specifies the autologon terminal session for the specified user. Omitting the nodename clears all autologon information.

MODE
Specifies the VTAM mode table entry name.

LOGOND
Specifies the logon descriptor used to build the terminal control blocks.

ID
Specifies the ISC partner’s half-session qualifier (if the terminal is ISC).

NOSAVE
Indicates that the changed autologon information should not be retained. Deletion of the user occurs when an IMS checkpoint is taken, at session termination, IMS restart, or XRF takeover. If SAVE and NOSAVE are omitted, IMS uses the system-wide default as specified in the DFSDCxxx PROCLIB member.

SAVE
Indicates that the changed autologon information should be retained. This keyword prevents deletion of the user and remains in effect across a restart or XRF takeover until another /CHANGE command with the NOSAVE option is issued. If SAVE and NOSAVE are omitted, IMS uses the system-wide default as specified in the DFSDCxxx PROCLIB member.

If global resource information is kept in Resource Manager, the change is applied globally when the SAVE keyword is specified. If SAVE is not specified in this environment, the command is rejected.
Examples

Example 1 for /CHANGE Command

This set of examples shows that an INDOUBT unit of recovery can be aborted if the INDOUBT status cannot be resolved. The /CHANGE ... PRTKN command backs out changes made to the database.

Entry ET:
/DISPLAY CTL CICS1 IND

Response ET:

<table>
<thead>
<tr>
<th>CTL</th>
<th>PSEUDO-RTKN</th>
<th>RECOVERY-TOKEN</th>
<th>REGID</th>
<th>PSBNAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CICS1</td>
<td>000100C0</td>
<td>9FFA956B7AE24E00</td>
<td>BMP255</td>
<td>INDUBT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>00010040</td>
<td>9FFA956BFF594301</td>
<td>BMP255</td>
<td>INDUBT</td>
<td></td>
</tr>
</tbody>
</table>

*90067/113446*

Entry ET:
/CHANGE CTL CICS1 PRTKN 000100C0 ABORT (EOM)

Response ET:

DFS058I CHANGE COMMAND COMPLETED
DBS0699I REYNC ABORT COMPLETE FOR PSB BMP255...

Explanation: The INDOUBT unit of recovery whose pseudo recovery token (PRTKN) is 000100C0 has been aborted.

Example 2 for /CHANGE Command

This set of commands illustrate how the ASR setting of a link can be modified by the /CHANGE command:

Entry ET:
/DISPLAY LINK 6

Response ET:

<table>
<thead>
<tr>
<th>LINK PARTNER</th>
<th>RECQ</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
<th>SENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 AL</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*90179/102004* IMSA

Explanation: Automatic Session Restart was defined for link 6 by system definition.

Entry ET:
/CHANGE LINK 6 ASR OFF (EOM)

Response ET:

DFS058I CHANGE COMMAND COMPLETED

Entry ET:
/DISPLAY LINK 6

Response ET:

<table>
<thead>
<tr>
<th>LINK PARTNER</th>
<th>RECQ</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
<th>SENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 AL</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*90179/102126*
/CHANGE

Explanation: Automatic Session Restart is not available for link 6

Entry ET:
/CHANGE LINK 6 ASR (EOM)

Response ET:
DSF058I CHANGE COMMAND COMPLETED

Explanation: The ASR parameter will default to ON.

Entry ET:
/DISPLAY LINK 6

Response ET:

<table>
<thead>
<tr>
<th>LINK PARTNER</th>
<th>RECD</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
<th>SENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 AL</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*90179/102300*

Explanation: Automatic Session Restart is in effect again as a result of the second /CHANGE command.

Example 3 for /CHANGE Command

Changing ASR for NODE or NODE/USER is similar to changing ASR for LINK. See the previous example for the commands used to change ASR.

Example 4 for /CHANGE Command

Entry ET:
/DISPLAY NODE LUTYPEP1 MODE

Response ET:

<table>
<thead>
<tr>
<th>NODE-USR TYPE</th>
<th>DEF</th>
<th>MODETBL</th>
<th>ACT</th>
<th>MODETBL</th>
</tr>
</thead>
<tbody>
<tr>
<td>LUTYPEP1 SLUP</td>
<td>DEFRESP</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*90179/100630*

Explanation: DEFRESP is the mode table name defined for node LUTYPEP1 at system definition or logon descriptor or resource creation. The session is not active so the active mode table field (ACT MODETBL) is blank.

Entry ET:
/CHANGE NODE LUTYPEP1 MODE XXXXXXXX (EOM)

Response ET:
DSF058I CHANGE COMMAND COMPLETED

Entry ET:
/DISPLAY NODE LUTYPEP1 MODE

Response ET:

<table>
<thead>
<tr>
<th>NODE-USR TYPE</th>
<th>DEF</th>
<th>MODETBL</th>
<th>ACT</th>
<th>MODETBL</th>
</tr>
</thead>
<tbody>
<tr>
<td>LUTYPEP1 SLUP</td>
<td>XXXXXXX</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*84179/100733*
Explanation: The default mode table name has been changed to XXXXXXXX by the previous /CHANGE command. The session is still not active so the active mode table field (ACT MODETBL) is blank.

Example 5 for /CHANGE Command

Entry ET:
/DISPLAY NODE LUTYPEP

Response ET:

<table>
<thead>
<tr>
<th>NODE-USR TYPE</th>
<th>CID</th>
<th>RECD</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
<th>SENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>LUTYPEP</td>
<td>SLUP</td>
<td>00000000</td>
<td>37</td>
<td>37</td>
<td>0</td>
<td>37</td>
</tr>
</tbody>
</table>
*98276/153630*

Explanation: Node LUTYPEP is terminated warm after session received and processed 37 messages.

Entry ET:
/CHANGE NODE LUTYPEP COLDSESS (EOM)

Response ET:
DFS058I CHANGE COMMAND COMPLETED

Entry ET:
/DISPLAY NODE LUTYPEP

Response ET:

<table>
<thead>
<tr>
<th>NODE-USR TYPE</th>
<th>CID</th>
<th>RECD</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
<th>SENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>LUTYPEP</td>
<td>SLUP</td>
<td>00000000</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>IDLE</td>
</tr>
</tbody>
</table>
*98279/153630*

Explanation: Terminal and user blocks associated with node LUTYPEP have been cleared and the status has been reset to COLD.

Example 6 for /CHANGE Command

Entry ET:
/CHANGE PASSWORD 1234 TO WXYZ (EOM)

Response ET:
DFS058I CHANGE COMMAND COMPLETED

Explanation: Password 1234 is changed to password WXYZ.

Example 7 for /CHANGE Command

Entry ET:
/CHANGE SUBSYS DSN RESET (EOM)

Response ET:
DFS058I CHANGE COMMAND COMPLETED

Explanation: Reset all IN-DOUBT recovery units for subsystem DSN.
Example 8 for /CHANGE Command
Entry ET:
/CHANGE SUBSYS ALL RESET (EOM)

Response ET:
DFS058I CHANGE COMMAND COMPLETED

Explanation: Reset all IN-DOUBT recovery units for all subsystems.

Example 9 for /CHANGE Command
Entry ET:
/CHANGE SUBSYS ABCD OASN 99 685 2920 RESET (EOM)

Response ET:
DFS058I CHANGE COMMAND COMPLETED

Explanation: Reset IN-DOUBT recovery units identified by OASN numbers 99, 685, 2920 for subsystem ABCD.

Example 10 for /CHANGE Command
This set of commands illustrates how SURVEILLANCE can be modified by the /CHANGE command.

Entry ET (Alternate system):
/DISPLAY HSB

Response ET (Alternate system):

<table>
<thead>
<tr>
<th>RENAME</th>
<th>STATUS</th>
<th>PHASE</th>
<th>IMS-ID</th>
<th>VTAM VAR</th>
<th>ACT-ID</th>
<th>LOG-TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>DFSRSENM</td>
<td>BACKUP</td>
<td>TRK</td>
<td>IMSB</td>
<td>USERVAR</td>
<td>IMSA</td>
<td>10:35:17</td>
</tr>
<tr>
<td>SURVEILLANCE</td>
<td>INTERVAL</td>
<td>TIMEOUT</td>
<td>STATUS</td>
<td>INTERVAL</td>
<td>TIMEOUT</td>
<td>STATUS</td>
</tr>
<tr>
<td>LOG</td>
<td>2</td>
<td>99</td>
<td>INACTIVE</td>
<td>2</td>
<td>99</td>
<td>INACTIVE</td>
</tr>
<tr>
<td>LNK</td>
<td>4</td>
<td>99</td>
<td>INACTIVE</td>
<td>4</td>
<td>99</td>
<td>INACTIVE</td>
</tr>
<tr>
<td>RDS</td>
<td>3</td>
<td>99</td>
<td>INACTIVE</td>
<td>3</td>
<td>99</td>
<td>INACTIVE</td>
</tr>
<tr>
<td>TAKEOVER CONDITIONS - ALARM AUTO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RDS LINK LOG</td>
<td>*RDS LINK</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VTAM</td>
<td>*IRLM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>91226/103517</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Entry ET (Alternate system):
/CHANGE SURVEILLANCE LNK INTERVAL 3 (EOM)

Response ET (Alternate system):
DFS058I CHANGE COMMAND COMPLETED
DFS3812I BACKUP LNK INTERVAL VALUE OF 3 HAS BEEN FORCED TO ACTIVE VALUE OF 4
DFS3811I LNK SURVEILLANCE INACTIVE: INTERVAL VALUE CHANGED FROM 4 TO 4

Explanation: An attempt to change the interval value was made by entering /CHANGE on the alternate system. The new alternate interval value was not ≥ the active interval value so IMS forced the interval to the active value and issued asynchronous message DFS3812. Asynchronous message DFS3811 indicates the status of the change following the above action by IMS.
Example 11 for /CHANGE Command

The following commands illustrate how to change the maximum number of regions that can be simultaneously scheduled for a given transaction.

Entry ET:
/DISPLAY TRANSACTION SKS7

Response ET:

<table>
<thead>
<tr>
<th>TRAN</th>
<th>CLS</th>
<th>ENQCT</th>
<th>QCT</th>
<th>LCT</th>
<th>PLCT</th>
<th>CP</th>
<th>LP</th>
<th>SEGSZ</th>
<th>SEGNO</th>
<th>PARLM</th>
<th>RC</th>
</tr>
</thead>
<tbody>
<tr>
<td>SKS7</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>65535</td>
<td>65535</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>65535</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

PSBNAME: DFSDDLT7
STATUS: BAL(2)
*90226/134816*

Explanation: The status of transaction SKS7 indicates it is eligible for load balancing (BAL) and that two regions can be simultaneously scheduled.

Entry ET:
/CHANGE TRANSACTION SKS7 MAXRGN 4 (EOM)

Response ET:
DFS058I CHANGE COMMAND COMPLETED

Entry ET:
/DISPLAY TRANSACTION SKS7

Response ET:

<table>
<thead>
<tr>
<th>TRAN</th>
<th>CLS</th>
<th>ENQCT</th>
<th>QCT</th>
<th>LCT</th>
<th>PLCT</th>
<th>CP</th>
<th>LP</th>
<th>SEGSZ</th>
<th>SEGNO</th>
<th>PARLM</th>
<th>RC</th>
</tr>
</thead>
<tbody>
<tr>
<td>SKS7</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>65535</td>
<td>65535</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>65535</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

PSBNAME: DFSDDLT7
STATUS: BAL(4)
*90226/134845*

Explanation: The maximum number of regions that can be simultaneously scheduled for transaction SKS7 has been changed from 2 to 4.

Example 12 for /CHANGE Command

The following commands illustrate the changing of a unit of recovery.

Entry ET:
/CHANGE UOR 010040 ABORT

Response ET:
DFS058I CHANGE COMMAND COMPLETED
DFS0699I RESYNC ABORT COMPLETE FOR PSB STLDDTL1, PRTKN=00010040,
TOKEN IMS2 000000001000000000 IMS2
*97226/134816*

Explanation: IMS backs out changes for pseudo recovery token 010040.

Entry ET:
/CHANGE UOR 010040 COMMIT

Response ET:
DFS058I CHANGE COMMAND COMPLETED
DFS0699I RESYNC COMMIT COMPLETE FOR PSB STLDDTL1, PRTKN=00010040,
   TOKEN IMS2  0000000100000000 IMS2
   *97226/134816*

Explanation: IMS makes changes for pseudo recovery token 010040 permanent.
Chapter 9. /CHECKPOINT

Format

Shutdown Checkpoint

```
/CHECKPOINT FREEZE PURGE
/CHECKPOINT DUMPQ
/CHECKPOINT LEAVEPLEX ABDUMP QUIESCE LEAVEGR NOCQSSHUT
```

**Attention:** This command shuts down your IMS system. Be sure you understand the consequences of shutting down the system before you issue this command.

Simple Checkpoint

```
/CHECKPOINT SNAPQ
```

Statistics Checkpoint

```
/CHECKPOINT STATISTICS
```

Environments and Keywords

Table 26 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

<table>
<thead>
<tr>
<th>Command / Keyword</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/CHECKPOINT</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>ABDUMP</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>DUMPQ</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>FREEZE</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>LEAVEPLEX</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NOCQSSHUT</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PURGE</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>QUIESCE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SNAPQ</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>STATISTICS</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

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Usage

The /CHECKPOINT command records control and status information on the system log. /CHECKPOINT can be used to take a simple checkpoint of IMS, with the option of also dumping the contents of the message queue data sets to the system log or to shut down IMS normally. When IMS is shut down by the /CHECKPOINT command, it can be restarted with the /NRESTART command.

There are two conditions under which IMS cannot complete a shutdown normally. The most frequent is when there are multiple-page messages on a master terminal BTAM line, paging is not complete, and the master terminal is sharing a communication line with other physical terminals. It might be necessary to use the /ASSIGN command to reassign the master terminal to a line by itself so that the /IDLE command can be issued to terminate the multiple page output. If the master terminal cannot be reassigned to another line, assign it to the system console line.

The second condition occurs when a number of IMS-generated system messages are awaiting delivery to the master terminal. All system messages destined for the master terminal will be delivered, because they can impact the way the system is restarted. The master terminal operator should acknowledge delivery of a message by causing an I/O interrupt; that is, pressing PA2, which in turn causes another message to be sent, if one exists. Another option is to assign the master terminal to the system console.

When the /CHECKPOINT command is used to shut down IMS, the /BROADCAST command can be helpful in notifying the remote terminal operators that IMS is shutting down.

(blank)

Requests a simple checkpoint. Simple checkpoints are also invoked by IMS based on the number of entries to the system log. The number of log entries between simple checkpoints is specified during system definition. In an ETO environment, any dynamic nodes, LTERMs or users with no messages queued or status are deleted.

ABDUMP

Requests an abnormal termination dump of the IMS control region in addition to the shutdown option selected.

In a DBCTL environment, when /CHECKPOINT FREEZE ABDUMP is entered, all of the DBCTL address spaces are dumped.

FREEZE | DUMPQ | PURGE

Requests a shutdown of IMS. These variations of shutdown are provided for control over the method of stopping programs and lines, and to control the method of disposing of queues. The effects of these variations are shown in Table 27 on page 139. The request for a checkpoint shutdown might not be responded to immediately if any dependent regions are active. IMS will wait until these regions complete their current processing before continuing with the checkpoint shutdown. Message resynchronization for a specified transaction pipe does not affect IMS shutdown.

Restriction: A shutdown checkpoint is not allowed in a shared-queues environment if the CQS is not available.

Connections to external subsystems (not CCTL subsystems) will be quiesced. Connection attempts originating from dependent regions will be prohibited. After all dependent region connections have terminated, the control region will terminate its connection.
The DUMPQ and SNAPQ keywords designate starting points from which the message queue data sets can be rebuilt. However, the SNAPQ option dumps the message queues online while IMS is running without causing a shutdown of IMS.

The PURGE keyword attempts to empty all the queues so that no outstanding work remains. For DBCTL, IMS performs FREEZE processing because there are no message queues.

The FREEZE keyword shuts down IMS pending actions shown in Table 27. For DBCTL, active CCTL threads are allowed to complete before this keyword takes effect. This is also true when ABDUMP is used with this keyword. In the DBCTL environment, a /CHECKPOINT command with the PURGE keyword will be processed as though the FREEZE keyword was used instead of PURGE. /CHECKPOINT FREEZE in the DBCTL environment is correct because there are no message queues to empty.

In a DBCTL environment, when /CHECKPOINT FREEZE ABDUMP is entered, all of the DBCTL address spaces are dumped.

In a shared-queues environment, the DUMPQ and PURGE keywords cause IMS to shut down (as if you entered a /CHECKPOINT FREEZE command), but the message queues are not dumped or purged because the local IMS subsystem has no local queues. To dump the shared message queues when CQS terminates, use the /CQSET command before issuing the IMS shutdown checkpoint command.

Table 27 displays when to issue one of the three IMS shutdown options (FREEZE, DUMPQ, and PURGE) and the effect on the IMS resource.

<table>
<thead>
<tr>
<th>Resource Status</th>
<th>FREEZE Keyword</th>
<th>DUMPQ Keyword</th>
<th>PURGE Keyword</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message processing</td>
<td>At program completion</td>
<td>At program completion</td>
<td>When transaction queues are empty</td>
</tr>
<tr>
<td>regions stopped</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Batch message processing</td>
<td>At checkpoint, SYNC call, or program completion</td>
<td>At checkpoint, SYNC call, or program completion</td>
<td>At program completion</td>
</tr>
<tr>
<td>regions stopped</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Line input stopped</td>
<td>At message completion</td>
<td>At message completion</td>
<td>At message completion</td>
</tr>
<tr>
<td>Line output stopped</td>
<td>At message completion</td>
<td>At message completion</td>
<td>When all messages complete</td>
</tr>
<tr>
<td>Transaction and message</td>
<td>Retained in queue data sets</td>
<td>Dumped to system log</td>
<td>Empty normally</td>
</tr>
<tr>
<td>queues</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Message-driven regions</td>
<td>At message completion</td>
<td>At program completion</td>
<td>When transaction queues are empty</td>
</tr>
<tr>
<td>stopped</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fast Path output messages</td>
<td>Dumped to system log</td>
<td>Dumped to system log</td>
<td>Empty normally</td>
</tr>
<tr>
<td>queued</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fast Path input messages</td>
<td>Discarded</td>
<td>Empty normally</td>
<td>Empty normally</td>
</tr>
<tr>
<td>queued</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fast Path DEDB online</td>
<td>At program completion</td>
<td>At program completion</td>
<td>At program completion</td>
</tr>
<tr>
<td>utility region</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fast Path DEDBs</td>
<td>Closed</td>
<td>Closed</td>
<td>Closed</td>
</tr>
<tr>
<td>MSDBs</td>
<td>Dumped to MSDB checkpoint data set</td>
<td>Dumped to MSDB checkpoint data set</td>
<td>Dumped to MSDB checkpoint data set</td>
</tr>
</tbody>
</table>
LEAVEGR

Deletes all affinities from the VTAM affinity table for the IMS subsystem on which this command is issued. Using this keyword removes the IMS subsystem from the generic resource group.

**Recommendation:** Cold start the DC component of an IMS subsystem that has been shut down with the LEAVEGR keyword to ensure that all affinities in IMS control blocks are also deleted. The IMS subsystem rejoins the generic resource group during startup.

If the VTAM ACB is closed (usually because of a /STOP DC command), a shutdown checkpoint command with the LEAVEGR keyword is rejected.

LEAVEPLEX

In an IMSplex, this keyword is specified if the IMS that is being shut down is not going to rejoin the IMSplex. Specify the LEAVEPLEX keyword when you do not intend to bring the IMS back up in the IMSplex.

If LEAVEPLEX is specified, and the IMS is a member of an IMSplex with global online change enabled, an attempt is made to remove the IMS's ID from the OLCSTAT data set. If there is any error in removing the IMS ID from the OLCSTAT, message, DFS3443, DFS3444, or DFS3448 is written out to the system console and the IMS is shut down. In this case, the IMS ID may still be in the OLCSTAT data set and will have to be deleted using the DFSUOLC utility.

NOCQSSHUT

Is used with the /CHE DUMPQ, /CHE FREEZE, or /CHE PURGE commands to not shut down the CQS address space when the IMS control region terminates. The CQS address space remains active and connected to the message queue structures. NOCQSSHUT is only applicable when IMS is running in a shared-queues environment. The default is to shut down the CQS address space when the IMS control region terminates.

QUIESCE

Halts processing of all VTAM terminals. When QUIESCE is specified, IMS sends the VTAM shutdown indicator to all VTAM terminals and waits until these nodes have completed processing before performing the normal checkpoint shutdown. During the processing of a quiesce shutdown, the master terminal operator might want to terminate the VTAM network without waiting for the orderly termination to complete. This can be done by entering the /CHECKPOINT command again, either with FREEZE, DUMPQ, or PURGE but without QUIESCE.

SNAPQ

Requests a simple checkpoint and dumps the contents of the message queues to the system log.

In a shared-queues environment, /CHECKPOINT SNAPQ does not snap the queues because the local IMS subsystem has no local queues. Use the /CQCHKPT command to initiate a CQS structure checkpoint.
In an XRF environment, /CHECKPOINT SNAPQ synchronizes the active and alternate IMS subsystems.

**STATISTICS**
Requests that IMS performance records be created and written to the system log. No other checkpoint processing occurs.

The /CHECKPOINT STATISTICS command does not create a system checkpoint on the log.

**Examples**

**Example 1 for /CHECKPOINT Command**

Entry ET:

```
/CHECKPOINT
```

Response ET:

```
DFS058I (time stamp) CHECKPOINT COMMAND IN PROGRESS
DFS994I *CHKPT 82102/110247**SIMPLE*
```

Explanation: A simple checkpoint of IMS is written to the system log at 110247 (time) on 82102 (Julian date). The checkpoint number is 82102/110247.

**Example 2 for /CHECKPOINT Command**

Entry ET:

```
/CHECKPOINT FREEZE
```

Response ET:

```
DFS058I (time stamp) CHECKPOINT COMMAND IN PROGRESS
DFS994I *CHKPT 82206/120118**FREEZE*
```

Explanation: IMS is terminated after all checkpoint freeze functions complete. The checkpoint is written to the system log at 120118 (time) on 82206 (Julian date). The checkpoint number is 82206/120118.

**Example 3 for /CHECKPOINT Command**

Entry ET:

```
/CHECKPOINT FREEZE QUIESCE
```

Response ET:

```
DFS058I (time stamp) CHECKPOINT COMMAND IN PROGRESS
DFS994I *CHKPT 82102/110247**FREEZE*
```

Explanation: IMS is terminated after all VTAM nodes have returned a shutdown-complete indicator to IMS and IMS has completed all checkpoint freeze functions. The checkpoint is written to the system log at 110247 (time) on 82102 (Julian date). The checkpoint number is 82102/110247.

**Example 4 for /CHECKPOINT Command**

Entry ET:

```
/CHECKPOINT PURGE ABDUMP
```

Response ET:
/CHECKPOINT

DFS058I (time stamp) CHECKPOINT COMMAND IN PROGRESS
DFS994I *CHKPT 82128/101112**PURGE*

Explanation: IMS is terminated after all checkpoint purge functions complete. The checkpoint is written to the system log at 101112 (time) on 82128 (Julian date). The checkpoint number is 82128/101112.

An MVS/ESA ABEND message is issued when the dump of the IMS control region completes.

Example 5 for /CHECKPOINT Command

Entry ET:

/CHECKPOINT PURGE

Response ET:

DFS058I (time stamp) CHECKPOINT COMMAND IN PROGRESS
DFS994I *CHKPT 82103/131415**PURGE*

Explanation: IMS is terminated after all checkpoint purge functions complete. The checkpoint is written to the system log at 131415 (time) on 82103 (Julian date). The checkpoint number is 82103/131415.

Example 6 for /CHECKPOINT Command

Entry ET:

/CHECKPOINT STATISTICS

Response ET:

/DFS058I (timestamp) CHECKPOINT COMMAND IN PROGRESS
/DFS994I STATISTICS CHECKPOINT COMMAND COMPLETED

Explanation: IMS performance statistics records are written to the system log. No other information is saved. This checkpoint cannot be used for a system restart.
Chapter 10. /CLSDST

Format

Environments and Keywords

Table 28 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 28. Valid Environments for the /CLSDST Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/CLSDST</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>FORCE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NODE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>USER</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/CLSDST causes IMS to disconnect a VTAM terminal.

/CLSDST resets preset mode, test mode, response mode, lock node, lock LTERM, pstop LTERM, and purge LTERM, because these statuses are not significant and therefore are not kept after a logon or restart. /CLSDST will also do some other cleanup depending on the recovery settings for the node. Below are the actions taken:

**RCVYSTSN=NO**

/CLSDST acts like a /CHANGE NODE COLDSESS command for FINANCE and SLUP nodes by setting the session status to “cold”. /CLSDST will act like a /QUIESCE NODE command for ISC (LU6.1) nodes by initiating the shutdown and deallocating the user for the specified node. This action changes the session status to cold. With these actions taken by the /CLSDST command, the next session initiation request for this node will be allowed to again attempt a session cold start. For ETO nodes, the control block structure could be deleted, if no significant status exists.

**RCVYCONV=NO**

/CLSDST causes any IMS conversations (active and held) to be terminated. Any conversational message that is queued or being processed will have its output response message delivered asynchronously.
RCVYFP=NO
/CLSDST causes Fast Path status and messages to be discarded.

If global resource information is not kept in Resource Manager (RM), /CLSDST logs a
node off and resets status locally. If global resource information is kept in RM,
/CLSDST resets status globally. If the node has no significant status, /CLSDST deletes
the node in RM.

If ROUTE is specified, it should be specified with ROUTE(*). The command fails if
not routed to the IMS where the node is active.

FORCE
Allows IMS to reinitialize a hung node with I/O in progress. FORCE reinitializes
one session and is valid only on an active IMS system. To activate FORCE, use
the command /CLSDST NODE P1 FORCE. For ISC nodes with parallel sessions, the
NODE and USER keywords must be specified and only one USER parameter is
allowed.

FORCE operates under the following conditions:
• A display from VTAM indicates that no session exists. If a session does exist,
or is in process, you must issue the VTAM command VARY NET, INACT, FORCE
to terminate the session, and the command must successfully complete. This
command terminates all parallel sessions.

Attention: If VARY NET, INACT, FORCE is not issued or does not successfully
complete before you issue the FORCE command, and the terminal is in the
process of creation or termination, the results might be unpredictable.
• The session is connected to IMS and output is in progress. A /DISPLAY on
the node indicates that a CID exists, that the node is connected (a status of
CON is displayed), and that the node is not idle (a status of IDLE is not
displayed).

NODE
Specifies the node to be disconnected by IMS. The specified node must be
connected before a command is issued to disconnect it, as indicated by CON
on the /DISPLAY NODE command referring to that terminal.

If the USER keyword is omitted for ISC nodes, all half-sessions of a session
type 6 node are terminated. If the USER keyword is omitted, generic
parameters are allowed for the NODE keyword.

The timing of the disconnection depends on the type of terminal:
• For keyboards or printers, console components and interactive terminals, the
disconnection occurs at the next message boundary.
• For component types that group messages (such as a SLU 1 statement
reader, printer, or disk), the disconnection occurs at the end of any group
where processing is in progress.
• For 3270 displays, the disconnection occurs at the completion of the current
(if any) I/O operation.

USER
Must be specified with the NODE keyword. NODE USER specifies the ISC user
allocated to the ISC node or the dynamic user signed on to the dynamic node.
When a /CLSDST NODE nodename USER username command is issued, it only
affects the NODE if the USER is still associated with the node.

For non-ISC dynamic nodes, this command is valid only if the user is still
signed on to the node. For ISC nodes, the half-sessions of the ISC node
allocated to the specific users are terminated and the users are not deallocated from the session. On restart, the /OPNOST command must specify the same users and ID pairs.

---

**Example for /CLSDST Command**

**Entry ET:**

/CLSDST NODE WEST

**Response ET:**

DFS058I  CLSDST COMMAND COMPLETED

**Explanation:** The node, WEST, is disconnected from IMS.
Chapter 11. /COMPT

Format

Environments and Keywords

Table 29 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 29. Valid Environments for the /COMPT Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/COMPT</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>CNS</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>CRD</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NODE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NOTRDY</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PCH</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PDS</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PRT</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>RDR</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>READY</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TDS</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>UDS</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>USER</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>VID</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>WPM1</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>WPM2</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>WPM3</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Usage

/COMPT sets a particular terminal component to a ready/not ready state. Output messages queued for a particular component will not be sent unless the component is ready. Depending on terminal type and the availability of messages queued for other components, output operations for other components can continue.

The ready/not ready state set by the /COMPT command can be altered by the following:

- Another /COMPT command
- A /START, /RSTART, or /RCOMPT command
- An I/O error on the terminal component

/COMPT can only refer to a VTAM-attached terminal component.

Restriction: When the /COMPT command contains the keyword CRD, it cannot also contain any of the following keywords: WPM1, WPM2, or WPM3.

The command format takes two forms. That is, a component can be referenced by using a keyword, such as VID, or by using a number, such as 2.

When a keyword is used, a search is made of the components (as defined in the TERMINAL macro during IMS system definition) for the component type defined that corresponds to the specified keyword.

When a match is found, that component is made ready/not ready as specified by the command. If a number other than 1 follows the keyword, the corresponding occurrence of that component type is made ready/not ready.

/COMPT supports up to 4 components. When a number from 1 through 4 is used instead of a keyword, the component affected is the one defined in that position during system definition, independent of component type. The USER keyword is required when nodename is an ISC node with users.

For more information about component support, see Chapter 5, “/ASSIGN,” on page 97.

Examples

Example 1 for /COMPT Command

Entry ET:

/COMPT 4 NODE ABC READY

Response ET:

DFS058I  COMPT COMMAND COMPLETED

Explanation: The fourth component defined in the TERMINAL macro on node ABC is made ready to IMS.

Example 2 for /COMPT Command

Entry ET:

/COMPT VID 2 NODE ABC READY
Response ET:
  DFS058I  COMPT COMMAND COMPLETED

Explanation: The second display component on node ABC is declared operable to IMS.
Chapter 12. /CQCHKPT

Format

```
/CQCHKPT  SYSTEM  STRUCTURE structurename
/CQCHKPT  SHAREDQ

Environments and Keywords

Table 30 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 30. Valid Environments for the /CQCHKPT Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/CQCHKPT</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SHAREDQ</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>STRUCTURE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SYSTEM</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Usage

/CQCHKPT initiates a CQS checkpoint for a specific coupling facility list structure or all the coupling facility list structures to which the IMS subsystem is connected.

This command sends the DFS058 CQCHKPT COMMAND IN PROGRESS message to the inputting terminal, and sends an asynchronous response to the system console and master terminal when the CQS checkpoint is complete.

This command is valid only in a shared-queues environment.

**SHAREDQ**

Specifies that the entire queue structure is to be checkpointed to the structure recovery data set. While the checkpoint is in progress for the structure, no CQS can access the structure.

During a structure checkpoint, every CQS connected to that structure also takes a system checkpoint.

**Recommendation:** When possible, issue this command when it will have the least performance impact to your online IMS subsystems.

**STRUCTURE**

Specifies a specific structure name (or all) for which a CQS checkpoint is to be taken. If an overflow structure exists for a structure, a checkpoint is taken for both the primary and overflow structure.

**SYSTEM**

Specifies that a system checkpoint is to be taken; the CQS internal tables are checkpointed and written to the CQS log. Only the CQS for which you enter the command takes a system checkpoint.
Examples

Example 1 for /CQCHKPT Command

Entry ET:

/CQCHKPT SYSTEM STRUCTURE IMSMSGQ01

Response ET:

DFS058I CQCHKPT COMMAND IN PROGRESS
CQS0030I SYSTEM CHECKPOINT COMPLETE, STRUCTURE IMSMSGQ01
LOGTOKEN 000000001687D3F CQS1CQS
DFS1972I CQCHKPT SYSTEM COMMAND COMPLETE FOR STRUCTURE=IMSMSGQ01

Explanation: A CQS system checkpoint completes successfully.

Recommendation: Record the log token displayed in the CQS0030I message because you might need it for a CQS restart.

Example 2 for /CQCHKPT Command

Entry ET:

/CQCHKPT SHAREDQ STRUCTURE IMSMSGQ01

Response ET:

DFS058I CQCHKPT COMMAND IN PROGRESS
CQS0220I CQS CQS1CQS STARTED STRUCTURE CHECKPOINT FOR STRUCTURE IMSMSGQ01 CQS1CQS
CQS0200I STRUCTURE IMSMSGQ01 QUIESCED FOR STRUCTURE CHECKPOINT CQS1CQS
CQS0201I STRUCTURE IMSMSGQ01 RESUMED AFTER STRUCTURE CHECKPOINT CQS1CQS
CQS0030I SYSTEM CHECKPOINT COMPLETE, STRUCTURE IMSMSGQ01 LOGTOKEN 000000001688652 CQS1CQS
CQS0221I CQS CQS1CQS COMPLETED STRUCTURE CHECKPOINT FOR STRUCTURE IMSMSGQ01 CQS1CQS
DFS1972I CQCHKPT SHAREDQ COMMAND COMPLETE FOR STRUCTURE=IMSMSGQ01

Explanation: A CQS structure checkpoint for a specific structure completes successfully.
Chapter 13. /CQQUERY

Format

```
/CQQUERY    STATISTICS    STRUCTURE
/CQQ
```

Environments and Keywords

Table 31 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 31. Valid Environments for the /CQQUERY Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/CQQUERY</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>STATISTICS</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>STRUCTURE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

The /CQQUERY command displays information regarding a specific coupling facility list structure or all the coupling facility list structures holding IMS messages. The /CQQUERY STATISTICS command displays the statistics and status information for the coupling facility list structures specified by the STRUCTURE keyword. The following statistics information is displayed:

- Number of data elements that can be allocated in the structure
- Number of list entries that can be allocated in the structure
- Number of data elements in use in the structure
- Number of list entries in use in the structure
- Entry to element ratio

This command is valid only in a shared-queues environment.

In an IMSplex, /CQQUERY displays information regarding a specific shared queue coupling facility list structure or all the shared queue coupling facility list structures holding IMS messages. /CQQUERY does not display any information about resource structures.

When the /CQO command is issued through OM, command processing is not serialized through the IMS CTL TCB.

**STATISTICS**

Specifies that statistics should be gathered and displayed.

**STRUCTURE**

Specifies that one or more structure names follow.

Only primary, coupling facility list-structure names used by IMS for shared queues are valid.
Examples

Example 1 for /CQQUERY Command

Entry ET:
/CQQUERY STATISTICS STRUCTURE ALL

Response ET:

<table>
<thead>
<tr>
<th>STRUCTURE NAME</th>
<th>LEALLOC</th>
<th>LEINUSE</th>
<th>ELMALLOC</th>
<th>ELMINUSE</th>
<th>LE/EL</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSMSG001</td>
<td>272</td>
<td>4</td>
<td>541</td>
<td>4</td>
<td>0001/0002</td>
</tr>
<tr>
<td>IMSMSGQ010FLW</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>IMSEMH001</td>
<td>272</td>
<td>3</td>
<td>541</td>
<td>3</td>
<td>0001/0002</td>
</tr>
<tr>
<td>IMSEMH0010FLW</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Explanations: This command displays the structure statistics of the message queue and Fast Path EMH queue structures used by IMS. The list entries allocated (LEALLOC), the list entries in use (LEINUSE), the elements allocated (ELMALLOC) and the elements in use (ELMINUSE) show the usage of the structures. When CQS allocates a structure, it allocates a certain number of list entries and elements to manage data on the structure. A structure is full if all list entries are in use or if all elements are in use.

Example 2 for /CQQUERY Command

Entry ET:
/CQQUERY STATISTICS STRUCTURE IMSMSGQ01

Response ET:

<table>
<thead>
<tr>
<th>STRUCTURE NAME</th>
<th>LEALLOC</th>
<th>LEINUSE</th>
<th>ELMALLOC</th>
<th>ELMINUSE</th>
<th>LE/EL</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSMG101</td>
<td>9132</td>
<td>9027</td>
<td>9130</td>
<td>9071</td>
<td>0001/0001</td>
</tr>
<tr>
<td>IMSMSGQ010FLW</td>
<td>1915</td>
<td>1866</td>
<td>1912</td>
<td>1866</td>
<td>0001/0001</td>
</tr>
</tbody>
</table>

Explanations: This command displays the structure statistics of the message queue structure used by IMS and its associated overflow queue.
Chapter 14. /CQSET

Format

```
/CQSET SHUTDOWN SHAREDQ [ON|OFF] STRUCTURE structurename
```

Environments and Keywords

Table 32 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

<table>
<thead>
<tr>
<th>Command / Keyword</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/CQSET</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SHAREDQ</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SHUTDOWN</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>STRUCTURE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

Use a /CQSET SHUTDOWN SHAREDQ ON|OFF command to tell CQS whether to take a structure checkpoint during normal shutdown. You can specify a structure checkpoint for a specific coupling facility or for all coupling facility list structures used by IMS.

IMS initiates a normal CQS shutdown during a normal IMS shutdown.

This command is valid only in a shared-queues environment.

In an IMSplex, when the /CQS command is issued through OM command processing, it is not serialized through the IMS CTL TCB.

SHAREDQ

Specifies that the entire queue structure is to be checkpointed to the structure recovery data set. While the checkpoint is in progress for the structure, no CQS can access the structure.

During a structure checkpoint, every CQS connected to that structure also takes a system checkpoint.

SHUTDOWN

Specifies that CQS should take a structure checkpoint during normal CQS shutdown.

STRUCTURE

Specifies a specific structure name (or all) for which a CQS checkpoint is to be taken. If an overflow structure exists for a structure, a checkpoint is taken for both the primary and overflow structure.
Example for /CQSET Command

Entry ET:
/CQSET SHUTDOWN SHAREDQ ON STRUCTURE ALL

Response ET:
DFS058I  CQSET COMMAND COMPLETE

Explanation: CQS will take a structure checkpoint when it shuts down.
Chapter 15. /DBDUMP

Format

![Diagram of /DBDUMP command and keywords]

Environments and Keywords

Table 33 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/DBDUMP</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DATABASE</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>GLOBAL</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>LOCAL</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>NOFEOV</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>NOPFA</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Usage

/DBDUMP is used to prevent transactions or programs from updating DL/I databases. It also can be used to dump all MSDBs to the MSDB dump data set. /DBDUMP does not apply to DEDBs.

The /DBDUMP command can be used on HALDBs. For more information see Appendix H, “High Availability Large Database Commands,” on page 805.

For the results of issuing this command on a shared secondary index, see Appendix D, “Shared Secondary Index Database Commands,” on page 787.

In an IMSplex, the output of the /DBD command is changed when the command is entered through the OM API. In this case, the DFS058I message is not returned to OM. The command response returned to OM contains one or more of the following messages as appropriate to the database type and the command completion.

Full Function Database messages: DFS132, DFS160, DFS216, DFS0488I, DFS1407, DFS2026, DFS3318I, DFS3320I, DFS3321I, DFS3325I, DFS3462I, DFS3463I, DFS3466I
/DBDUMP

DATABASE
Specifies the databases to which the /DBDUMP command applies. When the /DBDUMP command is entered, the message processing regions using the specified databases are terminated at the conclusion of processing their current transactions, in preparation to close the database and allow it to be opened for input only.

If a DL/I database specified in the command is being used by a batch message processing region, an error message is returned to the master terminal. When this message is issued, the command is ignored for the database named in the message; processing continues for the other databases specified in the command. The master terminal operator must wait until the batch message processing concludes processing before reentering the command.

As the message processing regions terminate programs, the data sets of the named databases in the command are closed. The IMS log switches to the next OLDS. This switch to the next OLDS is marked as a recovery point for log archiving purposes. IMS issues a simple checkpoint. The scheduling of transactions is then resumed, although no transactions will be allowed to update the specified databases. Programs with update intent will be scheduled, but update calls to the database will result in a 3303 pseudoabend or a BA status if the INIT call was issued.

/DBDUMP can be used to dump all the MSDBs to the MSDB dump data set by specifying the reserved parameter MSDB with the DATABASE keyword when entering the /DBDUMP DATABASE command or by entering the /DBDUMP DATABASE ALL command. The MSDBs dumped to the MSDB dump data set can be used as input to the MSDB dump recovery utility. A specific MSDB cannot be a parameter of the DATABASE keyword.

The /START DATABASE command resets the effect of the /DBDUMP command. The /START command is not required for MSDBs, because the data for these databases resides in processor storage, and the databases are never closed.

For DBCTL, when CCTL schedules a PSB, the DBCTL thread SCHED request defines the thread as LONG or SHORT. If the database is currently scheduled to a LONG thread, the command is rejected; otherwise, the thread is allowed to “complete” before the database is acted upon. This results in either a commit point or transaction termination.

GLOBAL
Applies when an IRLM is active and specifies that the command applies to all online subsystems sharing the database. The /DBDUMP command with the GLOBAL keyword puts the database in read status and prevents transactions from updating the database in all online subsystems that share the database.

The GLOBAL keyword is mutually exclusive with the ALL parameter or the MSDB parameter and causes the command to be rejected if both parameters are specified. The GLOBAL keyword requires that IRLM be active and will cause the command to be rejected if IRLM is not active.

If the GLOBAL keyword on a command is entered from an OM API, the command should only be routed to one IMS system in the IMSplex. The IMS that receives the command from OM will make DBRC calls to update the RECON with GLOBAL status. It will also request IRLM NOTIFY to route and process the command on sharing IMS systems, and then process the command locally.
Messages produced on the NOTIFIED systems will appear only on the system console and will not be routed back to the OM API which originally entered the command.

If multiple IMS systems have been explicitly specified in the route list, the master IMS system will process the command as described above. However, the non-master IMS systems, to which OM routes the command, will reject the command with the return and reason codes shown in Table 34.

Table 34. Return and reason code for the GLOBAL keyword issued from the OM API

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Reason Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>X'00000004'</td>
<td>X'00001000'</td>
<td>The command contained the GLOBAL keyword and was routed to more than one IMS system in the IMSplex. The non-master IMS systems will reject this command when OM routes the command to them. The master IMS system will process this command and use IRLM NOTIFY to route and process the command on the non-master IMS systems. See the discussion under the GLOBAL keyword.</td>
</tr>
</tbody>
</table>

LOCAL

Specifies that the command only applies to the subsystem in which the command is entered. This command does not affect any other subsystem sharing the database. The LOCAL keyword can be used to restrict concurrent updates. LOCAL is the default.

NOFEOV

Specifies that there is no forced end of volume, so that the IMS log does not switch to the next OLDS. If NOFEOV is specified without the MSDB keyword, a simple checkpoint is not taken.

NOPFA

Specifies that DBRC is not notified that the database or area has changed status. You can use this keyword when you need to authorize the database for use after it is offline, for example, for offline utilities. By using this keyword, DBRC does not prevent further authorizations for the database or area.

Recommendation: Before starting the database or area, reissue this command without the NOPFA keyword to inform DBRC of the change in status for the database or area.

Examples

Example 1 for /DBDUMP Command

Entry ET:

/DBDUMP DATABASE PAYROLL

Response ET:

DFS058I (time stamp) DBDUMP COMMAND IN PROGRESS

Explanation: Currently executing application programs are being terminated. When the termination completes, the databases are stopped for update and the output log is switched to the next OLDS.

Response ET:
/DBDUMP

DFS0488I DBD COMMAND COMPLETED.
DBN=PAYROLL RC=0
DFS3257I ONLINE LOG NOW SWITCHED FROM DFSOLP( ) TO DFSOLP( )
DFS994I *CHKPT 82080/111213**SIMPLE*

Explanation: The new OLDS is used to record a simple checkpoint at 111213 (time) on 82080 (Julian date). The checkpoint number is 82080/111213. All /DBDUMP command functions are complete. The /START DATABASE command must be used to start the database after the dump job completes.

Example 2 for /DBDUMP Command

Entry ET:
/DBDUMP DATABASE MSDB

Response ET:
DFS058I (time stamp) DBDUMP COMMAND IN PROGRESS

Explanation: All MSDBs are dumped to the MSDB dump data set because MSDB was specified as the parameter of the database keyword.

Response ET:
DFS994I CHKPT 82069/123624**SIMPLE*

Explanation: A simple checkpoint is recorded on the new system log at 123624 (time) on 82069 (Julian date). The checkpoint number is 82069/123624. All MSDBs are dumped.
Chapter 16. /DBRECOVERY

Format

```
/DBRECOVERY
```

Environments and Keywords

Table 35 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/DBRECOVERY</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>AREA</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DATABASE</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DATAGROUP</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>GLOBAL</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>LOCAL</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>NOFEOV</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>NOPFA</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Usage

/DBRECOVERY is used to prevent transactions or programs from accessing DL/I databases, DEDBs, or DEDB areas.

The /DBRECOVERY command can be used on HALDBs. For more information see Appendix H, “High Availability Large Database Commands,” on page 805.

Use of the ALL parameter indicates that the command applies to all databases, even those not opened.
/DBRECOVERY closes and deallocates the databases, and unauthorized them with DBRC. Once the database or area referenced by /DBRECOVERY is closed, the IMS log switches to the next OLDS (unless you specify the NOFEOV keyword). This switch to the next OLDS is marked as a recovery point for log archiving purposes. IMS issues a simple checkpoint.

/DBRECOVERY is supported on an RSR tracking subsystem, but only for a database readiness level (DLT) subsystem. /DBRECOVERY is used on an RSR tracking subsystem to take shadow areas and databases offline for image copy and recovery. The /DBRECOVERY command also stops online forward recovery (OFR) if it is in progress for the specified database or area.

IMS databases, DEDBs, and DEDB areas closed by the master terminal operator with the /DBRECOVERY command can be used as input to the offline IMS Database Recovery utility. The Database Recovery utility runs in a batch region.

For the results of issuing this command on a shared secondary index, see Appendix D, “Shared Secondary Index Database Commands,” on page 787.

The /DBRECOVERY command will not deallocate a data set if a VSAM data set hardware error occurred. Use VARY nnn,OFFLINE,FORCE to deallocate the data set (where nnn is the is is the number of the device). For information on recovering VSAM data sets, see DFSMS/MVS® Managing Catalogs (SC26-4914).

In an IMSplex, the output of the /DBR command is different when the command is entered through the OM API. In this case, the DFS058I message is not returned to OM. The command response returned to OM contains one or more of the following messages as appropriate to the database type and the command completion. For more information about specific messages, see IMS Version 8: Messages and Codes, Volume 1.

- For /DBR AREA commands that specify GLOBAL, only the command master returns the asynchronous messages to OM. When a command is processed with the LOCAL keyword, all IMSs are able to return the asynchronous messages to OM.
- Full Function Database messages for /DBR DB: DFS132, DFS160, DFS216, DFS0488I, DFS0565I, DFS1407, DFS2026, DFS3318I, DFS3320I, DFS3321I, DFS3464I, DFS3466I.
- Fast Path Database messages for /DBR DB: DFS140I, DFS0666I, DFS3062I, DFS3320I.
- Fast Path Database messages for /DBR AREA: DFS140I, DFS0488I, DFS0666I, DFS1407I, DFS3060I, DFS3062I, DFS3320I, DFS3325I, DFS3342I, DFS3720I.

AREA
Specifies the DEDB areas (but not DEDBs) to be processed by the /DBRECOVERY command. /DBRECOVERY AREA stops the accessing and updating of specified DEDB areas and closes them.

/START AREA can be used to reopen and reallocate the areas closed by /DBRECOVERY AREA command.

The /DBRECOVERY command for Fast Path Virtual Storage Option (VSO) areas in an MVS data space removes the areas from the data space and forces updates to be written back to DASD.

DATABASE
Specifies the DL/I databases and Fast Path DEDBs (and inclusive areas) to be processed by the /DBRECOVERY command. MSDBs cannot be specified with
/DBRECOVERY. /DBRECOVERY DATABASE allows scheduling of transactions or programs that use the database to continue after successful completion of the command. However, calls to DEDB databases will receive an FH status code, and calls to DL/I databases will result in either a 3303 psuedoabend, or if an INIT call was issued, a BA status code.

When /DBRECOVERY DATABASE is entered, the data sets of the databases named in the command are closed. The /DBRECOVERY DATABASE command dynamically deallocates the IMS databases. For DEDBs, the randomizer is unloaded and removed from storage.

If a DL/I database is being used by a batch message processing region when the /DBRECOVERY command is issued, a DFS0565I message is returned to the master terminal. The command is ignored for the database named in the message and processing continues for any other databases specified in the command. The master terminal operator must wait until the BMP ends before reissuing the command, /DBRECOVERY, to close the database or databases named in any DFS0565I message. DEDB databases will accept the /DBRECOVERY command while actively being used by a batch message processing region. However, all further calls to the database will receive an FH status code.

The region identified in the DFS0565I message can also be an MPP region. The error message can be issued in order to break a potential deadlock condition between Online Change, a /DBR, or /STA command against a database being used by the MPP and an application running in the MPP issuing an ICMD or CMD call.

The /START DATABASE command is used to reallocate the databases closed by the /DBRECOVERY DATABASE command. For DEDBs, a /START DATABASE command also causes a reload of the randomizer.

For DBCTL, when CCTL schedules a PSB, the DBCTL thread SCHED request defines the thread as LONG or SHORT. If the database is currently scheduled to a LONG thread, the command is rejected; otherwise, the thread is allowed to “complete” before the database is acted upon. This results in either a commit point or transaction termination.

On an RSR tracking subsystem, /DBR DATABASE for a DEDB is not permitted.

DATAGROUP
Specifies a group of DL/I databases and Fast Path DEDBs to be processed by the /DBRECOVERY command. Use the INIT.DBDSGRP command with the GRPNAME and DBGRP keywords to define the data group in the RECON data set.

DATAGROUP is valid on active and RSR tracking subsystems.

Related Reading: See “Group Parameters” on page 19 for more information on defining data groups.

Recommendation: Although you can use DBDS groups as well as database groups for this command, you should use database groups whenever possible to eliminate the overhead of converting the DBDS group to a database group.

GLOBAL
Applies when the database is registered to DBRC and specifies that the command applies to all sharing online subsystems. /DBRECOVERY GLOBAL can be used to close the database so that it can be taken offline when this command successfully completes in all online subsystems. DBRC will prevent further authorization.
The GLOBAL keyword and the ALL parameter are mutually exclusive. The /DBRECOVERY command will be rejected if both GLOBAL and ALL are specified. The IRLM must be active when the GLOBAL keyword is used. If IRLM is not active, the command is rejected.

If the GLOBAL keyword on a command is entered from an OM API, the command should only be routed to one IMS system in the IMSplex. The IMS that receives the command from OM will make DBRC calls to update the RECON with GLOBAL status. It will also request IRLM NOTIFY to route and process the command on sharing IMS systems, and then process the command locally.

Messages produced on the NOTIFIED systems will appear only on the system console and will not be routed back to the OM API which originally entered the command.

If multiple IMS systems have been explicitly specified in the route list, the master IMS system will process the command as described above. However, the non-master IMS systems, to which OM routes the command, will reject the command with the return and reason codes in Table 36.

Table 36. Return and reason code for GLOBAL keyword issued from the OM API

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Reason Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>X'00000004'</td>
<td>X'00001000'</td>
<td>The command contained the GLOBAL keyword and was routed to more than one IMS system in the IMSplex. The non-master IMS systems will reject this command when OM routes the command to them. The master IMS system will process this command and use IRLM NOTIFY to route and process the command on the non-master IMS systems. See the discussion under the GLOBAL keyword.</td>
</tr>
</tbody>
</table>

Restriction: When the GLOBAL keyword is specified, the command is performed for the named database only. If the command is to be performed for a HIDAM database and its index, both must be named.

The GLOBAL keyword is not supported for an RSR tracking subsystem. The GLOBAL keyword cannot be combined with the DATAGROUP keyword.

LOCAL

Specifies that the command only applies to the subsystem in which the command is entered. This command does not affect any other subsystem sharing the database or area. Use the LOCAL keyword to increase usability for the other system sharing the database or area. LOCAL is the default.

NOEEOV

Specifies that there is no forced end of volume, so that the log does not switch to the next OLDS and simple checkpoint is not taken. The NOEEOV keyword is the default for an RSR tracking subsystem so that the OLDS is not switched, nor is a simple checkpoint taken.

NOPFA

Specifies that DBRC is not notified that the database or area has changed status. You can use this keyword when you need to authorize the database for use after it is offline, for example, for offline utilities. By using this keyword, DBRC does not prevent further authorizations for the database or area.
Recommendation: Before starting the database or area, reissue this command **without** the NOPFA keyword to inform DBRC of the change in status for the database or area.

Examples

Example 1 for /DBRECOVERY Command

Entry ET:

```
/DBRECOVERY AREA ALL
```

Response ET:

```
DFS058I  DBRECOVERY COMMAND IN PROGRESS
DFS0488I DBRECOVERY COMMAND COMPLETED. AREA=DBAREA0
DFS0488I DBRECOVERY COMMAND COMPLETED. AREA=DBAREA1
```

Explanation: DEDB areas are being stopped for inquiry and update, closed, and deallocated; the output log is switched to the next OLDS.

Example 2 for /DBRECOVERY Command

Entry ET:

```
/DBRECOVERY DATABASE SKILL
```

Response ET:

```
DFS058I  DBRECOVERY COMMAND IN PROGRESS
DFS2500I DATABASE SKILL SUCCESSFULLY DEALLOCATED
DFS0488I DBRECOVERY COMMAND COMPLETED. DBN=SKILL RC=0
DFS3257I ONLINE LOG NOW SWITCHED FROM DFSOLP( ) TO DFSOLP( )
DFS944I *CHKPT 82123/121314**SIMPLE**
```

Explanation: The new OLDS is used to record a simple checkpoint at 121314 (time) on 82123 (Julian date). The checkpoint number is 82123/121314. All /DBRECOVERY command functions are complete. The Database Recovery utility can be executed after archiving. Currently executing application programs are being terminated. When the termination completes, the SKILL database is stopped for inquiry and update, closed, and deallocated; the output log is switched to the next OLDS. /START DATABASE must be used to start the database after the recovery job completes.

Example 3 for /DBRECOVERY Command

This example shows how to stop an online forward recovery (OFR) at the RSR tracking site with a /DBRECOVERY command.

Entry ET (on tracking subsystem):

```
/DISPLAY DATABASE OFR
```

Response ET (to tracking subsystem):

```
DATABASE  TYPE  TOTAL-unused TOTAL-unused ACC  CONDITIONS
BE2PCUST  DL/I  EX  ALLOCS OFR
BE3ORDER  DL/I  EX  ALLOCS OFR
BE3ORDRX  DL/I  EX  ALLOCS OFR
BE3PARTS  DL/I  EX  ALLOCS OFR
BE3PSID1  DL/I  EX  ALLOCS OFR
*91240/132406*  SYS3
```

Entry ET (on tracking subsystem):
Response ET (to tracking subsystem):

**DFS058I** DBRECOVERY COMMAND IN PROGRESS
**DFS0488I** DBR COMMAND COMPLETED. DBN=BE3ORDER. RC=0
**DFS0488I** DBR COMMAND COMPLETED. DBN=BE3PSID1. RC=0

Explanation: Databases BE3ORDER and BE3PSID1 are closed, unallocated, and unauthorized with DBRC. Online forward recovery for the databases is also stopped.

**Example 4 for /DBRECOVERY Command**

This example shows how /DBRECOVERY command might look when entered from the SPOC.

**TSO SPOC input:**

DBR DB BANKATMS BANKTERM BANKLDGR BE3ORDER

**TSO SPOC output:**

SYS3  DFS0488I  DBR COMMAND COMPLETED. DBN= BANKATMS RC=04
SYS3  DFS0488I  DBR COMMAND COMPLETED. DBN= BANKTERM RC=04
SYS3  DFS0488I  DBR COMMAND COMPLETED. DBN= BANKLDGR RC=04
IMS3  DFS0488I  DBR COMMAND COMPLETED. DBN= BE3ORDER RC= 0
IMS3  DFS0488I  DBR COMMAND COMPLETED. DBN= BANKATMS RC=04
IMS3  DFS0488I  DBR COMMAND COMPLETED. DBN= BANKTERM RC=04
IMS3  DFS0488I  DBR COMMAND COMPLETED. DBN= BE3PSID1 RC=0

**OM API input:**

CMD (DBR DB BANKATMS BANKTERM BANKLDGR BE3ORDER)

**OM API output:**

```xml
<?xml version="1.0"?>
<!DOCTYPE imsout SYSTEM "imsout.dtd">
<imsout>
<ctl>
<omname>OM10M </omname>
<omvsn>1.1.0</omvsn>
<xmlvsn>1 </xmlvsn>
<statime>2002.197 21:52:02.730359</statime>
<stotime>2002.197 21:52:03.383199</stotime>
<staseq>B7EFBE716A9770A4</staseq>
<stoseq>B7EFBE7209F9FD2F</stoseq>
<rqsttkn1>USR005 10145202</rqsttkn1>
<rc>02000000</rc>
<rsn>00003008</rsn>
</ctl>
<cmderr>
<mbr name="SYS3 ">
<typ>IMS </typ>
<styp>DBDC </styp>
<rc>00000014</rc>
<rsn>00005050</rsn>
</mbr>
<mbr name="IMS3 ">
<typ>IMS </typ>
<styp>DBDC </styp>
<rc>00000014</rc>
<rsn>00005050</rsn>
</mbr>
</cmderr>
```
Explanation: The DBR command is routed from OM to the two active IMSs - SYS3 and IMS3. The response from both IMSs is returned to OM. The databases BANKATMS, BANKTERM, BANKLDGR, and BE3ORDER are taken offline at both IMSs.
Chapter 17. /DELETE

Format

```
/DELETE
/DEL
DESC descriptorname
PASSWORD SECURITY FOR A
TERMINAL SECURITY FOR TRANSACTION tranname
```

A:

```
DATABASE dbname
LINE line# PTERM pterm#
LTERM ltermname
NODE nodename
PROGRAM programname
TRANSACTION tranname
```

Environments and Keywords

Table 37 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 37. Valid Environments for the /DELETE Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/DELETE</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>DATABASE</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>_DESCRIPTOR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LINE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LTERM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NODE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PASSWORD</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PROGRAM</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

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Table 37. Valid Environments for the /DELETE Command and Keywords (continued)

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTERM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TERMINAL</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TRANSACTION</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

The /DELETE command deletes
- LU 6.2 descriptors
- Password security authorizations for a given transaction code, logical terminal, relative physical terminal, database, node, or program
- Terminal and logical link security for a given transaction code

**DESCRIPTION**
Specifies the LU62 descriptor to be deleted. Note that this will not delete the descriptor in the PROCLIB member. It is necessary to remove the descriptor from the PROCLIB member; otherwise, the descriptor will be defined at the next IMS restart.

**PASSWORD**
Specifies the password security authorization to be deleted.

For the /DELETE PASSWORD NODE command, if the specified node is an ISC parallel-session node, password protection is deleted for all the half-sessions of the specified node.

In a dynamic terminal environment, /DELETE PASSWORD is ignored for dynamic ACF-VTAM nodes. This command uses the Security Maintenance utility, which is not supported for dynamic VTAM nodes in a dynamic terminal environment.

Once deleted, password security is not reestablished until either a cold start or a warm start is performed using the PASSWORD keyword.

**TERMINAL**
Specifies the terminal and logical link security to be deleted. Once deleted, terminal security is not reestablished until either a cold start or a warm start is performed using the TERMINAL keyword.

Examples

**Example 1 for /DELETE Command**

Entry ET:
/DELETE PASSWORD FOR DATABASE TREEFARM

Response ET:
DFS058I DELETE COMMAND COMPLETED

Explanation: Password security is deleted for the database named TREEFARM.

**Example 2 for /DELETE Command**

Entry ET:
/DELETE TERMINAL SECURITY FOR TRANSACTION PIT, SEED
Response ET:

DFS058I  DELETE COMMAND COMPLETED

Explanation: Terminal and logical link security is deleted for the transaction codes named PIT and SEED.
IMS Commands
Chapter 18. DELETE

Format

Environments, Keywords, and Parameters

Table 38 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 38. Valid Environments for the DELETE Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DELETE LE</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>LTERM</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PGM</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>TRAN</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>USERID</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

The DELETE command (with the LE keyword) deletes language environment (LE) runtime options that have previously been defined by the UPDATE command (with the LE keyword). The delete can use filters on transaction code, LTERM name, userid, or program name. Any combination of parameters can be used to qualify the application instance to which the runtime parameters are deleted. All matches found are deleted. The entry is logically deleted. The entry is then immediately available for reuse by the next UPDATE LE command. There is a small window of time where it is possible for an entry to be deleted and reused before LE uses it, that could cause LE to use the wrong set of parameters.

Related Reading: For more information about the UPDATE command, see Chapter 64, “UPDATE,” on page 675.

This command may be specified only through the Operations Manager API.

The command syntax for this command is defined in XML and is available to automation programs that communicate with OM.

OM overrides the routing on the command and routes the command to all IMS systems in the IMSplex. The user-specified route list is ignored.

Rules for matching an entry which results in the delete of an entry:

- If a filter is specified in the command for a particular resource it must match the resource filter defined in the entry. The resource in the DELETE LE command can be specified with wildcards as defined previously.
A resource filter that is not specified on a DELETE LE command will match on any filter for the specific resource defined in the entry. A non-specified filter is treated as a wildcard. For instance if the LTERM filter is not specified on a DELETE LE command it will match on any LTERM resource defined in an entry, as if LTERM(*) was specified on the command.

If an existing set of LE runtime options are found for the specified TRAN, LTERM, USERID, and/or PGM, the existing parameter string is deleted. The string is deleted only when the specified filters are an exact match for the existing entry. The entry is logically deleted. The entry is available for reuse on the next UPDATE LE command.

The following keywords support a generic or wildcard character. A generic parameter is a 1 - 8 character alphanumeric name that includes one or more special characters and an asterisk or a percent sign. An asterisk can be replaced by a zero or more characters to create a valid resource name. A percent sign can be replaced by exactly one character to create a valid resource name.

**LTERM()**
Specifies the 1 - 8 character name of the LTERM or LTERMs matching the generic or wildcard parameter.

**PGM()**
Specifies the 1 - 8 character name of the program or programs matching the generic or wildcard parameter.

**TRAN()**
Specifies the 1 - 8 character name of the transaction or transactions matching the generic or wildcard parameter.

**USERID()**
Specifies the 1 - 8 character name of the userid or userids matching the generic or wildcard parameter.

**Requirement:** At least one of the resource filters (LTERM, PGM, TRAN, or USERID) must be specified on the UPDATE LE command.

### DELETE LE Output Fields

Table 39 shows the DELETE LE output fields. It includes the short label, keyword, and meaning.

<table>
<thead>
<tr>
<th>Short Label</th>
<th>Keyword</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC</td>
<td>N/A</td>
<td>Completion code for the line of output. Completion code is always returned.</td>
</tr>
<tr>
<td>LTRM</td>
<td>LTERM</td>
<td>LTERM name affected by the DELETE.</td>
</tr>
<tr>
<td>MBR</td>
<td>N/A</td>
<td>IMSplex member (IMS identifier) that built the output line. Member name is always returned.</td>
</tr>
<tr>
<td>PGM</td>
<td>PGM</td>
<td>Program name affected by the DELETE.</td>
</tr>
<tr>
<td>TRAN</td>
<td>TRAN</td>
<td>Transaction name affected by the DELETE.</td>
</tr>
<tr>
<td>UID</td>
<td>USERID</td>
<td>Userid affected by the DELETE.</td>
</tr>
</tbody>
</table>

### Return, Reason, and Completion Codes for DELETE LE

Table 40 on page 175 shows the DELETE LE return and reason codes and the meaning of the codes.
Table 40. Return and Reason Codes for the DELETE LE Command

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Reason Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>X'00000000'</td>
<td>X'00000000'</td>
<td>The DELETE LE command completed successfully.</td>
</tr>
<tr>
<td>X'00000008'</td>
<td>X'00002008'</td>
<td>No keywords were specified on the command. At least one keyword is required.</td>
</tr>
<tr>
<td>X'00000008'</td>
<td>X'0000200C'</td>
<td>No resources found to delete. Either the entry was previously deleted or a keyword filter was typed incorrectly.</td>
</tr>
<tr>
<td>X'00000008'</td>
<td>X'00002014'</td>
<td>An invalid character was specified in the filter name.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004040'</td>
<td>The parameter override header has not been initialized. Retry the command after restart is complete.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'00005000'</td>
<td>Unable to get storage from IMODULE GETSTOR.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'00005010'</td>
<td>Unable to obtain latch.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'00005FFF'</td>
<td>Internal IMS Error - should not occur.</td>
</tr>
</tbody>
</table>

Table 41 contains the completion code that can be returned on a DELETE LE command and the meaning of the code.

Table 41. Completion Code for the DELETE LE Command

<table>
<thead>
<tr>
<th>Completion Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The DELETE LE command completed successfully for the specified resource.</td>
</tr>
</tbody>
</table>

Examples

Example 1 for DELETE LE Command

For this example, Table 42 shows the parameter override table entries prior to any DELETE LE commands being processed.

Table 42. Parameter Override Table Entries for DELETE LE Example

<table>
<thead>
<tr>
<th>Entry#</th>
<th>TRAN</th>
<th>LTERM</th>
<th>USERID</th>
<th>PROGRAM</th>
<th>LERUNOPTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PART</td>
<td></td>
<td></td>
<td>DFSSAM02</td>
<td>aaaa</td>
</tr>
<tr>
<td>2</td>
<td>PART</td>
<td></td>
<td></td>
<td></td>
<td>bbbb</td>
</tr>
<tr>
<td>3</td>
<td>PART</td>
<td>TERM1</td>
<td>cccc</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>DFSSAM02</td>
<td>dddd</td>
</tr>
<tr>
<td>5</td>
<td>PART</td>
<td>TERM1</td>
<td>BARBARA</td>
<td></td>
<td>eeee</td>
</tr>
<tr>
<td>6</td>
<td>PART</td>
<td>TERM1</td>
<td>BOB</td>
<td></td>
<td>fff</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>TERM2</td>
<td>BETTY</td>
<td></td>
<td>g999</td>
</tr>
<tr>
<td>8</td>
<td>PART</td>
<td>TERM2</td>
<td></td>
<td></td>
<td>iii</td>
</tr>
</tbody>
</table>

Table 43 shows the resulting actions when different filters are specified on a DELETE LE command.

Table 43. Example Filters and Resulting Actions for DELETE LE Command

<table>
<thead>
<tr>
<th>Filters Active on Command</th>
<th>Resulting Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRAN(PART)</td>
<td>Deletes entries #1, 2, 3, 5, 6, 8</td>
</tr>
</tbody>
</table>
Table 43. Example Filters and Resulting Actions for DELETE LE Command (continued)

<table>
<thead>
<tr>
<th>Filters Active on Command</th>
<th>Resulting Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRAN(PART) LTERM(TERM1)</td>
<td>Deletes entries #3, 5, 6</td>
</tr>
<tr>
<td>LTERM(TERM2) USERID(BETTY)</td>
<td>Deletes entry #7</td>
</tr>
<tr>
<td>TRAN(PART) LTERM(TERM1) USERID(BETTY)</td>
<td>Does not delete any entries</td>
</tr>
<tr>
<td>TRAN(PART) LTERM(TERM*) USERID(B*)</td>
<td>Deletes entries #3, 5, 6, 8</td>
</tr>
<tr>
<td>USERID(B*)</td>
<td>Deletes entries #2, 5, 6, 7</td>
</tr>
</tbody>
</table>

Example 2 for DELETE LE Command

The following TSO SPOC and OM API input and output sets up the scenario for the DELETE LE command examples. The UPDATE commands are used to add entries to the table; the QUERY command shows the resulting entries.

TSO SPOC input:

UPD LE TRAN(IAPMDI27) USERID(USRT003) SET(LERUNOPTS(cccc))
UPD LE TRAN(IAPMDI27) USERID(USRT001) SET(LERUNOPTS(bbbb))
UPD LE TRAN(IAPMDI26) USERID(USRT001) SET(LERUNOPTS(aaaa))
QRY LE SHOW(ALL)

TSO SPOC output (for QUERY command):

<table>
<thead>
<tr>
<th>MbrName</th>
<th>CC</th>
<th>Trancode</th>
<th>Lterm</th>
<th>Userid</th>
<th>Program</th>
<th>LERunOpts</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYS3</td>
<td>0</td>
<td>IAPMD126</td>
<td>USRT001</td>
<td>AAAA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYS3</td>
<td>0</td>
<td>IAPMD127</td>
<td>USRT001</td>
<td>BBBB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYS3</td>
<td>0</td>
<td>IAPMD127</td>
<td>USRT003</td>
<td>CCCC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OM API input:

CMD(UPD LE TRAN(IAPMDI27) USERID(USRT003) SET(LERUNOPTS(cccc)))
CMD(UPD LE TRAN(IAPMDI27) USERID(USRT001) SET(LERUNOPTS(bbbb)))
CMD(UPD LE TRAN(IAPMDI26) USERID(USRT001) SET(LERUNOPTS(aaaa)))
CMD(QRY LE SHOW(ALL))

OM API output (for QUERY command):

<html>
<imsout>
<ctl>
<omname>OM1OM</omname>
<omvsn>1.1.0</omvsn>
<xmlvsn>1</xmlvsn>
<stotime>2002.163 18:10:14.974985</stotime>
<staseq>B7C4D747AC50C85</staseq>
<stoseq>B7C4D747AE0925</stoseq>
<rqtstknl>USRT002 10111014</rqtstknl>
<rc>00000000</rc>
<rsn>00000000</rsn>
</ctl>
</imsout>
</html>

Example 2 for DELETE LE Command

The following TSO SPOC and OM API input and output sets up the scenario for the DELETE LE command examples. The UPDATE commands are used to add entries to the table; the QUERY command shows the resulting entries.

TSO SPOC input:

UPD LE TRAN(IAPMDI27) USERID(USRT003) SET(LERUNOPTS(cccc))
UPD LE TRAN(IAPMDI27) USERID(USRT001) SET(LERUNOPTS(bbbb))
UPD LE TRAN(IAPMDI26) USERID(USRT001) SET(LERUNOPTS(aaaa))
QRY LE SHOW(ALL)

TSO SPOC output (for QUERY command):

<table>
<thead>
<tr>
<th>MbrName</th>
<th>CC</th>
<th>Trancode</th>
<th>Lterm</th>
<th>Userid</th>
<th>Program</th>
<th>LERunOpts</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYS3</td>
<td>0</td>
<td>IAPMD126</td>
<td>USRT001</td>
<td>AAAA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYS3</td>
<td>0</td>
<td>IAPMD127</td>
<td>USRT001</td>
<td>BBBB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYS3</td>
<td>0</td>
<td>IAPMD127</td>
<td>USRT003</td>
<td>CCCC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OM API input:

CMD(UPD LE TRAN(IAPMDI27) USERID(USRT003) SET(LERUNOPTS(cccc)))
CMD(UPD LE TRAN(IAPMDI27) USERID(USRT001) SET(LERUNOPTS(bbbb)))
CMD(UPD LE TRAN(IAPMDI26) USERID(USRT001) SET(LERUNOPTS(aaaa)))
CMD(QRY LE SHOW(ALL))

OM API output (for QUERY command):

<html>
<imsout>
<ctl>
<omname>OM1OM</omname>
<omvsn>1.1.0</omvsn>
<xmlvsn>1</xmlvsn>
<stotime>2002.163 18:10:14.974985</stotime>
<staseq>B7C4D747AC50C85</staseq>
<stoseq>B7C4D747AE0925</stoseq>
<rqtstknl>USRT002 10111014</rqtstknl>
<rc>00000000</rc>
<rsn>00000000</rsn>
</ctl>
</imsout>
</html>
DELETE LE command example number 1.

TSO SPOC input:
DEL LE TRAN(IAPMDI27) USERID(USRT001)

TSO SPOC output:

OM API input:
CMD(DEL LE TRAN(IAPMDI27) USERID(USRT001))

OM API output:
DELETE LE command example number 2.

TSO SPOC input:
DEL LE USERID(USRT00%)

TSO SPOC output:

OM API input:
CMD(DEL LE USERID(USRT00%))

OM API output:
Explanation: This command specifies only one filter, userid. A wildcard is used, so any table entry where the USERID filter matches the string will be deleted. The command output shows that both of the remaining table entries were deleted.
Chapter 19. /DEQUEUE

Format

```
/DEQUEUE
AOITOKEN—aoitokenname
  LINE—line#—PTERM—pterm# A
  LTERM—ltermname
    PURGE
    PURGE1
  LUNAME—luname—TPNAME—tpname
    PURGE
    PURGE1
  MSNAME—msname
    PURGE
    PURGE1
  NODE—nodename
    USER—username A
  SUSPEND
    TMEMBER—tmembername
      TPipe—tpipename
      PURGE
      PURGE1
  TRANSACTION—tranname
    PURGE
    PURGE1
  USER—username A
```

A:

```
PURGE
  LTERM—ltermname
    PURGE
    PURGE1
```

Environments and Keywords

Table 44 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 44. Valid Environments for the /DEQUEUE Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/DEQUEUE</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>AOITOKEN</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>LINE</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>LTERM</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>LUNAME</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>MSNAME</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>NODE</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PTERM</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PURGE</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PURGE1</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SUSPEND</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>TMEMBER</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
/DEQUEUE

Table 44. Valid Environments for the /DEQUEUE Command and Keywords (continued)

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>TPIPE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TPNAME</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRANSACTION</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>USER</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

The /DEQUEUE command with any of the following keywords is used to cancel a message that is being processed: LINE, LTERM, LUNAME, MSNAME, NODE, TRANSACTION, or USER. Also, a /DEQUEUE command dequeues messages from either the local queues, or in a shared-queues environment, the shared queues. An output message displays the total count of all messages dequeued.

/DEQUEUE AOITOKEN is used to dequeue and discard messages associated with the specified AOI token name.

A /DEQUEUE command with any of the following keywords activates the Message Control Error exit routine, DFSCMUX0, before processing each message: LTERM, LUNAME, TPNAME, NODE, or MSNAME. The user exit routine can request IMS to:

- Proceed with the command and purge the message. This is the default action for the Message Control Error exit routine. For more information, see [IMS Version 8: Customization Guide](#).
- Suppress the command.
- Suppress the command and send an informational message to the entering terminal.
- Route the message to a different destination.

/DEQUEUE SUSPEND schedules transactions that have been suspended by IMS.

/DEQUEUE TMEMBER TPIPE dequeues messages associated with an IMS Open Transaction Manager Access (OTMA) transaction pipe.

The /DEQUEUE NODE command dequeues messages from the local or shared queues for statically defined terminals. If PURGE or PURGE1 is specified, the node must be stopped and idle. Without PURGE or PURGE1, the message actively being sent is dequeued.

The /DEQUEUE LTERM command dequeues messages from the local or shared queues. The user must be stopped (by a /STOP USER command), and not in conversation, in order to enter /DEQUEUE USER or /DEQUEUE LTERM with PURGE or PURGE1. In a shared queues and ETO environment where the user doesn’t exist, /DEQUEUE LTERM with PURGE or PURGE1 creates a user structure in order to dequeue messages from the shared queues.

AOITOKEN

Dequeues and discards all messages associated with the specified AOI token name.

LINE PTERM

 Cancels the output message currently being sent to the specified physical terminal on the specified communication line.
LTERM
Cancels the output message currently being sent to the specified logical terminal.

/DEQUEUE NODE nodename LTERM is not valid for nodes with users. The user that contains the LTERM must be allocated and the session must be active.

If the PURGE or PURGE1 keyword is specified and the LTERM is associated with a user with DEADQ status, the DEADQ status will be reset.

If the DEADQ status is on, the following command turns it off for the user associated with LTERM ltermname:

/DEQUEUE LTERM ltermname (PURGE/PURGE1)

The DEADQ status is removed by signing the user on or by issuing /DEQUEUE to dequeue one or more messages.

LUNAME TYPNAME
Specifies the LU name and TP name of the LU 6.2 destination from which messages are discarded. A normal (non-qualified) or fully network qualified LUNAME is required for the LUNAME keyword.

Either the PURGE or PURGE1 option must be specified, and the LU 6.2 destination must be stopped and not active; if both actions are not taken, error messages are issued.

MSNAME
Cancels the output message currently being sent to the specified MSC link.

Either PURGE or PURGE1 is required for this link. The MSC link must be stopped by the /PSTOP LINK command before issuing the /DEQUEUE MSNAME command.

NODE
Cancels the output message currently being sent to the specified VTAM node.

The following command is not valid for nodes with users:

/DEQUEUE NODE nodename
/DEQUEUE NODE nodename LTERM ltermname

The following command cancels the output message currently being sent to the specified ISC session, and the user must be allocated to the node and the session must be active:

/DEQUEUE NODE nodename USER username

If PURGE or PURGE1 is specified, the node must be stopped and idle. Without PURGE and PURGE1, if an ETO node or an ISC static parallel session, the USER keyword is required.

If the PURGE keyword is specified, and the NODE is associated with a user with DEADQ status, the DEADQ status will be reset.

PURGE
Cancels all output messages enqueued to the specified LINE, LTERM, LUNAME, MSNAME, NODE, TMEMBER, TPIPE, or USER. PURGE allows cancellation of all output messages enqueued to an LTERM, or to a PTERM without regard to the LTERM. A /DEQUEUE command without PURGE cancels an in-progress output message on the specified terminal and, optionally, LTERM. If the NODE and LTERM keywords have both been supplied, the LTERM must be a valid LTERM of the user currently associated with the node.
Messages cannot be canceled with PURGE if they are destined for the MTO or for terminals or users in response mode, Fast Path, or conversation mode. /DEQUEUE PURGE does not cancel messages destined for the master terminal operator because the master terminal cannot be stopped, disconnected, or idled. /EXIT should be used for a terminal in conversation mode.

If the terminal is a dynamic 3600/FINANCE, SLU P, or ISC terminal, the NODE keyword is only valid if the session is stopped and idle, and the LTERMs are still allocated to the terminal pending message resynchronization. For example, /DEQUEUE NODE nodename USER username (LTERM ltermname) PURGE is valid for the allocated user only if the specified ISC session is stopped and idled.

Messages queued to LTERMs associated with users that are not signed on can be purged by specifying the LTERM keyword without the NODE keyword. NODE with the USER keyword applies to ISC sessions and dynamic terminals and is only valid if the user is still allocated to the node. However, the line or node must be stopped and idled.

If USER is specified and the user had DEADQ status, the DEADQ status is removed. If LTERM or NODE is specified and the LTERM or node is associated with a user with DEADQ status, the DEADQ status is removed.

**PURGE1**
Cancels the first message queued to the specified LTERM. The PURGE1 and PURGE keywords are mutually exclusive.

/DEQUEUE LTERM PURGE1 removes the first message from the queue. The order of search for messages to be removed is:
1. Fast Path
2. Response mode
3. Exclusive mode messages
4. System messages
5. All other messages

Using a synonym for PURGE1 avoids the potential danger of omitting the trailing digit on PURGE1 and canceling all the messages enqueued. Synonyms for PURGE1 are SINGLE, SNGL, and FIRST.

When PURGE1 is specified, the terminal must be stopped and idle and not in conversation mode. If the message is in the process of being actively sent, /DEQUEUE without PURGE1 cancels the message.

**SUSPEND**
Reschedules transactions that have been suspended by IMS. SUSPEND applies to IMS systems sharing data at the block level and to connected external subsystems (not CCTL subsystems). /DEQUEUE SUSPEND causes all message-driven transactions that have been suspended to be rescheduled. When a failed IMS system is restarted, /DEQUEUE SUSPEND informs the currently running IMS system to reschedule any message-driven transactions on its SUSPEND queue. However, when the failed subsystem has global locks retained and cannot communicate the release of those locks to the other subsystems, /DEQUEUE SUSPEND is used to reschedule these message-driven transactions in the other subsystems. This can occur when:
The still-running IMS has transactions on its SUSPEND queue and the failed IMS has been restarted using the /ERESTART COLDSYS command.

The still-running IMS terminates before the failed IMS is restarted. Thus, when the failed system is restarted, the other system, which has now terminated, is unable to receive the message to reschedule the transactions on its SUSPEND queue. The operator must issue /DEQUEUE SUSPEND to reschedule them.

Another use for /DEQUEUE SUSPEND is to release those transactions queued because the installation specified the requeue region error option in the external subsystem PROCLIB member for a particular subsystem. Transactions will be queued if the subsystem connection terminates in an abnormal fashion (for example, dependent region abend, subsystem abnormal termination).

In a shared-queues environment, a /DEQUEUE SUSPEND command moves all transactions on the Transaction Suspend queue to the Transaction Ready queue and makes them eligible for rescheduling. The “suspend” status for the transactions is also reset locally (on the IMS subsystem that entered the command), but is not reset across the Sysplex. To reset the “suspend” status across a Sysplex, use the /START TRANSACTION command on each IMS subsystem.

You can also use the /START TRANSACTION command to reschedule a specific transaction that has been suspended.

/DEQUEUE SUSPEND and /DEQUEUE TRANSACTION can be used to determine whether a transaction has messages on its suspend queue.

**TMEMBER**

Dequeues messages from the OTMA transaction pipe structure specified as *tpipename*. Using the /DEQ command can make OTMA message resynchronization impossible. And if resynchronization is in progress for the specified transaction pipe, IMS rejects the command and issues message DFS2392I.

**TPIPE**

Is used with the /DEQUEUE command to dequeue messages associated with an OTMA transaction pipe.

**TRANSACTION**

Dequeues one or more messages from the transaction specified. The transaction name is a 1- to 8-byte name. The transaction must be stopped for messages to be dequeued.

**Restriction:** This keyword is valid only in a shared-queues environment.

**Recommendation:** Stop the transaction on all IMS subsystems in the shared queues group before issuing the /DEQUEUE TRANSACTION command. If you do not, the IMS subsystem that processes the /DEQUEUE could dequeue a message it does not own and that another IMS subsystem might need.

A /DEQUEUE TRANSACTION command does not dequeue messages enqueued for suspended transactions.

**USER (LTERM)**

Dequeues all messages associated with all LTERMs (or a specific) LTERM assigned to that USER. The user must be stopped and not in conversation in order to enter /DEQUEUE USER with PURGE and PURGE1. /DEQUEUE USER with PURGE1 or /DEQUEUE USER LTERM without PURGE or PURGE1 requires the LTERM keyword. If a user is signed on, /DEQUEUE USER LTERM can be used to cancel an output message that is currently being processed. When the purge
/DEQUEUE

options are used, messages destined for the MTO and users in response mode, Fast Path, and conversation cannot be canceled. If the USER and LTERM keywords have both been supplied, the LTERM must be a valid LTERM of the specified USER.

If the user has DEADQ status, the DEADQ status is removed.

Examples

Example 1 for /DEQUEUE Command

Entry ET:
/DEQUEUE AOITOKEN ABCDE

Response ET:
DFS058I DEQUEUE COMMAND COMPLETED

Explanation: The messages on AOITOKEN ABCDE are dequeued and discarded.

Example 2 for /DEQUEUE Command

Entry ET:
/DEQUEUE LINE 5 PTERM 2

Response ET:
DFS058I DEQUEUE COMMAND COMPLETED

Explanation: The message is terminated on successful completion of the current transmission.

Example 3 for /DEQUEUE Command

Entry ET:
/DEQUEUE LTERM ABCDE PURGE

Response ET:
DFS976I 2 MESSAGE(S) PURGED

Explanation: Two messages are dequeued for LTERM ABCDE (the line is stopped and idle as required).

Example 4 for /DEQUEUE Command

Entry ET:
/DEQUEUE LTERM ABCDE PURGE1

Response ET:
DFS058I DEQUEUE COMMAND COMPLETED

Explanation: The message is dequeued for LTERM ABCDE.

Example 5 for /DEQUEUE Command

Entry ET:
/DEQ LUNAME 'NETWORK1..LUNAME1' TPNAME TPNAME1 PURGE

Response ET:
DFS1952 10:51:35 DESTINATION NOT FOUND

Explanation: An invalid APPC destination was entered.

Example 6 for /DEQUEUE Command

Entry ET:
/DEQ LUNAME 'CICSNET.SERVER1' TPNAME DFSASYNC PURGE1

Response ET:
DFS976I 14:10:25 1 MESSAGE(S) PURGED

Explanation: The message was dequeued from the APPC destination LUNAME CICSNET.SERVER, TPNAME DFSASYNC.
Chapter 20. /DISPLAY

Format

/DISPLAY ACTIVE Command

- /DISPLAY
- /DIS
- ACTIVE
- DC
- REGION
- AFFINITY
- NODE
- nodename
- AOITOKEN
- APPC
- AREA
- areaname
- ALL
- IC
- MADSIOT
- NOTOPEN
- OFR
- RECOVERN
- STOPPED
/DISPLAY Command: CCTL Through HSSP

A:

Chapter 20. /DISPLAY 191
/DISPLAY Command: LINE through LTERM
/DISPLAY Command: LUNAME through MSNAME

B:

- ADDS
- CHNGS
- DBS
- DELS
- OMS
- FMS
- MODS
- PDS
- PSS
- RCS
- TRS
/DISPLAY NODE Command

BB:
| ACTIV | AUTOSR | BCKUP | CLSDST | CON | CONVACT | CONVHLD | C1INOP | C2INOP | C3INOP | C4INOP | DEACT | EXCL | FORCES | IDLE | INOP | LOCK | LOST | MFST | OPNDST | PAGE | PRI | PRST | QUI | RELREQ | RESP | RESPINP | RESYNC | SEC | SHUT | SIGN | SIMLOGON | STATIC | STOPPED | TEST | TKOTRA | TRA |
/DISPLAY Command: OASN through OVERFLOWQ

```
/OASN SUBSYS subsysname
  OLDS
    ALL INUSE, BACKOUT, ERROR, STOPPED
  OTMA
  OVERFLOWQ STRUCTURE structurename
    ALL
```

Published: 196

Command Reference
/DISPLAY Command: POOL through PSB

Chapter 20. /DISPLAY 197
/DISPLAY Command: PTERM through SHUTDOWN STATUS

C:

/PRIORITY prty#

/PRRTY ALL
/DISPLAY Command: STATUS through TMEMBER

- CLASS
- DATABASE
- LINE
- LINK
- LTERM
- LUNAME
- MSNAME
- NODE
- PROGRAM
- PTERM
- RTCODE
- TMEMBER
- TRANSACTION
- USER

- STRUCTURE
  - structurename
  - ALL

- SUBSYS
  - subsysname
  - ALL

- SYSID
  - TRANSACTION
    - tranname
    - ALL

- TIMEOVER
  - time#

- TMEMBER
  - tmembername
    - QCNT
    - TPIPE
    - All
    - TPIPE
    - All
/DISPLAY Command: TRACE through TRANSACTION

```
/DISPLAY
/
/TRACE

EXIT
- LINE
- LINK
- LUNAME
- MONITOR
- NODE
- OSAMGTF
- PI
- PROGRAM
- PSB
- TABLE
- TCO
- TIMEOUT
- TMEMBER
- TRANSACTION
- TRAP
- XTRC

ALL

TRACING STATUS

TRANSACTION

 tranname
 tranname*

 tranname
 tranname

 ALL
 QCNT
```
/DISPLAY Command: UOR through USER

- /DISPLAY
- UOR
- /DIS
- ALL
- ACTIVE
- INDOUBT
- prtkn
- USER
- username
- username*
- RECOVERY
- REC
- username
- AUTOLOGON
- QCNT
- EMHQ
- ALLOC
- CONVACT
- CONVHLD
- DEADQ
- EXCL
- MFST
- PRST
- RESP
- RESPINP
- STATIC
- STOPPED
- TEST
- ALL
Environments and Keywords

Table 45 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 45. Valid Environments for the /DISPLAY Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
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### Table 45. Valid Environments for the /DISPLAY Command and Keywords (continued)

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Table 45. Valid Environments for the /DISPLAY Command and Keywords (continued)

<table>
<thead>
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<th>Command / Keywords</th>
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</table>

Usage

/DISPLAY displays the processing status of IMS message queues and processing resources. /DISPLAY can provide helpful information for controlling IMS operations.

The output from a /DISPLAY command consists of headings that describe the display, the information requested, and a time stamp showing Julian date and time, in one of the following two formats:

- yyddd/hhmmss
- yyyyddd/hhmmss

You control the timestamp format by specifying the YEAR4= execution parameter.

If the command includes a generic parameter that does not match any existing resource, an error message results.

See Appendix G, “Status and Attributes for the /DISPLAY Command,” on page 793 for a list of attributes and status in the /DISPLAY command.

In an IMSplex, when status is copied to RM at signoff/logoff time, the status (and control blocks if the resource is dynamic) are deleted from the local system. When a /DISPLAY command is issued for NODE, USER, and LTERM resources from the command master, global status from RM may be displayed. The output of the display command will be dependent on the following guidelines:

Command Master IMS System
- Displays information from the local system
- Displays information from RM that is not owned, or is owned by a failed system

Other IMS Systems
- Displays information from the local system

Use of ALL, generic parameters, the /DISPLAY STATUS command, and the /DISPLAY CONVERSATION command without a specific resource name will result in extensive accesses to the Resource Manager for global information, and their use should be carefully considered.

/DISPLAY ACTIVE

The /DISPLAY ACTIVE command displays region and DC information associated with an IMS system. The region is scheduled to an application program and the IMS resources are assigned.

When you issue /DISPLAY ACTIVE from a specific environment, such as DCCTL, only the information that is valid for that environment is displayed.

Examples of using the /DISPLAY ACTIVE command are shown in
- “Example 1 for /DISPLAY ACTIVE Command” on page 274
- “Example 2 for /DISPLAY ACTIVE Command” on page 274
DC  Displays only the DC subset of the output. The DC portion of the display can include:
   • The status of the VTAM ACB
   • The APPC IMS LU name, the APPC connection status, and the APPC timeout value.
   • The APPC/OTMA SHARED QUEUE status, the number of RRS TCBs attached and the number of AWEs (work-elements) queued to the RRS TCBs.
   • OTMA status
   • The IMS generic LU name and its current status
   • The number of active LINES (BTAM terminals) receiving input or sending output
   • The number of active NODES receiving input or sending output
   • The number of active LINKS (half sessions) receiving input or sending output

REGION  Displays only the REGION subset of the output. The display consists of active regions.

Output for the /DISPLAY ACTIVE DC command is listed below:

OTMA GROUP  Status of the IMS Open Transaction Manager Access (OTMA) group. The status can be either ACTIVE or NOTACTIVE.
            There can be only one OTMA group active at one time.

VTAM ACB  The status of the VTAM ACB, which can be OPEN, CLOSE PENDING, or CLOSED. The status of LOGONS can be ENABLED or DISABLED. The base IMS LU name and the current APPC connection status are shown if IMS is running with an APPC/MVS-capable operating system.
            The following are displayed for the VTAM ACB:

            APPLID=  The application identification name for IMS.

            USERVAR=  The user name for IMS. Only applicable for XRF-capable or RSR-capable systems.

            GRSNAME=  The VTAM generic resource name. Displayed as blanks if no generic resource name exists.
/DISPLAY ACTIVE

Restriction: IMS displays either the USERVAR or the GRSNAME. For non-XRF or non-RSR subsystems (no USERVAR specified), IMS displays the GRSNAME, which can be blank.

If the IMS system is XRF, the following fields are appended to the date/time stamp:

RSEname Recoverable service element name
System ACTIVE or BACKUP

STATUS

One of the following:

AWAITING SNAPQ
Alternate system awaiting SNAPQ checkpoint from active

SYNCHRONIZING
Alternate system processing SNAPQ checkpoint

TRACKING
Alternate system is in process of tracking active system

TAKEOVER REQUESTED
Alternate system requests a takeover

TAKEOVER IN PROGRESS
Alternate system in process of taking over workload from active

I/O TOLERATION
New active system in I/O toleration phase of processing prior to becoming a true active system.

Output for the /DISPLAY ACTIVE REGION command is listed below:

REGID
Region identifier. For DBCTL, the thread number is displayed.

JOBNAME
The name of the job processing in the region.

If no regions of that type exist, the job name is set to MSGRGN, FPRGN, BATCHRGN, or DBTRGN, depending on the region type. DBTRGN is only displayed for systems that support DBT threads.

DBTRGN, BATCHRGN, or FPRGN is displayed for DBCTL.

TYPE Type of application program processing in the region, or type of region.

BMH, BMP, DBRC, DBT, DLS, and FPU are displayed for DBCTL.

The following region/program types can be displayed:

BMH HSSP processing
BMP Batch message processing
BMPE Batch message processing for an external subsystem thread
DBRC DBRC address space
DBT DBCTL thread
DLS DL/I address space
FP Fast Path
FPE Fast Path processing for an external subsystem
<table>
<thead>
<tr>
<th>FPM</th>
<th>Fast Path message-driven program</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPME</td>
<td>Fast Path message-driven program for an external subsystem thread</td>
</tr>
<tr>
<td>FPU</td>
<td>Fast Path utility program</td>
</tr>
<tr>
<td>FPUE</td>
<td>Fast Path utility program for an external subsystem thread</td>
</tr>
<tr>
<td>TP</td>
<td>Teleprocessing</td>
</tr>
<tr>
<td>TPE</td>
<td>Message-driven program for an external subsystem thread</td>
</tr>
<tr>
<td>TPI</td>
<td>Transaction Program Instance. A CPI Communications driven transaction is running in the region.</td>
</tr>
</tbody>
</table>

**TRANSACTION/STEP**
Transaction code being processed by region, or NONE, if there are no regions of that type.

**PROGRAM**
Name of the program processing in the region.

DFSCPIC is displayed for CPI Communications driven transaction programs that have not issued a DL/I APSB call to allocate a PSB.

For DBCTL, SB name is displayed.

**STATUS**
Status of the region, which can be one of the following:

**ACTIVE-DBCMD**
A /DBD or a /DBR command is in progress and waiting for the region to terminate before the /DBD or /DBR can complete.

**AVAILABLE**
The availability of active threads. The region is available to schedule an application.

**SCHEDULED**
The application program is being scheduled.

**TERMINATING**
The application program is being terminated.

**UNAVAILABLE**
An active DBT thread is unavailable. An application is using the region, even though the application is not currently scheduled. This region is therefore not available to any other application.

**WAITING**
The MPP region is waiting for work.

**WAIT-AOI**
An AO application issued a GMSG call with the WAITAOI subfunction specified, but there are no messages for the AO application to retrieve.

**WAIT-BLOCKMOVER**
An application control block cannot be loaded because the ACB block mover is busy.

**WAIT-CMD/PENDING**
A /DBDUMP, /DBRECOVERY, or /START command is in progress.
The application program is in WAIT-FOR-INPUT (WFI) mode.

The application program’s intent for a database conflicts with the use of the database by a scheduled program.

Indicates either the application program’s intent for a database conflicts with the use of the database by a scheduled program, or a temporary shortage of DMB, PSB, or PSB work area pool space exists.

A BMP region which accesses a GSAM database cannot schedule until I/O prevention has completed.

The IMS transaction scheduler detected an application scheduling intent failure. (For example, Load Balancing.)

The application program is in a pseudo WAIT-FOR-INPUT (WFI) mode. The application is scheduled and is waiting for a message.

A temporary shortage of DMB, PSB, or PSB work area pool space exists.

The alternate system is tracking the active system.

The application in the region is now in SYNC POINT.

A temporary shortage of EPCB pool space exists.

The application program has a protected conversation with an OTMA client that is processing a sync point. Sync point can continue after the OTMA client issues either an SRRCMIT or SRRBACK call. Or, the application program is part of a cascaded family and is processing a sync point. APPC/OTMA SMQ Enablement uses RRS cascaded transaction support to synchronize the back-end and the front-end system.

One of the classes associated with the region. The region can have from 1 to 4 classes, whose values range from 1 to 255.

The /DISPLAY AFFINITY command displays current affinities the IMS subsystem has with specific nodes.

This command is only valid when you use VTAM generic resources.

An example of using the /DISPLAY AFFINITY command is shown in "Example for DISPLAY AFFINITY Command" on page 278.
/DISPLAY AOITOKEN

/DISPLAY AOITOKEN displays all AOI tokens in the system. An example using /DISPLAY AOITOKEN is shown in “Example for /DISPLAY AOITOKEN Command” on page 278.

The following information is displayed for each AOI token:

**AOITOKEN**
AOI token name.

**ENQCT**
Total number of messages enqueued. In a shared-queues environment, only shows messages enqueued for the local subsystem.

**QCT**
Number of messages currently queued to the token and not yet retrieved by the AO application. In a shared-queues environment, only shows messages enqueued for the local subsystem.

**SEGS**
Number of segments in messages queued (QCT) to the AOI token.

**W-REGID**
The region IDs of AO applications that issued a GMSG call with the WAITAOI subfunction specified. This AO application is in a wait state, since there are currently no messages for it to retrieve.

If QCT=0 and W-REGID=NONE, then the AOI token is deleted at the next checkpoint.

/DISPLAY APPC

APPC displays inquiries about LU 6.2 related activities, including the current outbound LU if it is different from the base LU.

The output for /DISPLAY APPC is as follows:

**IMSLU**
The IMSLU is a base IMS LU name. This LU is always a network-qualified LU name. It is displayed as N/A.N/A if IMS is not connected to APPC/MVS. For example, if status is DISABLED, FAILED, or STARTING, N/A.N/A applies. For the CANCEL status, the field can contain either the LU name or N/A.N/A.

**#APPC-CONV**
LU 6.2 inbound and outbound conversation count.

**SECURITY**
RACF security level, which is one of the following:
- CHECK
- FULL
- NONE
- PROFILE

**STATUS**
Current APPC connection status. The possible values for APPC connection status are:

CANCEL
Shown after the /STOP APPC CANCEL command.
/DISPLAY APPC

DISABLED
Shown when APPC/IMS is not identified or connected to APPC/MVS.

ENABLED
Shown after successful /START APPC command completion.

FAILED
Shown after unsuccessful /START APPC command.

OUTBOUND
Shown on the XRF alternate system as it tracks the active. It is also shown on the active if IMS is unable to initiate normal APPC processing. For example, the /START APPC command can be reissued to attempt APPC enablement.

PURGING
Shown after the /PURGE APPC command.

STARTING
Shown after the /START APPC is issued and before the status is set to ENABLED or FAILED.

STOPPED
Shown after the /STOP APPC command.

DESIRED
Desired APPC connection status. This status is changed by the /PURGE, /START and /STOP APPC (CANCEL) commands. The possible values for desired APPC connection status are:

CANCEL
Shown after /STOP APPC CANCEL

DISABLED
Shown when APPC/IMS is not identified or connected to the APPC/MVS

ENABLED
Shown after /START APPC

OUTBOUND
Shown on the XRF alternate system as it tracks the active

PURGING
Shown after /PURGE APPC

STOPPED
Shown after /STOP APPC

GRNAME
The IMS/APPC generic LU name (if VTAM Generic Resources is activated).

TYPE
BASE for BASE LU or OUTB for OUTBOUND LU.

/DISPLAY AREA

/DISPLAY AREA displays data sets, status conditions, control intervals, and databases associated with an area.

Examples of using the /DISPLAY AREA command are shown in:
- "Example 1 for /DISPLAY AREA Command" on page 279
- "Example 2 for /DISPLAY AREA Command" on page 279
The output for /DISPLAY AREA includes:

**AREANAME**
Name of the Fast Path DEDB area.

**DDNAME**
Names of the data sets that contain that area.

**CONDITIONS**
Status conditions associated with the area or ADS.
Status conditions associated with the area include:

**IC**
HSSP image copy is currently active on the area.

**MADSIOT**
Displays only the areas that are currently in a long busy condition or are in long busy recovery mode.

**NOT-OPEN**
The area has yet to be opened. This will be done when first call is issued to the area.

**RECALL**
Area is in recall.

**RECOVERY-NEEDED**
The area has been marked RECOVERY-NEEDED. The database recovery utility needs to be run to restore this area.

**STOPPED**
The area is in STOPPED status. All access to it is prohibited. This can be changed with the /START command.

Status conditions associated with the ADS include the following:

**COPY-PHASE**
The CREATE utility is currently in the COPY phase on this ADS. The CREATE utility must complete before anything can be done with this ADS.

**FORMAT-PHASE**
The CREATE utility is currently in the FORMAT phase on this ADS. The CREATE utility must complete before anything can be done with this ADS.

**PRE-OPEN FAILED**
XRF PREOPEN was not successful for this ADS.

**RECALL**
Area is in Recall.

**SEVERE-ERROR**
This ADS has had a severe I/O error (write error to second CI, in which Fast Path keeps its control information).

**UNAVAILABLE**
This ADS has been marked unavailable, probably due to I/O errors. (EQE REMAIN = 0).

**EQECT**
Specifies the count of I/O errors for the area.

**TOTAL SEQ DEPENDENT**
Total control intervals defined for sequential dependent space.
UNUSED SEQ DEPENDENT
Unused control intervals for sequential dependent space. See Chapter 8: Database Design Considerations for Fast Path in the IMS Version 8 Administration Guide: Database Manager for more information about sequential dependent space management.

TOTAL DIRECT ADDRESSABLE
Total control intervals defined for direct addressable space.

UNUSED DIRECT ADDRESSABLE
Unused control intervals for direct addressable space.

DBNAME
Database name.

EEQECT
Count of write error EEQE for this area.

IOVF
Independent overflow area statistics.

These statistics are only displayed if IOVF is specified on the /DIS AREA command (/DIS AREA ALL IOVF or /DIS AREA areaname IOVF). If the IOVF parameter is not specified on the /DIS AREA command, N/A appears in the display output.

If the /DIS AREA IOVF command is entered on an RSR tracking subsystem, the IOVF statistics might be incorrect.

When the ALL parameter is used with the IOVF keyword (for example, /DIS AREA ALL IOVF), performance can be affected depending on the number and size of areas involved. If large areas, large numbers of areas, or both are involved, the control region can appear to be stopped while processing this command.

“Attribute” is a reserved parameter. Attributes listed with Table 46 can be used with the AREA keyword. Areas are selected for display based on the attribute or attributes specified. For example, /DISPLAY AREA STOPPED will only display areas that are currently stopped. The attribute display format is the same as the standard AREA display. Attributes usually correspond to the conditions displayed for areas. Any exceptions are flagged in Table 46.

The attributes are reserved parameters for the /DISPLAY AREA command and cannot be used to name areas. In Table 46, listed are the attributes that can be used with the AREA keyword.

Table 46. /DISPLAY AREA Command Attributes

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IC</td>
<td>NOTOPEN</td>
</tr>
<tr>
<td>OFR</td>
<td>RECOVERN</td>
</tr>
<tr>
<td>RECALL</td>
<td>STOPPED</td>
</tr>
</tbody>
</table>

Note:
1. Corresponds to AREA condition NOT OPEN.
2. Corresponds to AREA condition RECOVERY NEEDED.
/DISPLAY ASSIGNMENT displays resource assignments.

Examples of using the /DISPLAY ASSIGNMENT command are shown in:
- "Example 1 for /DISPLAY ASSIGNMENT Command" on page 280
- "Example 2 for /DISPLAY ASSIGNMENT Command" on page 284

The following information is displayed when this command is used:

**LINE PTERM**
The logical terminal names associated with the specified line and physical terminal.

**LINK**
The physical link, SYSIDs, and logical link paths assigned to the specified logical link.

**LTERM**
The communication line and physical terminal or node and component associated with the specified logical terminal name. When using ISC or a dynamic terminal, the displayed output for a logical terminal assigned to the VTAM pool shows the assigned node, if any, and the user name. The LTERM parameter can be generic.

**MSNAME**
The physical link and logical link assigned to the specified logical link path.

**MSPLINK**
The type, address, and logical link associated with the specified physical link. For MSC with VTAM, MSPLINK also displays the maximum number of allowed sessions and VTAM node name.

**NODE**
The logical terminal names associated with the specified node. When using ISC, the displayed output shows at least one line of information for each half-session of the node, shows whether the half-session is active, and shows whether LTERMs are assigned. If the half-session is active, the user identifier is displayed. If no LTERMs are assigned, NONE is indicated. The USER keyword is valid for ISC nodes and non-ISC nodes with signed-on users. The NODE parameter can be generic.

**SYSID**
The physical link, logical link, and logical link path assignments associated with the specified system identification.

**USER**
All the USER structures and USERIDs that match the parameter specified. These are the following:
- The USER field shows the USER structure name. N/A appears for all static USERIDs signed on to static nodes.
- The USERID field displays the RACF USERID that was used to sign on to the node. N/A appears if a USER structure is not associated with a node. In this case, the USER structure exists to hold status or has messages inserted into it. If no messages or status exist, the USER structure is deleted at the next checkpoint.
- The node name and logical terminal names are displayed if the user is allocated to a node or signed on to a node.

The USER parameter can be generic.
/DISPLAY CCTL displays all coordinator controllers connected to DBCTL along with the pseudo-recovery token, recovery token, region ID, psbname, and status. Coordinator controllers that are attached to IMS show a status of ATTACHED.

Restriction The /DISPLAY CCTL command does not support the ODBA interface to IMS DB. Use the /DISPLAY UOR command for displaying status information about units of work for protected resources that are managed by RRS/MVS.

Examples of using the /DISPLAY CCTL command are shown in:
- “Example 1 for /DISPLAY CCTL Command” on page 285
- “Example 2 for /DISPLAY CCTL Command” on page 285
- “Example 3 for /DISPLAY CCTL Command” on page 286
- “Example 4 for /DISPLAY CCTL Command” on page 286
- “Example 5 for /DISPLAY CCTL Command” on page 286

The status of active threads can be any of the following:

ACTIVE
The region is available for scheduling an application program. ACTIVE displays all active threads.

ACTIVE-DBCMD
A /DBD or a /DBR command is in progress and waiting for the region to terminate before the /DBD or /DBR can complete.

AVAILABLE
Active threads are available. The region is available to schedule an application.

TERM
The thread is terminating. The application program is being terminated.

UNAVAIL
Active threads are unavailable. An application is using the region, even though the application is not currently scheduled. This region is therefore not available to any other application.

W-BLMVR
The thread is waiting for a block mover. An application control block cannot be loaded because the ACB block mover is busy.

W-INTENT
The thread is waiting for intent. The application program’s intent for a database conflicts with the use of the database by a scheduled program.

W-POOLSP
The thread is waiting for pool space. A temporary shortage of DMB, PSB, or PSB work area pool space exists.

W-SWITCH
The thread is waiting for switch-over. The alternate system is tracing the active system.

INDOUBT displays all in-doubt threads. The status of all in-doubt threads is always displayed as INDOUBT.
/DISPLAY CONVERSATION

/DISPLAY CONVERSATION displays all BUSY and HELD conversations in the IMS system if no other keywords or parameters are specified. The command displays a 4-byte conversation ID. The conversation IDs are unique only for each user and terminal.

An example of using the /DISPLAY CONVERSATION command is shown in “Example for /DISPLAY CONVERSATION Command” on page 286.

The following information is displayed when this command is used:

**BUSY**  The conversations currently active for the system or active for a specific node, line and physical terminal, or user.

**HELD**  The conversations currently held in the system or held from a specific node, line and physical terminal, or user.

When ISC is used with parallel sessions, one line of information for each session in a conversation is displayed. The user name is also displayed.

When the NODE keyword is used and the node is an ISC node, information for all applicable sessions of the parallel session node is displayed. For dynamic terminals, the conversations of the currently associated user are displayed. The NODE parameter can be generic.

When the USER keyword is specified, all conversations that apply to that user are displayed. The USER parameter can be generic. In an IMSplex, use of the /DISPLAY CONVERSATION command without a specific resource name will result in extensive accesses to the Resource Manager for global information, and its use should be carefully considered.

For an IMS conversational transaction issued from an LU 6.2 application program, /DISPLAY CONVERSATION shows the LU name and user ID (if available) of the LU 6.2 conversation along with the IMS conversation ID and status.

For an IMS conversational transaction issued from an OTMA client, /DISPLAY CONVERSATION shows the TMEMBER and TPIPE name in addition to the IMS conversation ID and status.

/DISPLAY CPLOG

/DISPLAY CPLOG displays the value of the IMS execution parameter, CPLOG. CPLOG specifies the number of system log records between system-generated checkpoints.

/DISPLAY CQS

/DISPLAY CQS displays information about the Common Queue Server (CQS), including the CQS job name, version number, and current status. Valid status conditions are CONNECTED and DISCONNECTED.

This command is only valid in a shared-queues environment.

An example of using the /DISPLAY CQS command is shown in “Example for /DISPLAY CQS Command” on page 288.
/DISPLAY DATABASE

/DISPLAY DATABASE displays the status of specified databases. If a specified database is a DEDB, the associated DEDB areas are also displayed.

The /DISPLAY DATABASE command can be used on HALDBs. For more information see Appendix H, “High Availability Large Database Commands,” on page 805.

An example of using the /DISPLAY DATABASE command is shown in “Example 1 for /DISPLAY DATABASE Command” on page 288.

The following information is displayed:

DATABASE
   Name of the database.

TYPE   Type of database, which can be one of the following:
   • DL/I
   • DEDB
   • MSNR (refers to MSDB non-related databases)
   • MSRD (refers to MSDB related dynamic databases)
   • MSRF (refers to MSDB related fixed databases)
   • PHIDAM
   • PHDAM
   • PSINDEX
   • PART
   • blank (if the database status is NOTINIT)

TOTAL SEQ DEPEND
   Total control intervals defined for sequential dependent space, which applies to areas associated with DEDBs. This column only appears if Fast Path is installed.

UNUSED SEQ DEPEND
   Unused control intervals for sequential dependent space. This column only appears if Fast Path is installed.

TOTAL DIRECT ADDRESS
   Total control intervals for independent overflow part of direct addressable space, which applies to areas associated with DEDBs. This column only appears if Fast Path is installed.

UNUSED DIRECT ADDRESS
   Total unused control intervals for independent overflow part of a direct addressable space, which applies to areas associated with DEDBs. This column appears only if Fast Path is installed. This IOVF count is updated on a timed basis, with a default timer of 2 hours. To customize this IOVF counter timer, see the IOVFI parameter as described in IMS Version 8: Installation Volume 2: System Definition and Tailoring.

ACC   Type of access to the database, which can be one of the following:
   RO   Read only
   RD   Read
   UP   Update
   EX   Exclusive
/DISPLAY DATABASE

CONDITIONS
Status conditions of the database, which can be one or more of the following:

- ALLOCF
- ALLOCS
- BACKOUT
- EEQE
- INQONLY
- NOTINIT
- NOTOPEN
- OFR
- RECALL
- RECOVERY
- RNL
- STOPPED
- LOCK

Note: The OFR parameter is only valid when issued from an RSR tracking subsystem.

“Attribute” is a reserved parameter. Attributes listed with [Table 47] can be used with the DATABASE keyword. Databases are selected for display based on the attribute or attributes specified. For example, /DISPLAY DATABASE OFR will only display those databases that are currently being recovered by online forward recovery (OFR). The attribute display format is the same as the standard DATABASE display. Attributes usually correspond to the conditions displayed for databases.

[Table 47. /DISPLAY DATABASE Command Attributes]

<table>
<thead>
<tr>
<th>ALLOCF</th>
<th>ALLOCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BACKOUT</td>
<td>EEQE</td>
</tr>
<tr>
<td>INQONLY</td>
<td>LOCK</td>
</tr>
<tr>
<td>NOTINIT</td>
<td>NOTOPEN</td>
</tr>
<tr>
<td>OFR</td>
<td>RECALL</td>
</tr>
<tr>
<td>STOPPED</td>
<td></td>
</tr>
</tbody>
</table>

Attributes are reserved parameters for the /DISPLAY DATABASE command and cannot be used to name databases.

/DDISPLAY DATABASE with BKERR
/DDISPLAY DATABASE with BKERR displays error queue elements associated with a DL/I database and displays incomplete backouts.

The output includes:

DATABASE
Name of the database with error queue elements and/or backout pending data.

ERROR DD
DDNAME of the data set with the error queue element.
/DISPLAY DATABASE with BKERR

**TYPE**  
Type of error queue element, which is one of the following:

- **BACK PSB**  
  PSB needing backout
- **BLOCK**  
  OSAM block number or VSAM CI RBA
- **DATE**  
  Date
- **IDT**  
  In-doubt
- **IDT+WRT**  
  In-doubt and write error
- **IDT+IOT**  
  In-doubt and I/O toleration
- **IOT**  
  I/O toleration
- **IOT/VSO**  
  I/O toleration for VSO areas
- **PRM**  
  DBRC permanent
- **RD**  
  Read error
- **TIME**  
  Time
- **USE**  
  DBRC user created
- **WRT**  
  Write error

The EEQE information might not be current if the database is registered with DBRC and is not open, because IMS updates EEQE information from DBRC when the database is opened.

The /DIS DB command with BKERR does not display individual RBAs for I/O tolerated non-SDEP CIs of a DEDB area defined with the Virtual Storage Option (VSO). Instead, a single entry with a value of 00000001 is displayed; the EEQE type is set to IOT/VSO. I/O tolerated SDEP CIs for the area are displayed individually by RBA. See **Example 4 for /DISPLAY DATABASE Command** on page 289.

/DISPLAY DB

/DISPLAY DBD displays, for databases that are being accessed, their type, the PSBs accessing them, and the type of access. /DISPLAY DBD can be used only if Fast Path is installed.

An example of using /DISPLAY DBD is shown in **Example for /DISPLAY DBD Command** on page 291.

/DISPLAY DESCRIPTOR

/DISPLAY DESCRIPTOR displays LU 6.2 descriptors. All specified values are displayed, as are defaults/blanks for values not specified in the descriptor.

An example of using /DISPLAY DESCRIPTOR is shown in **Example for /DISPLAY DESCRIPTOR Command** on page 291.

The output for /DISPLAY DESCRIPTOR is as follows:

- **DESC**  
  Name of the descriptor.
- **LUNAME**  
  LU name value in the descriptor. The network-qualified LU name is optional for the LUNAME keyword.
- **MODE**  
  VTAM LOGON mode table entry value in the descriptor.
<table>
<thead>
<tr>
<th>SIDE</th>
<th>APPC/MVS side table entry value in the descriptor.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYNCELEVEL</td>
<td>APPC synchronous level in the descriptor; either NONE or CONFIRM.</td>
</tr>
<tr>
<td>TPNAME</td>
<td>TP name value in the descriptor. If the tpname is too long, a + is appended at the end, and the rest is continued on a second line.</td>
</tr>
<tr>
<td>TYPE</td>
<td>APPC conversation type value in the descriptor; it is either BASIC or MAPPED.</td>
</tr>
</tbody>
</table>

**/DISPLAY FDR**

/DISPLAY FDR displays the current status for IMS Fast Database Recovery regions.

IMS rejects this command if the active IMS subsystem is not connected to a Fast Database Recovery region.

An example of using /DISPLAY FDR is shown in "Example for /DISPLAY FDR Command" on page 291.

<table>
<thead>
<tr>
<th>FDR-REGION</th>
<th>Status of the Fast Database Recovery region to which the IMS subsystem is connected. The status can be ACTIVE or NO_ACTIVE.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GROUPNAME</td>
<td>The XCF group name specified in the DFSFDRxx member of IMS.PROCLIB.</td>
</tr>
<tr>
<td>TIMEOUT</td>
<td>The failure-detection timeout value specified in the DFSFDRxx member or set by a /CHANGE FDR command.</td>
</tr>
</tbody>
</table>

**/DISPLAY FPVIRTUAL**

/DISPLAY FPVIRTUAL displays the areas loaded into an MVS data space or coupling facility. That is, those areas that have been specified with the virtual storage option (VSO) are displayed with this command.

An example of using /DISPLAY FPVIRTUAL is shown in "Example for /DISPLAY FPVIRTUAL Command" on page 291.

Each data space is displayed, along with each of the areas that reside in the data space. All numbers shown are in decimal values.

<table>
<thead>
<tr>
<th>DATASPACE</th>
<th>Data space number.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXSIZE(4K)</td>
<td>Maximum available size, in 4 KB blocks. This is the amount of space available in the data space for user data.</td>
</tr>
<tr>
<td>AREANAME</td>
<td>Name of the area located in the data space or in the coupling facility.</td>
</tr>
<tr>
<td>AREASIZE(4K)</td>
<td>Actual storage available for a particular area, in 4KB blocks. The actual space usage can be significantly less than what is reserved if a VSO dataspace is not preloaded.</td>
</tr>
</tbody>
</table>
/DISPLAY FPVIRTUAL

OPTION
A data space option (which can be DREF) or an area option (which can be PREL or PREO). Area options are defined to DBRC with the INIT.DBDS or CHANGE.DBDS command.

STRUCTURE
Name of the coupling facility structure allocated for this area.

ENTRIES
Number of area CIs in the structure.

CHANGED
Number of area CIs in the structure that have been updated. IMS writes these updated CIs to DASD (and resets this value) when you enter any of the following commands:
- /CHECKPOINT
- /STOP AREA
- /VUNLOAD

POOLNAME
Name of the private buffer pool used by the area.

/DISPLAY HSB

/DISPLAY HSB displays the system-related information in an XRF environment. If the command is entered on the active system, information about the active system is displayed. If the command is entered on the alternate system, information about both systems is displayed.

An example of using the /DISPLAY HSB command is shown in "Example for /DISPLAY HSB Command" on page 292.

The output for /DISPLAY HSB includes:

RSENAME
Recoverable service element name.

STATUS
System entering command (ACTIVE or BACKUP).

MODETBL
Indication of whether (IOT) or not (blank) the system is in I/O toleration mode. This field is displayed only if the command is entered on the active system.

PHASE
Displays only if the command is entered on the alternate system; indicates the phase of the alternate system. The following phases can be displayed:
- INIT Initialization phase
- SYN Processing SNAPQ checkpoint
- TRK Tracking active system
- TKO Taking over workload from active

IMS-ID
IMS identifier of system entering command.

VTAM UVAR
VTAM generic name.
ACT-ID
IMS identifier of active system; field is displayed only if the command is entered on the alternate system.

LOG-TIME
Time associated with the log record currently being read by the alternate system in the process of tracking the active system. The length of time the alternate system lags behind the active system in reading the log is the difference between the current time, as shown by the timestamp, and the log time. Some of this time difference might be due to differences in the synchronization of the clocks of the processors.

SURVEILLANCE
Indicates one of the following surveillance mechanisms:

- LNK  IMS ISC link
- LOG  IMS system log
- RDS  IMS restart data set

INTERVAL
The surveillance interval, in seconds, for the specific surveillance mechanism

TIMEOUT
The surveillance timeout value, in seconds, for the specific surveillance mechanism

STATUS
The status of the specific surveillance mechanism (ACTIVE or INACTIVE).

TAKEOVER CONDITIONS
The following takeover conditions may apply:

- ALARM
  The alarm on the alternate processor will be sounded when takeover is requested.

- AUTO
  Automatic takeover is in effect.

  Following the display line of ALARM, AUTO, or both, the takeover conditions specified on the SWITCH control statement of the DFSHSGxx proclib member are shown. (xx is the SUF= parameter of the IMS procedure.) There are two groups per line and each group is separated by an asterisk. Each group can include one or more of the following:

  - VTAM  VTAM TPEND exit
  - LNK   IMS ISC link
  - LOG   IMS system log
  - RDS   IMS restart data set

/DISPLAY HSSP

/DISPLAY HSSP displays information about the current HSSP (high-speed sequential processing) activities.

An example of using the /DISPLAY HSSP command is shown in "Example for /DISPLAY HSSP Command" on page 293."
The output for /DISPLAY HSSP includes:

**RGN** Region ID as displayed in the /DISPLAY ACTIVE command (three digit PST number)

**TYP** Region type (BMP only)

**JOBNAME** Job name

**PSB** Program Specification Block name

**DB** Database name

**AREAS-OPTIONS** Information on the SETO statement:

- **AREA** Area name
- **PCB** Information on whether the named area has updated intent.
- **PROCOPT** Whether PROCOPT H is specified.
- **IC** Image Copy in process.
- **UPD** Information on whether the area is updated, which is one of the following:
  - **N** The PCB has no update intent on the named area.
  - **Y** The PCB has update intent on the named area.

**OPTION** Information on the execution

- **IC** Image Copy in process

---

**/DISPLAY LINE**

/DISPLAY LINE, when followed by a valid line number or ALL, displays the status and queue counts for the specified communication line or line and physical terminal. The queue count for /DISPLAY LINE is reset to zero after an IMS cold start.

Lines are selected for display based on the attributes specified. Attributes that can be used with the LINE keyword are shown in Table 48. The attribute display format is the same as the standard LINE display. The attributes correspond to the conditions displayed for lines. For example, /DISPLAY LINE LOOPTEST displays all lines that are currently in looptest mode.

**Table 48. /DISPLAY LINE Command Attributes**

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Attribute</th>
<th>Attribute</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEACT</td>
<td>NOQUEUE</td>
<td>RESPINP</td>
</tr>
<tr>
<td>IDLE</td>
<td>NOTOPEN</td>
<td>STOPPED</td>
</tr>
<tr>
<td>LOOPTEST</td>
<td>PSTOPPED</td>
<td>TKOTRA</td>
</tr>
<tr>
<td>NOIN</td>
<td>PUR</td>
<td>TRA</td>
</tr>
<tr>
<td>NOOUT</td>
<td>RESP</td>
<td></td>
</tr>
</tbody>
</table>

An example of using the /DISPLAY LINE command is shown in "Example for /DISPLAY LINE Command" on page 293.
QCNT
Specifies that global queue count information is to be displayed. If QCNT is not specified, local queue counts are displayed; when it is specified, no local queue counts are displayed.

This keyword is only valid in a shared-queues environment.

/DISPLAY LINK

/DISPLAY LINK, when followed by a valid link number or ALL, displays the status and queue counts for the specified logical link. The queue count for /DISPLAY LINK is reset to zero after an IMS cold start.

In addition, /DISPLAY LINK shows if the logical link is assigned to a physical link and the partner identification that is assigned to it during system definition.

The /DISPLAY LINK link# MODE command, when entered from the primary IMS system, displays in the ACT MODETBL field the mode table name from the /RESTART command or LOGON exit. The same field does not display on the secondary IMS system.

Note: N/A is displayed by /DISPLAY LINK ALL MODE for non-VTAM MSC links.

Examples for using the /DISPLAY LINK command are shown in:

- “Example 1 for /DISPLAY LINK Command” on page 294
- “Example 2 for /DISPLAY LINK Command” on page 294

MODE Displays the mode table names associated with the links specified. The output includes:

- LINK  Logical link number.
- PARTNER  The identification specified during IMS system definition for this multiple system partnership.
- DEF MODETBL  Default mode table name set via system definition or /CHANGE command. This name can be overridden with the /RESTART command or, for non-IMS session initiations, the LOGON exit.
- ACT MODETBL  Mode table name actually used to initiate the session. This name is only displayed while the session is active. The field is blank at normal session termination.
- QCNT  Specifies that global queue count information is to be displayed. If QCNT is not specified, local queue counts are displayed; when it is specified, no local queue counts are displayed.

This keyword is only valid in a shared-queues environment.

/DISPLAY LTERM

/DISPLAY LTERM displays status and queue counts for the specified logical terminal name. The status displayed can be one of the following:

- LOCK
- PSTOP
/DISPLAY LTERM

- PUR
- QERR
- QLOCK
- STATIC
- STOP

The LTERM parameter can be generic where the generic parameter specifies lterms that already exist.

/DISPLAY LTERM ALL does not display lterms in alphabetical order.

Examples of using the /DISPLAY LTERM command are shown in:
- “Example 1 for /DISPLAY LTERM Command” on page 294
- “Example 2 for /DISPLAY LTERM Command” on page 295

EMHQ
Specifies that global queue count information on the Expedited Message Handler Queues (EMHQ) displays when both EMHQ and QCNT are specified. If EMHQ is specified, QCNT must also be specified. This keyword is only valid in a shared-queues environment.

QCNT
Specifies that global queue count information displays. If QCNT is not specified, local queue counts are displayed; when it is specified, no local queue counts are displayed. If QCNT is specified and EMHQ is not, global queue count information on the shared message queues (MSGQ) displays.

IMS does not check if the specified name is a valid LTERM in the IMS subsystem on which the command is entered.

The /DISPLAY LTERM ALL QCNT command displays all of the LTERMs on the shared queues with a global queue count.

This command does not display queue counts for Fast Path output messages for the NODE unless EMHQ and QCNT are specified.

This keyword is only valid in a shared-queues environment.

For IMS subsystems in a shared-queues environment with the time control option, TCO, enabled, AFFINITY has been added to the queue names of TCO LTERMs. When the /DISPLAY LTERM DFSTCFI QCNT command is issued, the queue count of messages for the DFSTCFI LTERM pertains to the TCO LTERM on the local IMS subsystem. The queue count is zero prior to adding AFFINITY to the queue names.

In a shared queues environment, there are certain situations that cause an LTERM message to be retrieved from the global queue and moved to the local queue, but the message has not been delivered. If this occurs, the global queue count is zero and you need to display the local queue to see the output message.

/DISPLAY LUNAME

/DISPLAY LUNAME displays information about a specific LU 6.2 application program. After restart and any checkpoint, only LU 6.2 resources with status or messages queued are displayed.
QCNT
Specifies that global queue count information displays. Local queue counts do not display. If QCNT is not specified, local queue counts display.

This keyword is only valid in a shared-queues environment.

/DISPLAY LUNAME INPUT
/DISPLAY LUNAME INPUT displays the count of LU 6.2 inbound conversations and synchronous outbound activities for the specified LU names and their status. The status displayed can be none, stopped (STO), traced (TRA), or both stopped and traced.

/DISPLAY LUNAME INPUT can indicate that a command such as /STO LUNAME ALL INPUT or /TRACE SET ON LUNAME ALL INPUT was entered before the display that applies to all future LU 6.2 inbound conversations. The /DISPLAY LUNAME INPUT command includes:

LUNAME
LU name of the LU 6.2 application program

#APPC-CONV
The number of LU 6.2 inbound conversations

Status can be stopped (STO), traced (TRA), or stopped and traced.

/DISPLAY LUNAME OUTPUT
/DISPLAY LUNAME OUTPUT displays the count of asynchronous output messages that are being enqueued and dequeued for the LU name and the count of LU 6.2 asynchronous outbound conversations for that LU name.

/DISPLAY LUNAME OUTPUT can indicate that a command such as /STO LUNAME ALL OUTPUT or /TRACE SET ON LUNAME ALL OUTPUT was entered that applies to all future LU 6.2 outbound conversations. The status displayed can be none, stopped (STO), traced (TRA), or both stopped and traced. /DISPLAY LUNAME OUTPUT includes:

LUNAME
LU name of the LU 6.2 application program.

ENQCT
Total number of messages enqueued on this LU name. In a shared-queues environment, only shows messages enqueued for the local subsystem.

DEQCT
Total number of messages dequeued from this LU name. In a shared-queues environment, only shows messages dequeued for the local subsystem.

QCT
Total number of messages still in the queue. In a shared-queues environment, only shows messages enqueued for the local subsystem.

CONVCT
Number of LU 6.2 asynchronous outbound conversations.

Status can be stopped (STO), traced (TRA), or stopped and traced.

/DISPLAY LUNAME TPNAME
/DISPLAY LUNAME TPNAME displays the number of asynchronous output messages being enqueued and dequeued and their status. The status displayed can be none, stopped (STO), traced (TRA), or both stopped and traced.
If the LU name includes a network identifier, you must specify the network-qualified LU name when using the TPNAME keyword. A network-qualified LU name refers to a different resource than a non-qualified LU name.

/DISPLAY LUNAME TPNAME includes the following:

**LUNAME TPNAME**
LU name and TP name of the LU 6.2 program. The first line displays the LU name and the second line displays the TP name, which is preceded by a dash. If the TP name is too long, a + sign is appended at the end, and the remainder is continued on the next line.

**ENQCT**
The total number of messages enqueued to this particular LU 6.2 application program. In a shared-queues environment, only shows messages enqueued for the local subsystem. If the ENQCT and DEQCT are the same and there are no messages enqueued or dequeued from that point on, these counts will be set to zero after restart or takeover.

**DEQCT**
The total number of messages dequeued from this particular LU 6.2 application program. In a shared-queues environment, only shows messages dequeued for the local subsystem. If the ENQCT and DEQCT are the same and there are no messages enqueued or dequeued from that point on, these counts will be set to zero after restart or takeover.

**QCT**
The total number of messages still in the queue. Status of stopped (STO), traced (TRA), or stopped and traced. In a shared-queues environment, only shows messages enqueued for the local subsystem.

/DISPLAY MASTER
/DISPLAY MASTER displays the logical terminal name and the line and physical terminal number associated with the master terminal.

If the 3270 master terminal capability was generated during IMS system definition, the logical terminal name, line, and physical terminal number of the secondary master terminal are also displayed.

MASTER is not valid for use in a DBCTL environment.

An example of using the /DISPLAY MASTER command is shown in "Example for /DISPLAY MASTER Command" on page 298.

/DISPLAY MODIFY
The /DISPLAY MODIFY command displays online change status for this IMS, which is participating in a local or global online change:

- Online change libraries
- Work in progress for resources to be deleted or changed by a /MODIFY COMMIT or a INITIATE OLC PHASE(PREPARE) command
- Resources to be added, changed, and deleted by a /MODIFY COMMIT or an INITIATE OLC PHASE(COMMIT) command

The status displayed for each library is displayed as A for active or I for inactive, and is followed by the DD names and databases that make up the library. Status information displays for the following libraries:
Work in progress for resources to be deleted or changed causes the /MODIFY COMMIT command to fail. You must wait for the work in progress to complete, or force it to complete (for example, by issuing a command), before issuing /MODIFY COMMIT. Table 49 lists the resource type, resource name, and the status displays for work in progress that would prevent the /MODIFY COMMIT command from completing successfully:

Table 49. Work in Progress For Resources that Prevent a Successful /MODIFY COMMIT

<table>
<thead>
<tr>
<th>Resource Type</th>
<th>Resource Name</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATABASE</td>
<td>dbname</td>
<td>AREAS OPEN:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/DBD ACTIVE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/DBR ACTIVE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/DBR OR /STOP IN PROGRESS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DATABASE IN USE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DBR NEEDED FOR PARTITION</td>
</tr>
<tr>
<td></td>
<td></td>
<td>nnnn PSB SCHEDULED</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RANDOMIZER: rndmname</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RECOVERY IN PROGRESS</td>
</tr>
<tr>
<td>AREA</td>
<td>areaname</td>
<td>OPEN</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RECOVERY IN PROGRESS</td>
</tr>
<tr>
<td>PROGRAM</td>
<td>pgmname</td>
<td>SCHEDULED</td>
</tr>
<tr>
<td></td>
<td></td>
<td>QUEUING nn</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GLOBAL QUEUE COUNT INTERNAL ERROR</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GLOBAL QUEUE COUNT STORAGE ERROR</td>
</tr>
<tr>
<td>RTCODE</td>
<td>rcode</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>TRAN</td>
<td>tranname</td>
<td>IN USE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>QUEUING nn</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SCHEDULED</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SUSPENDED</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CONVERSATION TERM/USER</td>
</tr>
<tr>
<td></td>
<td></td>
<td>nodename ID= nnnn</td>
</tr>
<tr>
<td></td>
<td></td>
<td>nodename username ID= nnnn</td>
</tr>
<tr>
<td></td>
<td></td>
<td>username ID= nnnn</td>
</tr>
<tr>
<td></td>
<td></td>
<td>lin#-pte# ID= nnnn</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1- SC ID= nnnn</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GLOBAL QUEUE COUNT INTERNAL ERROR</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GLOBAL QUEUE COUNT STORAGE ERROR</td>
</tr>
</tbody>
</table>

In a shared-queues environment, /DISPLAY MODIFY only shows local work in progress, except for the TRAN QUEUING status and the PROGRAM QUEUING status, for which this command shows the sum of local and global queue counts. That is, /DISPLAY MODIFY does not show whether there is work in progress for other IMS subsystems sharing the message queues. If the /DISPLAY MODIFY command shows no work in progress for the IMS subsystem which the command was issued, a /MODIFY COMMIT command can be issued for that IMS subsystem.

If IMS cannot access the global queue counts, IMS displays the GLOBAL QUEUE COUNT INTERNAL ERROR status. If IMS cannot obtain sufficient storage to query global queue counts, IMS displays the GLOBAL QUEUE COUNT STORAGE ERROR status. In either case, online change will fail if there are global queue counts for resources being changed or deleted.
Table 50 lists the parameters that can be used with the /DISPLAY MODIFY command in a DBCTL environment.

Table 50. Parameters Supported in a DBCTL Environment

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Supported in a DBCTL Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADDS</td>
<td>DBS</td>
</tr>
<tr>
<td>ALL</td>
<td>DELS</td>
</tr>
<tr>
<td>CHNGS</td>
<td>DMS</td>
</tr>
<tr>
<td>MODS</td>
<td>PDS</td>
</tr>
<tr>
<td>PSS</td>
<td></td>
</tr>
</tbody>
</table>

Table 51 lists the parameters that can be used with the /DISPLAY MODIFY command in a DCCTL environment.

Table 51. Parameters Supported in a DCCTL Environment

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Supported in a DCCTL Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADDS</td>
<td>FMS</td>
</tr>
<tr>
<td>ALL</td>
<td>MODS</td>
</tr>
<tr>
<td>CHNGS</td>
<td>PDS</td>
</tr>
<tr>
<td>DELS</td>
<td>PSS</td>
</tr>
<tr>
<td>MODS</td>
<td>TRS</td>
</tr>
<tr>
<td>PSS</td>
<td></td>
</tr>
</tbody>
</table>

Examples of using the /DISPLAY MODIFY command are shown in "Example 1 for /DISPLAY MODIFY Command" on page 298.

/DISPLAY MODIFY with one or more parameters (not including ALL) is only valid if IMS is in the MODIFY PREPARE state, which means that a /MODIFY PREPARE or an INITIATE OLC PHASE(PREPARE) command completed successfully. The /DISPLAY MODIFY parameters and the information displayed are:

<blanks>
Displays status of online change libraries.

ADDS Displays the resources to be added by online change. Each display line contains a resource type, resource name, and a status of ADDED. The resource type can be: DATABASE, DMB, FORMAT, PROGRAM, PSB, RT CODE, or TRAN.

ALL Displays the status of online change libraries and any work in progress for database, program, routing code, or transaction resources to be deleted or changed by the /MODIFY COMMIT or the INITIATE OLC PHASE(COMMIT) command.

For DBCTL, transactions do not apply. For DCCTL, databases do not apply.

CHNGS Displays the resources to be changed by online change. Each display line contains a resource type, resource name, and a status of CHANGED. Resource type can be: DATABASE, DMB, FORMAT, PROGRAM, PSB, RT CODE, or TRAN.

DBS Displays the databases to be changed or deleted with work in progress that would prevent /MODIFY COMMIT from succeeding. If DBS is specified with the ADDS, CHNGS, DELS, or MODS parameters, the databases in MODBLKS to be added, changed, or deleted display. Each display line contains a resource type of DATABASE, the database name, and a status of ADDED, CHANGED, or DELETED.

DELS Displays the resources to be deleted by online change. Each display line contains a resource type, resource name, and a status of DELETED. The resource type can be: DATABASE, DMB, FORMAT, PROGRAM, PSB, RT CODE, or TRAN.
DMS
If DMS is specified with the ADDS, CHNGS, DELS, or MODS parameters, the DMBs in ACBLIB to be added, changed, or deleted display as ADDED, CHANGED, or DELETED.

If the status of the associated database in MODBLKS is ADDED, DMS displays a DMB as ADDED. If the status of the associated database in MODBLKS is DELETED, DMS displays a DMB as DELETED.

FMS
If FMS is specified with the ADDS, CHNGS, DELS, or MODS parameters, the MFS formats to be added, changed, or deleted in FMTLIB display. Each display line contains a resource type of FORMAT, the format name, and a status of ADDED, CHANGED, or DELETED.

MODS
Displays the resource to be modified by online change, which are resources to be added, changed, and deleted. Each display line contains the resource type, resource name, and a status of ADDED, CHANGED, or DELETED. The resource type can be: DATABASE, DMB, FORMAT, PROGRAM, PSB, RT CODE, or TRAN.

/DISPLAY MODIFY MODS shows all of the resources to be added, changed, or deleted by /MODIFY COMMIT, which is equivalent to the output from /MODIFY PREPARE with the LTERM keyword specified.

PDS
Displays the programs to be changed or deleted in MODBLKS with work in progress that would prevent a /MODIFY COMMIT or an INITIATE OLC PHASE(COMMIT) command from succeeding. If PDS is specified with the ADDS, CHNGS, DELS, or MODS parameters, the programs in MODBLKS to be added, changed, or deleted display. Each display line contains a resource type of PROGRAM, the program name, and a status of ADDED, CHANGED, or DELETED.

PSS
If PSS is specified with the ADDS, CHNGS, DELS, or MODS parameters, the PSBs in ACBLIB to be added, changed, or deleted display as ADDED, CHANGED, or DELETED.

If the status of the associated program in MODBLKS is ADDED, PSS displays a PSB as ADDED. If the status of the associated program in MODBLKS is DELETED, PSS displays a PSB as DELETED.

RCS
Displays the routing codes to be changed or deleted in MODBLKS with work in progress that would prevent a /MODIFY COMMIT or an INITIATE OLC PHASE(COMMIT) command from succeeding. If RCS is specified with the ADDS, CHNGS, DELS, or MODS parameters, RTCODEs in MODBLKS to be added, changed, or deleted display.

TRS
Displays the transactions to be changed or deleted in MODBLKS with work in progress that would prevent a /MODIFY COMMIT or an INITIATE OLC PHASE(COMMIT) command from succeeding. If TRS is specified with the ADDS, CHNGS, DELS, or MODS parameters, transactions in MODBLKS to be added, changed, or deleted display.

/DISPLAY MODIFY displays these status terms:

AREAS OPEN:
A DEDB database has open areas. One or more lines listing the open areas follow this line.
/DISPLAY MODIFY

/DBD ACTIVE
A /DBDUMP command is in progress for a database to be changed or deleted.

/DBR ACTIVE
A /DBRECOVERY command is in progress for a database to be changed or deleted.

/DBR OR /STOP IN PROGRESS
A /DBRECOVERY command or /STOP command is in progress for a DEDB database.

DATABASE IN USE
The database is in use by one or more active regions referencing the database.

DBR NEEDED FOR PARTITION
A /DBRECOVERY command must be issued for the DB partition before the database can be changed or deleted by online change.

PSB SCHEDULED
A program referencing a database to be changed or deleted is scheduled.

Q STRUCTURE IS UNAVAILABLE
The queue structure is unavailable. IMS is unable to check the global queue count for transactions to be added, changed, or deleted. Commit is not permitted to proceed. The structure may be unavailable for one of the following reasons:
- CQS is unavailable
- The MSGQ structure failed and it hasn’t been rebuilt yet
- CQS lost connectivity to the MSGQ structure

SCHEDULED
The named resource (a transaction or program to be changed or deleted, or a program referencing a database to be changed or deleted) is scheduled.

RECOVERY IN PROGRESS
A /RECOVER START command is in progress to recover one or more databases with the database recovery service.

RANDOMIZER: rndmname
A DEDB database that has no work in progress lists the randomizer name (rndmname). The randomizer display lines are information only, not work in progress that would prevent online change commit from succeeding.

This line is followed by a line with the randomizer name and status of LOADED or NOT LOADED.

If the randomizer is shared by one or more DEDBs, another line is displayed with 'DEDBS SHARING RANDOMIZER:' followed by the randomizer name. Online change won't delete a randomizer that is shared by other DEDBs. This line is followed by one line for each DEDB sharing the same randomizer.

ACTIVE
The routing code rtcode is active.

IN USE
Queuing is in progress for this transaction (either terminal input or program-to-program switch).

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QUEUING nn
Messages are queued to the transaction or program; nn is the number of
messages queued. Global queue counts represent the number of messages
on the coupling facility list structure for the transaction or program.

SUSPENDED
The transaction to be changed or deleted is on the suspend queue.

CONVERSATION TERM/USER
The transaction to be changed or deleted or the transaction referencing a
program or database to be changed or deleted is in conversation. The
terminal originating the conversational transaction and the conversation ID
are also displayed.

The terminal information displayed is:
• nodename for VTAM terminals
• nodename and username if an ETO user is signed on to the node
• username for ETO users that signed off while in conversation
• lin#-pte# (line and pterm number) for BTAM terminals
• 1-SC for the system console

/DISPLAY MSNAME
/DISPLAY MSNAME displays the queue counts for the specified logical link path.
Generic parameters are supported for the MSNAME keyword.

An example of using the /DISPLAY MSNAME command is shown in /DISPLAY
MSNAME.

QCNT
Specifies that global queue count information is to be displayed. If QCNT is not
specified, local queue counts are displayed; when it is specified, no local queue
counts are displayed.

This keyword is only valid in a shared-queues environment.

/DISPLAY NODE
/DISPLAY NODE, when followed by a valid node name or ALL, displays status, queue
counts, and number of messages sent to and received from the specified node.
When using ISC, the output for a parallel-session node shows one line of
information for each session of the node whether the node is active or not and
whether logical terminals are assigned or not. If a session is active, the user
identifier (preceded by a dash) and the status and queue counts are displayed on a
subsequent line. /DISPLAY NODE displays queue counts up to a maximum of 32 KB.
The queue count for /DISPLAY NODE is reset to zero when sessions are not active,
or when a signed-on user issues /SIGN OFF.

The USER keyword is valid for ISC nodes with users or dynamic nodes with signed
on users. The NODE parameter can be generic where the USER keyword is not
present. The generic parameter specifies nodes that already exist. A status of
STATIC is displayed for nodes defined to IMS via system definition. STATIC is also
supported as an attribute parameter. Static nodes are used with the /DISPLAY NODE
command in the same way that dynamic nodes are used.

/DISPLAY NODE shows signed on users, where the user ID follows the status SIGN
in parentheses.
Examples of using the /DISPLAY NODE command are shown in

- “Example 1 for /DISPLAY NODE Command” on page 302
- “Example 2 for /DISPLAY NODE Command” on page 303
- “Example 3 for /DISPLAY NODE Command” on page 304
- “Example 4 for /DISPLAY NODE Command” on page 306
- “Example 5 for /DISPLAY NODE Command” on page 306
- “Example 6 for /DISPLAY NODE Command” on page 306
- “Example 7 for /DISPLAY NODE RECOVERY Command” on page 306

MODE  The MODE keyword allows you to display the mode table names associated with the nodes specified. The output includes:

NODE-USR  node name and user identifier

TYPE  type of node

DEF MODETBL  default mode table name set via system definition or logon descriptor or /CHANGE command. This name can be overridden using the /OPNDST command or the LOGON exit for non-IMS session initiations.

ACT MODETBL  mode table name actually used to initiate the session. This name is only displayed while the session is active. The field is blank at normal session termination.

EMHQ  Specifies that global queue count information on the Expedited Message Handler Queues (EMHQ) displays when both EMHQ and QCNT are specified. If EMHQ is specified, QCNT must also be specified. This keyword is only valid in a shared-queues environment.

QCNT  Specifies that global queue count information displays. If QCNT is not specified, local queue counts are displayed; when it is specified, no local queue counts are displayed. If QCNT is specified and EMHQ is not, global queue count information on the shared message queues (MSGQ) displays.

IMS does not check if the specified name is a valid LTERM in the IMS subsystem on which the command is entered.

This command does not display queue counts for Fast Path output messages for the NODE unless EMHQ and QCNT are specified.

This keyword is only valid in a shared-queues environment.

RECOVERY  The /DISPLAY NODE|USER RECOVERY command can be used to display the recovery values that pertain to the node or user. The recovery values may be displayed from the local control blocks, if available, or from values saved for the node or user in the Resource Manager, if resource information is being kept in Resource Manager, and the node or user is defined to have its status kept in Resource Manager. The recovery information that will be displayed with this command are:

- IMS owner
The IMS ID (RSEname if an XRF system) of the IMS system that currently owns this resource. If the resource is not currently owned, this field will be displayed as NONE.

- **Status Recovery Mode (SRM)**
  The scope of recovery for a resource, and from where the end-user significant status is maintained and recovered.

- **End-user significant status**
  The following status are end-user significant status for nodes and users.
  - Conversation
  - STSN
  - Fast Path

  These are statuses that frequently change for a resource, and thus there are performance considerations related to maintaining end-user significant status. The installation can tell IMS how to recover end-user significant status by specifying the level of recovery for each status. Shown for each resource is the level of recovery for each end-user significant status.

N/A is displayed by `/DISPLAY NODE ALL NODE` for VTAM 3270 nodes.

"Attribute" is a reserved parameter. Attributes listed in Table 46 on page 212 can be used with the NODE keyword. Nodes are selected for display based on the attribute or attributes specified. The attribute display format is the same as the standard NODE display. Attributes usually correspond to the conditions displayed for nodes. Any exceptions are flagged in the following list.

The attributes are reserved parameters for the `/DISPLAY NODE` command and cannot be used to name nodes.

The attributes that can be specified with the NODE keyword are listed in below. For example, `/DISPLAY NODE TRACE` displays all nodes that are currently being traced. Following is a list of the attributes that can be specified with the NODE keyword:

- ACTIV
- AUTOSR (Corresponds to the NODE conditions ASR)
- BCKUP
- CLSDST
- CON
- CONVACT (Corresponds to the NODE condition CONV-ACT)
- CONVHLD (Corresponds to the NODE condition CONV-HLD)
- C1INOP
- C2INOP
- C3INOP
- C4INOP
- DEACT
- EXCL
- FORCES (Corresponds to the NODE condition FORCE)
- IDLE
- INOP
- LOCK
- LOST
Explanations of the attributes can be found in Appendix G, “Status and Attributes for the /DISPLAY Command,” on page 793.

/DISPLAY OASN SUBSYS

The /DISPLAY OASN SUBSYS command displays the outstanding recovery units (Origin Application Schedule Numbers) associated with the external subsystem (not CCTL subsystem) specified by the SUBSYS keyword.

The OASN is assigned by IMS when it schedules an application into a dependent region. The OASN, coupled with the IMS ID, becomes the recovery token for units of work distributed to other subsystems.

An example of using the /DISPLAY OASN SUBSYS command is shown in Example for /DISPLAY OASN Command on page 307.

/DISPLAY OLDS

/DISPLAY OLDS displays the system logging status. The ddnames for the online log data sets that are currently online are listed in the sequence used. That is, the one currently being used is listed first, with the one most recently used listed next, and so on. OLDS status information is displayed with each ddname. The meanings of these status messages are given below. In the case of dual logging, two lines of status output are displayed per OLDS ID; the first for the primary OLDS and the second for the secondary OLDS.

/DISPLAY OLDS shows the percentage of the OLDS used (shown under % FULL in the output) and the rate at which it is being filled (shown under RATE in the output). The RATE is the average number of blocks written to the current OLDS since the
last /DISPLAY OLDS was issued. If no blocks were written, the RATE is 0, or, if elapsed time is 0, the previous RATE will be displayed.

An example of using the /DISPLAY OLDS command is shown in "Example for /DISPLAY OLDS Command" on page 307.

/DISPLAY OLDS shows one of the following as the archive status of each OLDS:

**NEEDED**
This OLDS needs to be archived. It cannot be reused for output logging until it has been archived.

**SCHEDULED**
An archive job has been generated for this OLDS.

**STARTED**
A job to archive this OLDS has started execution.

**AVAILABLE**
Either this OLDS is empty or it has been archived. It can be reused for output logging.

When the archive status of an OLDS is scheduled or started and DBRC has generated the JCL for the archive job, the archive job name will be included in the output.

/DISPLAY OLDS also shows the following status information for OLDS:

**IN USE**
This is the current output log OLDS. The display line for this OLDS also has an asterisk (*) in the left margin.

**STOPPED**
/STOP command entered for this OLDS or the OLDS is being internally stopped because of write errors.

**WRT-ERR**
A write I/O error occurred on this OLDS data set.

**CLSE**
An error occurred when closing this data set. The Log Recovery utility can be used to correct this condition.

**PREV CLSER**
The previous OLDS could not be closed because of an I/O error and this OLDS is required by the Log Recovery utility to correct the condition.

**NOT USABLE**
This data set is not being used for logging. When operating in “Degraded Dual” state, the other data set in this OLDS pair was used for output but this data set was not used because of a previous data set error.

**BACKOUT**
This OLDS is potentially required for backout.

When the backout of at least one dependent region would require an SLDS because all of its log records are not available from OLDS, the following line will be inserted in front of SLDSREAD ON or SLDSREAD OFF in the OLDS STATUS display:

```
SLDS REQUIRED FOR BACKOUT - RGN nnnnn
```

The value nnnnn is the region number of the application that would require the oldest record for backout. An OLDS that is stopped or had an I/O error will be dynamically deallocated after it is no longer needed for backout.
Following the detailed OLDS data set information, the dual OLDS state (DUAL, DEGRADED DUAL, NONDEGRADABLE DUAL or SINGLE) and the WADS recording state (DUAL, SINGLE, or NO) display. Also, the DDNAMEs of all available WADS display. The DDNAMEs of the current WADS are preceded by an asterisk (*).

SLDSREAD ON or OFF is also displayed. If SLDSREAD is on it indicates that IMS is enabled to retrieve both SLDS and OLDS.

Restriction: Under the dual logging environment, the number of primary OLDS and secondary OLDS must be the same; otherwise, the status of the OLDS is incorrect.

The following parameters, when used with the /DISPLAY OLDS command, specify selection criteria used to select which OLDS are to be included in the display output. All these parameters are optional. If none are specified, ALL is the default action. When multiple parameters are specified, an OLDS satisfying any one of the specified criteria is included in the output.

ALL Display status of each online OLDS.
INUSE Display current output OLDS.
BACKOUT Display OLDS containing dynamic backout data for currently active PSTs.
ERROR Display OLDS that have encountered error conditions.
STOPPED Display stopped OLDS.

/DISPLAY OTMA

/DISPLAY OTMA displays the current status for IMS Open Transaction Manager Access (OTMA) clients and servers. This command displays the following:

- Each member in each XCF group
  The server is always the first member displayed.
- The XCF status for each member
  The status can be one of the following:
  - ACTIVE
  - CREATED
  - FAILED
  - NOT DEFINED
  - QUIESCED
  - UNKNOWN
  If the server leaves the XCF group (for example, because of a /STOP OTMA command), then the XCF status is displayed as NOT DEFINED.
- The user status for each member
  The status can be one of the following:
  - ACCEPT TRAFFIC
  - DISCONNECTED
  - IN SLOWDOWN
The security status for each server

The security status can be one of the following:

- NONE
- CHECK
- FULL
- PROFILE

See Chapter 52, “/SECURE,” on page 555 for more information on the security status.

This command is functionally equivalent to the /DISPLAY TMEMBER ALL command.

Examples of using the /DISPLAY OTMA command are shown in:

- “Example 1 for /DISPLAY OTMA Command” on page 307
- “Example 2 for /DISPLAY OTMA Command” on page 307

/DISPLAY OVERFLOWQ

/DISPLAY OVERFLOWQ displays a list of queue names that are in overflow mode for those coupling facility list structures specified (for the STRUCTURE keyword) that are in overflow mode. It also displays the queue type of the resource for each queue. If a specified structure is not defined, the overflow structure name is displayed as NOT-DEFINED.

Queue names displayed might not be defined to the IMS subsystem on which this command is issued. If a queue type is not defined, the type is displayed as UNKNOWN, and the queue name is displayed as the 16-byte queue name (with the queue type as the first byte).

This command is only valid in a shared-queues environment.

STRUCTURE

Specifies the primary coupling facility list structures to be displayed.

This command displays the following information:

**APPC**

The resource type on the overflow structure is an APPC outbound queue. The first eight bytes of the resource name displayed is the unique constant TMSTMP-. The next four bytes are the IMS ID of the IMS subsystem that has the LUNAME and TPNAME defined. If you issue the /DISPLAY OVERFLOWQ command on the system on which the LUNAME and TPNAME are defined, then the LUNAME and TPNAME also display.

When LUNAME and TPNAME cannot be located on the system on which they're defined, UNKNOWN appears under the LUNAME and TPNAME headings in the display output.

**BALGRP**

The resource type on the overflow structure is a Fast Path PSB name. The resource name displayed is the Fast Path PSB name.

**LTERM**

The resource type on the overflow structure is an LTERM. The resource name displayed is the LTERM name.

**OTMA**

The resource type on the overflow structure is an OTMA outbound
queue. The first eight bytes of the resource name displayed is the unique constant TMSTMP-. The next four bytes are the IMS ID of the IMS subsystem that has the TMEMBER and TPIPE defined. If you issue the /DISPLAY OVERFLOWQ command on the system on which the TMEMBER and TPIPE are defined, then the TMEMBER and TPIPE are also displayed.

When LUNAME and TPNAME cannot be located on the system on which they’re defined, UNKNOWN appears under the LUNAME and TPNAME headings in the display output.

REMOTE The resource type on the overflow structure is a remote LTERM, remote transaction, or an MSNAME. The resource name displayed is the remote LTERM name, remote transaction name, or the msname.

SUSPENDTRAN The resource type on the overflow queue is a suspended transaction and the messages are on the suspend queue. The resource name displayed is the transaction name. If the transaction that is suspended is a serial transaction, or if local affinity has been set for a non-serial transaction, the first eight bytes displayed are the transaction name and the last seven bytes represent the IMS ID of the subsystem that enqueued the message.

SERIALTRAN The resource type on the overflow queue is a serial transaction. The first eight bytes of the resource name are the transaction name and the last seven bytes represent the IMS ID of the IMS subsystem that inserted the message for the transaction.

TRANSACTION The resource type on the overflow queue is a transaction. The resource name displayed is the transaction name. If local affinity has been set for the transaction, the first eight bytes displayed are the transaction name and the last seven bytes represent the IMS ID of the IMS subsystem that enqueued the message.

UNKNOWN The resource type of the resource on the overflow queue is not known to this IMS subsystem. The 16 byte resource name is displayed.

An example of using the /DISPLAY OVERFLOWQ command is shown in “Example for /DISPLAY OVERFLOWQ Command” on page 308.

/DISPLAY POOL

/DISPLAY POOL displays processor storage utilization statistics for the various IMS storage pools.

When the /DISPLAY POOL command is issued from a specific environment (such as DBCTL), only the information that is valid for that environment is displayed.

Certain storage utilization statistics can be obtained with the DL/I STAT call.

Control block table (CBT) pools are defined in DFSCBT00 and are grouped into classes for the purposes of the /DISPLAY POOL command. All CBT pools are valid in all environments.

Examples of using the /DISPLAY POOL command are shown in:
The classes and corresponding parameters are:

**CBT**  This displays storage for all CBT pools. Use of this operand generates a large amount of display output.

**DBB**  This displays database related storage.

**DCC**  This displays storage associated with DC.

**DEP**  This displays storage associated with the dependent region structure. This parameter is not supported for an RSR tracking subsystem.

**DISP**  This displays dispatcher related storage.

**FP**  This displays Fast Path related storage.

**GEN**  This displays storage that has no particular functional association.

**OSAM**  This displays OSAM related storage.

**SUM**  This displays summary statistics for each of the above storage classes.

A CBT class display shows information for each pool in that class. The amount of storage displayed for these pools might change because the storage is obtained as needed and can be freed when not in use. In addition, a summary of the total current global and local storage in the class and in all CBT pools is displayed.

If SUM is specified, a summary of the total current local and global storage for each CBT class is displayed.

For the following storage pools, the amount of storage obtained is specified during system definition or via EXEC statement overrides in the IMS procedure JCL.

**DBAS**  Database buffer pools (includes VSAM buffer pools if VSAM is in the system, also includes buffer space used by sequential buffering).

Statistics for VSAM local shared resource pools are displayed in the order in which the pools are defined. For each local shared resource pool, each subpool’s statistics are displayed in ascending order by buffer size. The smallest buffers are listed first and the largest buffers are listed last. If an index subpool exists in the shared resource pool, its statistics follow the data subpool statistics. Index statistics are also displayed in ascending order by buffer size.
Headings for VSAM subpools include the pool ID of the local shared resource pool. They also indicate whether the subpool is a data subpool (type D) or an index subpool (type I).

**DBWP**
Database working pool.

**DMBP**
Data management block pool.

**EPCB**
Fast Path PCB extension pool for MPPs.

**FPDB**
Fast Path database buffer pool.

**MAIN**
Working storage pool.

**MFP**
Message format block pool.

**PSBP**
Program specification block pool. This parameter is not supported for an RSR tracking subsystem.

**PSBW**
Program specification block work area. This parameter is not supported for an RSR tracking subsystem.

**QBUF**
Message queue buffer pool. Parameter QBUF can also be used to indicate how close the system is to automatic shutdown due to message queue buildup. The statistics displayed for each data set are:

- The maximum number of records available before initiation of automatic shutdown. This value is defined by the SHUTDWN parameter of the MSGQUEUE macro. This value is not the total number of records available in the data set.
- The number of records currently in use.
- The percentage of records currently in use to records available before initiation of automatic shutdown. When the value described in this item reaches 100%, an internal checkpoint dumpq will automatically be initiated. The number of records in the queue data set might continue to increase during the checkpoint dumpq, resulting in percentages greater than 100 being displayed.

Table 52 shows the environments (DB/DC, DBCTL, or DCCTL) in which each storage pool is valid. If a pool is not valid in an environment, it will not appear when `/DISPLAY POOL ALL` is issued.

**Table 52. Storage Pools and Their Environments**

<table>
<thead>
<tr>
<th>Storage Pools</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOIP</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>CESS</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>CIOP</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>DBAS</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DBWP</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DMBP</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>EMHB</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>EPCB</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>FPDB</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>FPWP</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>HIOP</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
Table 52. Storage Pools and Their Environments (continued)

<table>
<thead>
<tr>
<th>Storage Pools</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>LUMC</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LUMP</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>MAIN</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>MFP</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PSBP</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PSBW</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>QBUF</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Note:

When `/DISPLAY POOL ALL` is specified for an RSR tracking subsystem, the following pools are not included: DEP, PSBP, PSBW, LUMP, LUMC.

### Abbreviations Used in the `/DISPLAY POOL` Command

The following lists indicate the abbreviations used in the `/DISPLAY POOL` command for each pool and subpool.

#### CBT Pool Display

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME</td>
<td>Storage pool name</td>
</tr>
<tr>
<td>SP™</td>
<td>Associated MVS/ESA user number</td>
</tr>
<tr>
<td>CURR</td>
<td>Current bytes allocated to the pool</td>
</tr>
<tr>
<td>MAX</td>
<td>Maximum size in bytes that the pool ever reached</td>
</tr>
<tr>
<td>GETS</td>
<td>Number of GETMAINs issued</td>
</tr>
<tr>
<td>FREES</td>
<td>Number of FREEMAINs issued</td>
</tr>
</tbody>
</table>

#### Message Queue Pool

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BFRS</td>
<td>Number of processor storage queue buffers.</td>
</tr>
<tr>
<td>SIZE</td>
<td>Usable size of one queue buffer, excluding the buffer prefix.</td>
</tr>
<tr>
<td>ENQ</td>
<td>Number of message enqueues.</td>
</tr>
<tr>
<td>DEQ</td>
<td>Number of message dequeues.</td>
</tr>
<tr>
<td>CAN</td>
<td>Number of canceled messages.</td>
</tr>
<tr>
<td>WAIT</td>
<td>Number of I/O waits issued.</td>
</tr>
<tr>
<td>I/O</td>
<td>Number of I/O operations. In a shared queues environment, it is the sum of CQSPUTs and CQSREADs.</td>
</tr>
<tr>
<td>ERR</td>
<td>Number of I/O errors.</td>
</tr>
</tbody>
</table>

#### Message Format Pool

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIZE</td>
<td>Pool size</td>
</tr>
<tr>
<td>SPACE</td>
<td>Maximum amount of free space</td>
</tr>
<tr>
<td>DIRS</td>
<td>Space used by MFS Dynamic Directory</td>
</tr>
</tbody>
</table>
### Database Buffer Pools

The database buffer pool display consists of the OSAM buffer pool and, if VSAM is in the system, the VSAM buffer subpool. The display also includes information about the buffer space used by sequential buffering within the online IMS subsystem. The information about the sequential buffering buffer space includes:

<table>
<thead>
<tr>
<th>MAX</th>
<th>Maximum amount of space available for sequential buffering</th>
</tr>
</thead>
<tbody>
<tr>
<td>FREE</td>
<td>Amount of currently free space for sequential buffering</td>
</tr>
<tr>
<td>CUR</td>
<td>Current bytes allocated to the pools for sequential buffering</td>
</tr>
<tr>
<td>HIGH</td>
<td>Highest amount of space ever used in this run for sequential buffering</td>
</tr>
</tbody>
</table>

### OSAM Buffer Subpool

Statistics for each OSAM subpool are displayed separately. The final display provides the statistical summation for all the OSAM subpools in all the shared resource pools.

<table>
<thead>
<tr>
<th>SIZE</th>
<th>Buffer pool size</th>
</tr>
</thead>
<tbody>
<tr>
<td>REQ1</td>
<td>Number of block requests</td>
</tr>
<tr>
<td>REQ2</td>
<td>Number of requests satisfied in the pool plus new blocks created</td>
</tr>
<tr>
<td>READ</td>
<td>Number of read requests issued</td>
</tr>
<tr>
<td>BISAM</td>
<td>Number of BISAM reads issued plus QISAM SETLs</td>
</tr>
<tr>
<td>WRITES</td>
<td>Number of OSAM writes issued</td>
</tr>
<tr>
<td>KEYC</td>
<td>Number of retrieve by key calls number</td>
</tr>
<tr>
<td>LCYL</td>
<td>Number of OSAM format logical cylinder requests</td>
</tr>
<tr>
<td>PURG</td>
<td>Number of synchronization calls received</td>
</tr>
<tr>
<td>OWNRR</td>
<td>Number of release ownership requests</td>
</tr>
<tr>
<td>ERRORS</td>
<td>Number of permanent errors now in the pool and largest number of permanent errors during this run</td>
</tr>
</tbody>
</table>
VSAM Buffer Subpool

**Product-sensitive programming interface**

Statistics for each VSAM subpool are displayed separately. The final display provides the statistical summation for all the VSAM subpools in all the shared resource pools.

**BSIZE**
The size of the buffers in this VSAM subpool

**POOLID**
Local shared resource pool ID

**TYPE**
The subpool type: I (Index) or D (Data)

**RRBA**
Number of retrieval requests by RBA

**RKEY**
Number of retrieval requests by key

**BFALT**
Number of logical records altered

**NREC**
Number of new VSAM logical records created

**SYNPTS**
Number of system checkpoint requests

**NMBUFS**
Number of buffers in this VSAM subpool

**VRDS**
Number of VSAM control interval reads

**FOUND**
Number of control intervals VSAM found in the subpool through lookaside

**VWTS**
Number of VSAM control interval writes

**ERRORS**
Total number of permanent errors now in the pool and total number of permanent errors in this run

The BSIZE value in the final display is ALL.

**Enhanced OSAM Buffer Subpool**

**Product-sensitive programming interface**

Each OSAM subpool is displayed separately. The final display provides the statistical summation for all the OSAM subpools.

**ID**
The 4-character POOLID provided at subpool definition time

**BSIZE**
The size of the buffers in this OSAM subpool

**NBUF**
Number of buffers for this subpool

**FX=**
The fix options for this subpool Y/N indicates whether or not the DATA BUFFER PREFIX/DATA BUFFERS are fixed.

**LCTREQ**
Number of LOCATE-type calls for this subpool

**ALTREQ**
Number of buffer alter calls for this subpool. This count includes NEW BLOCK and BYTALT calls.

**PURGRQ**
Number of PURGE calls for this subpool

**FNDIPL**
Number of LOCATE-type calls, for this subpool, where data is already in the OSAM pool
### BFSRCH
Number of buffers searched by all LOCATE-type calls for this subpool

### RDREQ
Number of READ I/O requests for this subpool

### BFSTLW
Number of single block writes initiated by buffer steal routine for this subpool

### PURGWR
Number of buffer written by purge

### WBSYID
Number of LOCATE calls, for this subpool, that waited due to busy ID

### WBSYWR
Number of LOCATE-type calls, for this subpool, that waited due to busy writing

### WBSYRD
Number of LOCATE-type calls, for this subpool, that waited due to busy buffer reading

### WRLSEO
Number of buffer steal or purge requests, for this subpool, that waited for ownership to be released.

### WNOBFR
Number of buffer steal requests, for this subpool, that waited because no buffers were available to be stolen

### ERRORS
Total number of I/O errors for this subpool, or number of buffers locked in the pool due to write errors for this subpool

### CF-READS
Number of blocks read from CF.

### EXPCTD-NF
Number of blocks expected but not read.

### CFWRT-PRI
Number of blocks written to CF (prime).

### CFWRT-CHG
Number of blocks written to CF (changed).

### STGGLS-FULL
Number of blocks not written (STG CLS full).

### XI-CNTL
Number of XI buffer-invalidate calls.

### VECTR-XI
Number of buffers found invalidated by XI on VECTOR call.

### SB-SEQRD
Number of immediate (SYNC) sequential reads (SB stat).

### SB-ANTICIP
Number of anticipatory reads (SB stat).

For the summary totals, the POOLID is not shown. BSIZE is set to ALL. NBUF indicates the total number of buffers in the pool. The FX= field is replaced by OSM=, which shows the total size of the OSAM buffer pool.

End of Product-sensitive programming interface

#### Enhanced VSAM Buffer Subpool

Each VSAM subpool is displayed separately. The final display provides the statistical summation for all the VSAM subpools.

**ID**
The 4-character POOLID provided at subpool definition time
**BSIZE**
The size of the buffers in this VSAM subpool

**TYPE**
identifies the subpool as containing INDEX or DATA buffer

**FX=**
Number of options for this subpool. Y/N is used to indicate whether or not the INDEX BUFFERS/DATA BUFFER PREFIX/ DATA BUFFERS are fixed.

**RRBA**
Number of retrieval requests by RBA

**RKEY**
Number of retrieval requests by KEY

**BFALT**
Number of logical records altered

**NREC**
Number of new VSAM logical records created

**SYNC PT**
Number of system checkpoint (synchronization point) requests

**NBUFS**
Number of buffers in this VSAM subpool

**VRDS**
Number of VSAM control interval reads

**FOUND**
Number of control intervals VSAM found in the subpool through lookaside

**VWTS**
Number of VSAM control interval writes

**HSR-S**
Number of successful VSAM reads from Hiperspace™ buffers

**HSW-S**
Number of successful VSAM writes to Hiperspace buffers

**HS NBUFS**
Number of Hiperspace buffers defined for this subpool

**HS R/W-FAIL**
Number of failed VSAM reads/writes from or to Hiperspace buffers. This indicates the number of times a VSAM READ/WRITE request from or to Hiperspace resulted in DASD I/O.

**ERRORS**
Number of permanent write errors now in the subpool, or the largest number of errors in this execution

The BSIZE value in the final display is the total size of all the VSAM subpool buffers. BSIZE is set to ALL. For the summary totals, the POOLID is not shown. The TYPE and FX= fields are replaced by VS=, which is the total size of the VSAM subpool in virtual storage, and HS=, which is the total size of the VSAM subpool in Hiperspace.

End of Product-sensitive programming interface

**Fast Path Database Buffer Pool**

**AVAIL**
Number of available page-fixed database buffers

**WRITING**
Number of page-fixed database buffers being written to disk, including the buffers being filled with sequential dependent segments

**PGMUSE**
Number of page-fixed buffers allocated to PSTs
### /DISPLAY POOL

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNFIXED</td>
<td>Number of available buffers for starting a new region</td>
</tr>
<tr>
<td>POOLNAME</td>
<td>Name of the private buffer pool for the area. This name is specified in the VSPEC member.</td>
</tr>
<tr>
<td>CISIZE</td>
<td>Control interval size of the private pool for the area.</td>
</tr>
<tr>
<td>PBUF</td>
<td>Size allocated for the primary pool (specified in the VSPEC member).</td>
</tr>
<tr>
<td>SBUF</td>
<td>Size allocated for the secondary pool (specified in the VSPEC member).</td>
</tr>
<tr>
<td>MAX</td>
<td>Maximum number of buffers for the private pool (specified in the VSPEC member).</td>
</tr>
<tr>
<td>CURRENT</td>
<td>Total number of buffers currently in the pool, including both primary and secondary allocations.</td>
</tr>
<tr>
<td>LK</td>
<td>Y indicates that buffer lookaside is active for the pool; N indicates that it is not.</td>
</tr>
<tr>
<td>HITS</td>
<td>Percentage of searches of the pool for which a buffer was found. Only displayed for lookaside pools.</td>
</tr>
<tr>
<td>VALID</td>
<td>Percentage of times a buffer found in the pool had valid data. An Invalid buffer is read from DASD and the pool copy is replaced. Only displayed for lookaside pools. You use the percentages displayed for HITS and VALID together.</td>
</tr>
</tbody>
</table>

**Example:** If HITS is 40%, and VALID is 75%, a buffer was found in the pool 40% of the time, and of that 40%, 75% of the buffers found had valid data, that is, 30% of the HITS had valid data. So, IMS had to read data from DASD approximately 70% of the time.

### PSBP, DMBP, PSBW, DBWP, EPCB, and MAIN Buffer Pools

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIZE</td>
<td>pool size</td>
</tr>
<tr>
<td>FREE</td>
<td>amount of currently free space</td>
</tr>
<tr>
<td>HIGH</td>
<td>Highest amount of space ever used in this run</td>
</tr>
</tbody>
</table>

### AOIP, CIOP, HIOP, CESS, FPWP, EMHB, LUMP, and LUMC Buffer Pools

During the execution of IMS, the AOIP, CIOP, HIOP, CESS, FPWP, EMHB, LUMP, and LUMC buffer pools can dynamically expand and contract.

Internally, each dynamic pool has one or more blocks of storage that are not contiguous, each divided into fixed length buffers. By obtaining new blocks and releasing unused blocks, a buffer pool can expand or contract during the execution of IMS. The number of blocks needed for each pool depends on several factors such as the number of buffer requests from the pool, buffer size, and block size.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIZE</td>
<td>Pool size</td>
</tr>
<tr>
<td>HIGH</td>
<td>Maximum size since last checkpoint</td>
</tr>
</tbody>
</table>

---

246 Command Reference
/DISPLAY PROGRAM

/DISPLAY PROGRAM displays the status of programs.

The status displayed can be one of the following:

- DB-STOPD
- I/O PREVEN
- LOCK
- NOTINIT
- STOPPED
- TRA

For definitions of the status conditions, refer to Appendix G, “Status and Attributes for the /DISPLAY Command,” on page 793.

For DBCTL, this command displays the status of BMP programs, DEDB utilities, and CCTL PSBs. Because DBCTL has no knowledge of CICS programs, their status is not displayed.

An example of using the /DISPLAY PROGRAM command is shown in “Example for /DISPLAY PROGRAM Command” on page 316.

/DISPLAY PSB

/DISPLAY PSB displays the status of PSBs, which transactions these PSBs are processing, any routing code associated with the transactions, the databases being accessed, and the type of access. This keyword can be used only if Fast Path is installed.

For HSSP PSBs, the letter H is appended to the access intent under the ACCESS heading.

For DBCTL, the status of CCTL PSBs is displayed.

An example of using the /DISPLAY PSB command is shown in “Example for /DISPLAY PSB Command” on page 317.

/DISPLAY PTERM

/DISPLAY PTERM can be specified without an associated LINE keyword on /DISPLAY when PTERM is used with the special “attribute” parameter. Physical terminals are selected for display based on the attribute or attributes specified. The attribute display format is the same as the standard LINE/PTERM display. Attributes usually correspond to the conditions displayed for line/physical terminals.

An example of using the /DISPLAY PTERM command is shown in “Example for /DISPLAY PTERM Command” on page 318.

The attributes that can be specified with the PTERM keyword are listed in Table 53 on page 248. For example, /DISPLAY PTERM TRACE displays all physical terminals that are currently being traced.
**/DISPLAY PTERM**

Table 53. /DISPLAY PTERM Command Attributes

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPINOP</td>
<td></td>
</tr>
<tr>
<td>CONVACT</td>
<td></td>
</tr>
<tr>
<td>CONVHLD</td>
<td>EXCL</td>
</tr>
<tr>
<td>INOP</td>
<td>LOCK</td>
</tr>
<tr>
<td>LOOPTEST</td>
<td>MFSTEST</td>
</tr>
<tr>
<td>NOIN</td>
<td>NOOUT</td>
</tr>
<tr>
<td>NOQUEUE</td>
<td>NOTOPEN</td>
</tr>
<tr>
<td>PAGE</td>
<td>PRST</td>
</tr>
<tr>
<td>PSTOPPED</td>
<td>PUR</td>
</tr>
<tr>
<td>RESP</td>
<td>RESPINP</td>
</tr>
<tr>
<td>SIGN</td>
<td>STOPPED</td>
</tr>
<tr>
<td>TEST</td>
<td>TKOTRA</td>
</tr>
<tr>
<td>TRA</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
1. Corresponds to the NODE condition CONV-ACT.
2. Corresponds to the NODE condition CONV-HLD.

---

**/DISPLAY Q**

/DISPLAY Q displays the message queues according to classes and priority levels.

**BALGRP**
Displays queue counts of the Fast Path load balancing group queues.

**CLASS**
Displays queues for specified classes.

**PRIORITY**
Displays queues for specified priorities.

**QCNT**
Specifies that global queue count information is to be displayed for Fast Path load balancing groups. If QCNT is not specified, only local queue counts are displayed; when it is specified, no local queue counts are displayed.

This keyword is only valid in a shared-queues environment.

**TRANSACTION**
Displays queues for transactions that are ready to run. DFSCPIC is displayed as psbname for CPI Communications driven transactions that have not issued a DL/I call to allocate a PSB.

Combinations of the CLASS, PRIORITY, and TRANSACTION keywords allow classes, priority levels within classes, transactions within priority levels, and message counts to be displayed on an as-needed basis.

Examples of using the /DISPLAY Q command are shown in:
- "Example 1 for /DISPLAY Q Command" on page 318
- "Example 2 for /DISPLAY Q Command" on page 320
/DISPLAY QCNT displays global queue information for the specified resource type. The resource type can be APPC, BALGRP, LTERM, OTMA, REMOTE, or TRANSACTION. This command displays all the queues for the resource type that have at least one message whose message age is greater than the message age value specified.

The following list describes the resource types allowed:

**APPC**
Specifications that global information for all APPC outbound queues is to be displayed.

For messages that are placed on the shared queues using a side information entry name, the side information entry name is returned in the LUNAME field and the character string DFSSIDE is returned in the TPNAME field.

**BALGRP**
Specifications that global information for Fast Path PSBs is to be displayed.

**LTERM**
Specifications that global information for LTERMs and MSNAMEs is to be displayed.

**MSGAGE**
Specifies the message age in number of days (0-365). Only those queues with messages older than or equal to this value are displayed. The resource name and the time when the message was placed on the shared queues are displayed.

If you specify MSGAGE=0, all resources (queues) are displayed.

**OTMA**
Specifications that global information for all OTMA outbound queues is to be displayed.

**REMOTE**
Specifications that global information for remote transactions and remote LTERMs is to be displayed.

**TRANSACTION**
Specifications that global information for transactions is to be displayed, not including transactions that are suspended.

**Recommendation:** When you issue this command, IMS reads every message for the resource type. To minimize the performance impact, issue this command only when necessary.

This command is valid only in a shared-queues environment.

The output from the /DISPLAY QCNT command contains the following fields:

**QUEUENAME**
1-8 byte queue name.

If the output is the result of a /DISPLAY QCNT APPC MSGAGE or a /DISPLAY QCNT OTMA MSGAGE command, the value displayed for the queue name is the character string, TMSTMP, followed by the IMSID (or the first seven bytes of the RSENAME, if XRF capable) of the IMS to which the output messages have affinity.
**DISPLAY QCNT**

- **QCNT-TOTAL**: Total count of messages on the queue.
- **QCNT-AGED**: Count of messages with a message age greater than or equal to the message age specified. This count does not include messages whose age is less than the message age specified.
- **TSTMP-OLD**: The time stamp of the oldest message for the queuename on the Shared Queue.
- **TSTMP-NEW**: The time stamp of the newest message for the queuename on the Shared Queue.

**Note**: The timestamp is the time when the message is put on the Shared Queues by CQS. These timestamps can be used to select records from the CQS log or the IMS log. Because this is a CQS generated timestamp, it may not correspond to the timestamp on the IMS log because logging a message in IMS and logging the same message in CQS are separate events.

Examples of using the `/DISPLAY QCNT` command are shown in "Example for /DISPLAY QCNT Command" on page 320.

---

**/DISPLAY RECOVERY**

The `/DISPLAY RECOVERY` command displays the recovery process in progress. It also lists of database data sets and areas being recovered by an online database recovery service. The database data sets and areas are displayed as part of a recovery list, which is a set of database data sets, areas, or both processed by an online database recovery service in a single recovery instance. The `/DISPLAY RECOVERY` command also shows the status of one or all of the recovery lists that exist.

If an online database recovery service is executing in an IMS DB/DC control region, the `/DISPLAY RECOVERY` command can be issued from LTERM, automated operator (AO) application programs, the IMS Master Terminal (MTO), or the MVS master console and secondary console.

If an online database recovery service is running in an IMS DBCTL region, the `/DISPLAY RECOVERY` command can be issued by programs using the IMS DBCTL AOI or the MVS master console and secondary console.

Examples of using the `/DISPLAY RECOVERY` command are shown in:

- "Example 1 for /DISPLAY RECOVERY Command" on page 321
- "Example 2 for /DISPLAY RECOVERY Command" on page 321
- "Example 3 for /DISPLAY RECOVERY Command" on page 322
- "Example 4 for /DISPLAY RECOVERY Command" on page 323
- "Example 5 for /DISPLAY RECOVERY Command" on page 323
- "Example 6 for /DISPLAY RECOVERY Command" on page 324
- "Example 7 for /DISPLAY RECOVERY Command" on page 324
- "Example 8 for /DISPLAY RECOVERY Command" on page 325

**ALL**

An optional parameter that displays all the recovery list information and the recovery progress information. No recovery list entry information is displayed.
**RCVTOKEN**
An optional parameter that displays the recovery token associated with the specific recovery list. The recovery list information and recovery progress information for the specific list display with the recovery list entry information, including the database data set and areas contained in the recovery list.

token
Specifies the unique recovery token associated with the recovery list. This token can be up to eight characters in length. If RCVTOKEN is specified, token must be supplied.

The /DISPLAY RECOVERY command output is divided into three sections:
- Recovery List Information
- Recovery Progress Information
- Recovery List Entry Information

**Recovery List Information**
This section displays the status of one or more recovery lists. The status includes the following information:

**TOKEN**
The recovery list token. If /DIS RECOVERY ALL is issued and no recovery list exists, NO LISTS is displayed. If IMS is unable to obtain recovery list information from the recovery facility, UNAVAIL is displayed.

**STATUS**
The current status of the recovery list. The status is one of the following:

- **FORMING**
  A /RECOVER START command has not been issued.

- **STARTED**
  A /RECOVER START command has been issued. Recovery processing started but has not completed.

- **UNKNOWN**
  No list with the given token can be found.

- **STOPPING**
  A /REC STOP ALLENT command was issued.

**ERROR**
The choices are ABORT or CONT. These are the action options in case an error is encountered.

**REC TYPE**
Indicates the type of recovery being processed. The type is one of the following:

- **FULL**
  A full recovery is processing.

- **TSR**
  A Timestamp Recovery is processing. This occurs when RCVTIME was specified on the /RECOVER START command, but PITR was not specified.

- **PITR**
  A Timestamp Recovery is processing with the point-in-time recovery (PITR) option. This occurs when RCVTIME is specified on the /RECOVER START command with PITR.

- **N/A**
  Recovery has not been started. The type is undefined.
DISPLAY RECOVERY

PROC   This is the process type. RTDB indicates this is a recovery to a database data set or area.
IC#    Indicates the primary image copy will be used if an image copy is to be used during recovery.
SOURCE The primary copy as contained in the RECON is used for recovery.

Recovery Progress Information
This section displays status of the recovery in progress, if there is one. The section is omitted if no recovery is in progress. The status includes the following information:

TOKEN   The recovery list token.

PROCESSING STATUS
This was LAST PROCESSED with an online database recovery service. The status values reflect the progress in two phases of processing: reading log data sets and restoring image copy data. The format of the entries are as follows:
- nnnn of mmmm LOGS READ
- nnnn of mmmm RESTORED
- COMPLETE - this state will only appear for a few seconds following the completion of restoration of the last DBDS and termination of the recovery list.
- NOT STARTED - the recovery list is ready for processing or for additional updates.
- routing time - if an online database recovery service is used.

RCVTIME The RCVTIME value specified on the /RECOVER START command or N/A if none was specified. The time is displayed in local time.

Recovery List Entry Information
This section displays the list of database data sets and areas in the given recovery list. The status includes the following information:

DATABASE DATA SET
For full function, this is the DB name and DD name of the database data set. For Fast Path it is the area name. If there are multiple area data sets for the area, the string `(MADS)` will also be displayed.

START OPTION
The start option that was specified on the /RECOVER ADD or /RECOVER START command or taken from the system default. The values can be STALOCAL, STAGLOBAL, or OFFLINE.

STATUS
The status of the database data set or area. The status can be one of the following:
- FAILED An error occurred for this database data set or area during recovery.
DISPLAY RECOVERY

STOPPED
A /RECOVER STOP command was entered to stop recovery processing for the database data set or area.

NORMAL
Recovery is in progress or pending for the database data set or area.

INVALID
DBRC no longer contains information about this database data set or area.

AUTH SSID
A list of SSIDs that are still authorized to the database data set or area. NONE displays if no IMS is authorized to the database data set or area. If recovery is in progress, N/A displays.

/DISPLAY RTCODE
/DISPLAY RTCODE displays the status of Fast Path routing codes, the PSB using the routing code, and the region, if any.

An example of using the /DISPLAY RTCODE command is shown in "Example for /DISPLAY RTCODE Command" on page 325.

/DISPLAY SHUTDOWN STATUS
/DISPLAY SHUTDOWN STATUS displays system activity during a shutdown type of checkpoint. When issuing the /DISPLAY SHUTDOWN STATUS command from a specific environment (such as DBCTL), only the information that is valid for that environment is displayed. For example, in a DBCTL environment, only the number of IMS threads is displayed.

In an LU 6.2 environment, the /DISPLAY SHUTDOWN STATUS command indicates the dependent regions that have active CPI Communications driven transaction programs. These regions must be terminated prior to shutdown completion. In addition, the command also displays LU 6.2 conversations that hang the shutdown processing.

In a shared-queues environment, the /DISPLAY SHUTDOWN STATUS command displays the CQS job name that needs to be restarted if IMS shutdown hangs because CQS is inactive.

If a /DISPLAY SHUTDOWN STATUS command is issued while a database is being recovered with the Online Recovery Services, the response DB RECOVERY IN PROGRESS will be returned in addition to the other responses.

Examples of using the /DISPLAY SHUTDOWN STATUS command are shown in
• "Example 1 for /DISPLAY SHUTDOWN STATUS Command" on page 325
• "Example 2 for /DISPLAY SHUTDOWN STATUS Command" on page 326
• "Example 3 for /DISPLAY SHUTDOWN STATUS Command" on page 327

The status displayed when the /DISPLAY SHUTDOWN STATUS command is issued can include the following:
xx MSG PROCESSING REGIONS(S) ACTIVE
Where xx is the number of BMP, TP, and FP regions that are active. If the checkpoint has already been posted, this is the only status displayed.

For DBCTL, a count of active CCTL threads is included.

SYSTEM PURGING
The checkpoint is the result of a /CHECKPOINT PURGE command.

TERMINAL USER STATUS
The header for the portion of the display that shows active terminals, whose status can be one of the following:

- INPUT IN PROCESS
- OUTPUT IN PROCESS
- AWAITING RESPONSE
- XX MSGS IN QUEUE

If there is no terminal activity, the status can be one of the following:

- NO INPUTTING LINES
- NO OUTPUTTING LINES

MSG-IN X MSG-OUT Y
The message totals, where X is the total number of input messages and Y is the total number of output messages.

Master Terminal Status
The following text is displayed for the primary master, secondary master, or system console:

- PRIMARY MSTR
- SECOND MSTR
- SYS CONSOLE

ACTIVE indicates the terminal is in the following states:

- OPERABLE
- ALLOWING INPUT
- ALLOWING OUTPUT
- NOT STOPPED FOR QUEUEING
- NOT LOCKED
- NOT IN TEST MODE

MESSAGES WAITING indicates that there are system messages (Q3) waiting to be sent, thus preventing shutdown from completing.

OTMA PHASE=x
The current phase of IMS Open Transaction Manager Access (OTMA) processing. The shutdown phases are:

1. OTMA shutdown processing has begun.
2. Dependent regions have terminated. DFS1970 messages have been sent to OTMA clients for all inflight Send-then-Commit (commit mode 1) transactions.
3. OTMA is waiting for termination of all client-processing-related activities.
4. OTMA shutdown is complete.

COMMIT x TMEMBER=membername TPIPE=tpipename
The commit mode for the transaction and which OTMA client (member) and TPIPE is currently in progress and thus preventing completion of shutdown. COMMIT x can be either of the following:
/DISPLAY SHUTDOWN STATUS

0 Commit-Then-Send
1 Send-Then-Commit

XXXXXXX PROCESSING REGION(S) ACTIVE
Active regions, where XXXXXXX is one of the following types:

BMP MSG
TP MSG
FP

If status of a line or link shows input or output in progress and immediate shutdown is desired, the /IDLE command can be used.

One of the following commands can be used to close the VTAM node:
• /CHECKPOINT (except simple checkpoint)
• /CLSDST
• /IDLE NODE (only after a /CLDST command has been tried first)
• /QUIESCE (for session type 6 nodes only)
• /STOP NODE

The /STOP DC or /CHECKPOINT (other than simple checkpoint) command can be issued to close the VTAM ACB.

If a checkpoint purge is in progress and messages are in the output queues, an orderly shutdown can be initiated by entering the /CLSDST or /STOP command. This allows termination after the next output message is sent, but might be insufficient for display terminals or terminals in input mode. If a node is hung, the following can be done:
1. A /CLSDST FORCE command can be issued.
2. If that fails, then the /IDLE command can be issued.

If any messages are queued for PTERM1 (system console) or the master terminal, they must be requested and received before the purge will complete. /STOP and /IDLE are ineffective against these terminals. When using ISC parallel sessions, one line of information is displayed for each applicable session of the node. The user name is also displayed.

/DISPLAY STATUS (With No Keywords)

/DISPLAY STATUS (with no keywords) displays the IMS resources that are in the states listed in Table 54. /DISPLAY STATUS displays only conditions that require operator intervention. Status definitions are shown in Appendix G, “Status and Attributes for the /DISPLAY Command,” on page 793.

Table 54. /DISPLAY STATUS Resource States Displayed (No Keywords)

<table>
<thead>
<tr>
<th>Resource</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLASS</td>
<td>STOPPED</td>
</tr>
<tr>
<td>DATABASE</td>
<td>ALLOCF, BACKOUT, EEQE, INQONLY, LOCK, NOTINIT, NOTOPEN</td>
</tr>
<tr>
<td>DATABASE ADS</td>
<td>PRE-OPEN FAILED, SEVERE-ERROR, UNAVAILABLE, COPY-PHASE, FORMAT-PHASE</td>
</tr>
<tr>
<td>DATABASE AREA</td>
<td>RECOVERY NEEDED, STOPPED</td>
</tr>
<tr>
<td>LINE</td>
<td>IDLE, NOIN, NOOUT, NOQUEUE, NOTOPEN, PSTOPPED, PUR, RESP, RESP-INP, STOPPED</td>
</tr>
</tbody>
</table>
Any combination of the indicated keywords can be used to display the associated resources. If no exceptional conditions are found for any of the resources specified by the individual keywords, STATUS UNRESTRICTED is displayed.

For Fast Path databases, the /DISPLAY STATUS DATABASE command shows the area and ADS exceptions as well as the database status. Each area with exceptions is displayed on a separate line after the database line. Each ADS with exceptions is displayed on a separate line after the area line.

The /DISPLAY STATUS USER command provides the status of a user. The ALLOC status is followed by the nodename to which the user is allocated or signed onto in parenthesis.

In an IMSplex, if NODE, LTERM, or USER is specified with the /DISPLAY STATUS command, it will result in extensive accesses to the Resource Manager for global information, and their use should be carefully considered.

In a DBCTL environment, /DISPLAY STATUS with no keywords only displays database and program information.

In a DCCTL environment, /DISPLAY STATUS with no keywords does not display database information.

For /DISPLAY STATUS TRANSACTION, DFSCPIC is displayed as the PSB name for CPI Communications driven transactions that have not issued a DL/I APSB call to allocate a PSB.

For a DB/DC RSR tracking subsystem, /DISPLAY STATUS with no keywords only displays DATABASE, LINE, LTERM, NODE, PTERM, and USER information.
The /DISPLAY STATUS DATABASE and /DISPLAY STATUS commands show the status of online forward recovery (OFR) for those databases in an RSR tracking subsystem that have OFR in progress.

/DISPLAY STATUS LUNAME can indicate that a command such as /STO LUNAME ALL INPUT or /STO LUNAME ALL OUTPUT was entered before the /DISPLAY that applies to all future LU 6.2 inbound or outbound conversations.

/DISPLAY STATUS TMEMBER displays the IMS Open Transaction Manager Access (OTMA) transaction pipes that are stopped. If a transaction pipe is not stopped, its status is UNRESTRICTED. An example of using the /DISPLAY STATUS TMEMBER command is shown in "Example 5 for /DISPLAY STATUS Command" on page 329.

/DISPLAY STRUCTURE

/DISPLAY STRUCTURE displays the status of one or more coupling facility list queue structures used by IMS. This command displays the queue structure name, type, and status.

The status conditions that can be displayed are:

AVAILABLE
The structure is available to be used by IMS.

CONNECTED
IMS is connected to the structure.

DISCONNECTED
IMS is not connected to the structure.

IN-OVERFLOW
The structure is in overflow mode.

REBLD-INPROG
A rebuild is in progress for the structure.

SHUTDOWN-STRCHKPT
A structure checkpoint will be taken by CQS for the structure during a CQS normal shutdown.

STRCHKPT-INPROG
A structure checkpoint is in progress for the structure.

UNAVAILABLE
The structure is not available to be used by IMS.

This command is only valid in a shared-queues environment.

An example of using the /DISPLAY STRUCTURE command is shown in "Example for /DISPLAY STRUCTURE Command" on page 330.

/DISPLAY SUBSYS

/DISPLAY SUBSYS is used to display information about an external subsystem. (The external subsystem is not a CCTL subsystem.) When used without the OASN keyword, the SUBSYS keyword displays the status of the connection between IMS and the external subsystem (not CCTL), as well as all application programs communicating with the external subsystem (not CCTL). The OASN keyword is used with the SUBSYS keyword to display all OASNs associated with the specified
external subsystem. (The external subsystem is not a CCTL subsystem.) For more
information, see “DISPLAY OASN SUBSYS” on page 234.

Examples of using the /DISPLAY SUBSYS command are shown in:

- “Example 1 for /DISPLAY SUBSYS Command” on page 330
- “Example 2 for /DISPLAY SUBSYS Command” on page 330
- “Example for /DISPLAY OASN Command” on page 307

For status terms for the connection between IMS and the external subsystem, see
“Subsystem Status Terms.” For status terms for the connection between an IMS
application program and the external subsystem, see “Dependent Region Status
Terms” on page 259.

Subsystem status terms can be generated by the /DISPLAY SUBSYS command.
Dependent region status terms can be generated by the /DISPLAY SUBSYS or
/DISPLAY ACTIVE command.

Subsystem Status Terms

**CONN**  The IMS control region has successfully completed a host system
IDENTIFY request to the external subsystem, making the two subsystems
aware of each other’s existence so they can begin a normal dialog.

**NOT** CONN  The external subsystem is in an idle state; that is, the external subsystem
has not been the object of the /STOP SUBSYS command, or the external
subsystem initialization exit indicated not to issue the IDENTIFY REQUEST
(connect)

**CONN IN PROGRESS**  The connection process for the specified subsystem is in progress

**STOPPED**  The specified subsystem has been successfully stopped via the /STOP
SUBSYS command and all region connections to the specified external
subsystem have been terminated

**STOP IN PROGRESS**  The /STOP SUBSYS command is in progress. Before it successfully
completes, all active connections to the specified subsystem from all IMS
regions must be quiesced.

**TERM IN PROGRESS**  An internal termination of the subsystem connection is underway. This type
of termination was instigated by IMS abnormal condition processing, an
external subsystem exit, or the external subsystem (the error message The
exact reason). IMS shutdown will not cause this condition.

**INVALID SUBSYSTEM NAME = XXXX**  The specified subsystem name has not been defined in the IMS subsystem
PROCLIB member

**SUBSYSTEM XXXX NOT DEFINED BUT RECOVERY OUTSTANDING**  The specified subsystem name has not been defined to IMS in the external
subsystem PROCLIB member, but IMS still has outstanding recovery
elements from a previous execution when the indicated subsystem was
known
The command recognition character will also be displayed for the external subsystem.

**Dependent Region Status Terms**

**CONN**  
An IMS dependent region has successfully completed a host system IDENTIFY request to the external subsystem as a result of an application having been scheduled into the dependent region. In an MPP, the application does not have to issue an external subsystem call to cause a connection.

**CONN, ACTIVE**  
An IMS application program has established communication with an external subsystem (for example, has issued at least one external subsystem call). At this point a thread exists between the IMS application program and the external subsystem.

The absence of a PSB name for a thread An a connection to the external subsystem exists but an application program is not currently occupying the region. The presence or absence of an LTERM name indicates whether or not a region is message driven.

**/DISPLAY SYSID TRANSACTION**

The /DISPLAY SYSID TRANSACTION command displays the IDs of the local and remote systems associated with the transaction. Values displayed for the local and remote IDs can range from 1 to 2036.

An example of using the /DISPLAY SYSID TRANSACTION command is shown in “Example for /DISPLAY SYSID Command” on page 330.

**/DISPLAY TIMEOVER**

The /DISPLAY TIMEOVER command displays all nodes that have been waiting for a VTAM response for a longer time than specified in the /TRACE SET ON TIMEOUT command.

An example of using the /DISPLAY TIMEOVER command is shown in “Example for /DISPLAY TIMEOVER Command” on page 331.

**time#** is the time period in minutes; it is required. The number of minutes must be between 1 and 60.

If no nodes are found that have been waiting longer than time# minutes, then the message NO NODE WITH TIMEOVER time# FOUND is displayed. An error message is displayed and the command is rejected if the timeout trace facility failed during IMS initialization. User names are displayed for ISC nodes, but non-ISC nodes show N/A.

**/DISPLAY TMEMBER**

The /DISPLAY TMEMBER command displays the current transaction member status for IMS Open Transaction Manager Access (OTMA) clients and servers. This command displays the following:

- Each member in each XCF group

When you issue /DISPLAY TMEMBER ALL, the server is always the first member displayed.
• The XCF status for each member
  The status can be one of the following:
  – ACTIVE
  – CREATED
  – FAILED
  – NOT DEFINED
  – QUIESCED
  – UNKNOWN
  If the server leaves the XCF group (for example, because of a /STOP OTMA command), then the XCF status is displayed as NOT DEFINED.

• The user status for each member
  The status can be one of the following:
  – ACCEPT TRAFFIC
  – DISCONNECTED
  – IN SLOWDOWN
  – SERVER
  – WAIT BID
  – WAIT RESPONSE
  either SERVER or ACCEPT TRAFFIC.

• The security status for each server
  The security status can be one of the following:
  NONE
  CHECK
  FULL
  PROFILE
  See Chapter 52, "/SECURE," on page 555 for more information on the security status.

This command also displays transaction pipe status for each member, including:
• Enqueue and dequeue counts
• Current queue count
• Current status

This command shows one of the following for the status of a transaction pipe:

- DQF  Dequeue request for OTMA REPresynch command failed.
- REP  IMS is waiting for an OTMA REPresynch command from the client.
- REQ  IMS is sending an OTMA REQresynch command to the client.
- RSF  Reset request failed for an OTMA REPresynch command.
- STO  The transaction pipe is stopped.
- SYN  The transaction pipe is being synchronized.
- TBR  IMS is waiting for an OTMA TBRresynch command from the client.
- TMP  The transaction pipe is temporary.
- TRA  The transaction pipe is being traced.

Examples of using the /DISPLAY TMEMBER command are shown in:
• "Example 1 for /DISPLAY TMEMBER Command" on page 331
QCNT
Specifies that global queue count information is to be displayed. If QCNT is not specified, local queue counts are displayed; when it is specified, no local queue counts are displayed.

This keyword is only valid in a shared-queues environment.

/DISPLAY TRACE

/DISPLAY TRACE displays the status and options of the current IMS traces. TRACE must be followed by one or more keywords or by the ALL parameter. There is no default.

Examples of using the /DISPLAY TRACE command are shown in:

- "Example 1 for /DISPLAY TRACE Command" on page 331
- "Example 2 for /DISPLAY TRACE Command" on page 332
- "Example 3 for /DISPLAY TRACE Command" on page 333
- "Example 4 for /DISPLAY TRACE Command" on page 333
- "Example 5 for /DISPLAY TRACE Command" on page 334
- "Example 6 for /DISPLAY TRACE Command" on page 334
- "Example 7 for /DISPLAY TRACE Command" on page 334
- "Example 8 for /DISPLAY TRACE Command" on page 335
- "Example 9 for /DISPLAY TRACE Command" on page 335
- "Example 10 for /DISPLAY TRACE Command" on page 335
- "Example 11 for /DISPLAY TRACE Command" on page 336
- "Example 12 for /DISPLAY TRACE Command" on page 336
- "Example 13 for /DISPLAY TRACE Command" on page 337
- "Example 14 for /DISPLAY TRACE Command" on page 337

This command can display the following information:

ALL  In a DBCTL system, ALL displays only DB-related traces. It does not show DC-related traces such as LINE, LUNAME, LINK, NODE, TRANSACTION, TRAP, or TIMEOUT.

In a DCCTL system, ALL displays only DC-related traces. It does not show DB-related traces such as OSAMGTF or PI.

For a DB/DC RSR tracking subsystem, ALL displays only LINE, NODE, PSB, TABLE, and TRAP information.

The display shows which external data set is active and whether the OLDS is being traced for trace logging. The command also indicates if XTRC is usable and the status of the XTRC data sets.

EXIT  Displays user exit tracing. Currently, only tracing for the DFSMSCE0 user exit is supported. Table 55 lists the display exit entry points.

<table>
<thead>
<tr>
<th>Table 55. Display Exit Entry Points for Tracing</th>
</tr>
</thead>
<tbody>
<tr>
<td>LRDI</td>
</tr>
<tr>
<td>LRIN</td>
</tr>
<tr>
<td>LRLT</td>
</tr>
</tbody>
</table>
/DISPLAY TRACE

The display indicates the status of each exit entry point. If the status is ON, the trace is active for the selected entry point. If the status is OFF, the trace is inactive for the selected entry point. If the status is N/A, the specified DFSMSCE0 trace entry point does not exist in the IMS.

LINE  The relative line number and line type of all traced lines.
LINK  The link number and link partner for all logical links.
LUNAME All LU 6.2 application programs that are being traced.
OSAMGTF Whether the OSAM Buffer Trace facility is active or inactive.
MONITOR The status of the IMS Monitor, and if active, the options specified for it.
NODE  The VTAM node name and node type. If the node is defined for a parallel session, each traced user of that node is displayed. If the users are not active, an N/A will be displayed.
PI    The status of the program isolation trace, and if active, the status of the options and the volume level.
PROGRAM The traced program name.
PSB    The PSB name and trace option for each traced PSB.
TABLE  The trace status, logging status, total number of entries in each trace table, and the volume level.
        For a DL/I trace, the volume level is displayed in the subcategories.
        For an RSR tracking subsystem, TABLE does not show information about the LUMI, QMGR, RETR, SCHD, SQTT, or SUBS table traces.
        In an IMSplex, the OCMD, RM, and SCI table traces are included in the table traces displayed.
TCO   Displays whether or not tracing is active for the Time Controlled Operation (TCO).
TIMEOUT The status of the IMS VTAM I/O Timeout Detection Facility, including the specifications given when the /TRACE SET ... TIMEOUT command was issued. The /DISPLAY TRACE TIMEOUT command will show active or inactive status, the timeout value in minutes, and the action to be taken when timeout occurs (AUTO, MSG, or no action). Option and Timeout values will be displayed only when the facility is active.
TMEMBER The IMS Open Transaction Manager Access (OTMA) transaction pipes that are currently being traced for the given OTMA client.
TRANSACTION The name of the transaction and the applicable PSB name for each trace.
TRAP   The trap that is currently set, either 1 or 2; that trap is enabled for MFS serviceability aids.
XTRC   External trace status. Whether XTRC is usable and the status of the XTRC data sets are also displayed.
/DISPLAY TRACKING STATUS

In an RSR complex, /DISPLAY TRACKING STATUS displays the status of a tracking subsystem. /DISPLAY TRACKING STATUS is valid on active and RSR tracking subsystems.

Examples of using the /DISPLAY TRACKING STATUS command are shown in:
- "Example 1 for /DISPLAY TRACKING STATUS Command" on page 337
- "Example 2 for /DISPLAY TRACKING STATUS Command" on page 337

/DISPLAY TRACKING STATUS on an Active Subsystem

/DISPLAY TRACKING STATUS on an active subsystem displays the following:
- Subsystem IMSID
- The global service group (GSG)
- The service group (SG)
- The service group status
- The status of the conversation with log router

/DISPLAY TRACKING STATUS on an active subsystem shows the following information:

ACTIVE SUBSYSTEM
The IMSID, global service group, service group, and service group status of the active subsystem

IMSID The IMSID of the active subsystem.

GSG-NAME
The 1- to 8-character global service group (GSG) name. The global service group is the collection of all IMS subsystems in an RSR complex (such as online IMS, utilities, and so on) that access a particular set of databases. An active subsystem can only be defined as part of one global service group.

SG-NAME
The name of the service group (SG) of which the active subsystem is a part. The service group name is 1 to 8 characters long.

SG-STATUS
The service group status, which can be one of the following:

IDENTIFICATION IN PROGRESS
An the IMS logger is in the process of identifying to the Transport Manager Subsystem but has not yet completed.

IDENTIFIED
The IMS logger has identified to the Transport Manager Subsystem. A status of IDENTIFIED appears as long as the logger is connected or identified to the TMS. This status also appears after a /START SERVGRP command.

LOST
The IMS logger’s connection to the Transport Manager Subsystem is gone due to TMS or VTAM failure.

NO LOG ROUTER SG DEFINED
There is an error and logger has no knowledge of a log router with which to communicate. There is no Log Router Service Group defined to DBRC.
NOT IDENTIFIED
The IMS logger has never identified to the Transport Manager Subsystem (that is, is in its initial state) or the IMS logger has not been able to identify since the most recent /STOP SERVGRP command.

STOPPED
The /STOP SERVGRP command was issued. If there is an active conversation, /STOP SERVGRP causes it to be terminated.

At each OLDS switch, the logger no longer attempts to establish a conversation with the log router. Logs are no longer sent to the tracking subsystem. A /START SERVGRP command is required to undo the STOPPED condition.

ACTIVE'S CONVERSATIONS WITH LOG ROUTERS
Status of the conversations between the active and tracking subsystems.

SG-NAME
The name of the service group (SG) of which the tracking subsystem is a part.

RECORDS-NOT-SENT
The number of log records that have not yet been sent to the tracker. The number of records is a number in the form of nnnK, where K represents 1024 records. The number is rounded off to the nearest K. If the number of records exceeds 999K, then >999K is displayed.

This field applies only if the conversation status is SENDING LOGS. Otherwise, N/A is displayed.

CONVERSATION STATUS
The conversation status, which can be one of the following:

ACCEPT IN PROGRESS
A log router is in the process of accepting a conversation request, but has not yet allocated the conversation.

ALLOCATION IN PROGRESS
Indicates a conversation is in the process of being allocated.

DEALLOCATION IN PROGRESS
A conversation is in the process of being deallocated.

NO ACTIVE CONVERSATION
Indicates there is no active conversation between the logger and the log router. Although there is no conversation, the logger does know about the log router.

At each OLDS switch, the logger will attempt to establish a conversation with the log router until it is successful. A /START SERVGRP command can be issued to cause the logger to attempt to establish a conversation with the log router before the next OLDS switch.

SENDING LOGS
The logger has an active conversation with the log router and is sending logs to the tracking site.
SUSPENDED LOGS
The logger has an active conversation with the log router but has suspended sending logs to the tracking site due to resource shortage. The conversation is still intact.

/DISPLAY TRACKING STATUS on a Tracking Subsystem
When issued on a tracking subsystem, /DISPLAY TRACKING STATUS displays the following:

- Subsystem IMSID
- Readiness level
- Global service group (GSG)
- Service group (SG)
- Service group status
- Tracking status
- Tracking activity
- Gaps
- Isolated log sender status
- Online forward recovery (OFR) status
- Current and restart milestone indexes
- DL/I tracking status
- Fast Path tracking status

/DISPLAY TRACKING STATUS shows the same information for an IMS DB/DC tracking subsystem or a DBCTL tracking subsystem.

/DISPLAY TRACKING STATUS on a tracker shows the following information:

TRACKING SUBSYSTEM
The following tracking subsystem information is displayed:

IMSID The IMSID of the tracking subsystem. The IMSID is 1 to 4 characters long.

READINESS-LEVEL
The readiness level of the tracking subsystem, which is either RECOVERY or DATABASE.

GSG-NAME
The global service group (GSG) name. The GSG is the collection of all IMS subsystems in an RSR complex, such as online IMS, utilities, and so on, which access a particular set of databases. A tracking subsystem tracks only one global service group. The global service group name is 1 to 8 characters long.

SG-NAME
The 1- to 8-character service group (SG) name.

SG-STATUS
The service group status, which can be IDENTIFIED, NOT IDENTIFIED, or STOPPED.

IDENTIFIED
The tracking subsystem has identified to the Transport Manager Subsystem (TMS), and can establish conversations with active
/DISPLAY TRACKING STATUS

loggers and isolated log sender (ILS) instances. IDENTIFIED appears as long as the tracking subsystem is connected or identified to the TMS.

NOT IDENTIFIED
The tracking subsystem has not attempted to identify to the TMS. NOT IDENTIFIED is the initial state.

STOPPED
The tracking subsystem is not identified to the TMS. This status can be the result of any of the following: a /STOP SERVGRP command entered from the tracking subsystem, an unsuccessful attempt to identify, or termination of the TMS.

TRACKING STATUS
The status of the tracking subsystem, which can be one of the following:

INACTIVE
The tracking subsystem is idle. The tracking subsystem has completed all tracking work and has received no more log records from the active subsystems it tracks.

For example, a status of INACTIVE appears if the active subsystems have shut down and the tracking subsystem has completed its tracking work.

TRACKING
The tracking subsystem is tracking one or more active subsystems and has tracking work to do.

PLANNED TAKEOVER REQUESTED
One of the active subsystems being tracked issued an /RTAKEOVER command, notified the tracker, and shut down. As soon as all of the active systems in the GSG have shut down, all log gaps have been filled, and log routing has completed, the tracking subsystem will shut down for the planned remote takeover.

PLANNED TAKEOVER IN PROGRESS
An /RTAKEOVER command was entered on the active subsystem and all of the active subsystems being tracked have successfully shut down. The tracking subsystem is in the process of shutting down for the planned remote takeover. The tracking subsystem must shut down before active subsystems can be started at the new active site.

UNPLANNED TAKEOVER IN PROGRESS
An /RTAKEOVER command was entered on the tracking subsystem. The tracking subsystem will shut down for the unplanned remote takeover after it has completed routing received log data.

NUMBER OF ACTIVE SUBSYSTEMS
The number of active subsystems currently being tracked. It is followed by an integer.

TRACKING ACTIVITY
Status of the conversations between the tracker and the loggers of the active subsystems being tracked. The following information is displayed for each active subsystem being tracked:

NAME
The IMSID of the subsystem being tracked or the jobname for batch or batch backout being tracked. Subsystem names are 1 to 4 characters long. Job names are 1 to 8 characters long.
If the active subsystems are XRF-capable, the subsystem name displayed includes a hyphen and the one-character HSBID.

**Example:** The XRF alternate for IMSA would be displayed as IMSA-2.

**TYPE**
Type of subsystem, which can be ONLINE, ACTIVE, BATCH, or BBO (batch backout), as described below:

**ONLINE**
An online (not batch) subsystem that has not sent data to the tracking subsystem. The subsystem might be an active subsystem that has not completed restart or it might be an XRF alternate subsystem.

**ACTIVE**
An online (not batch) subsystem that has sent data to the tracking subsystem.

**BATCH**
A batch subsystem that has sent data to the tracking subsystem.

**BBO**
A batch backout job that has sent data to the tracking subsystem.

**RECEIVED-LOG**
The universal coordinated time of the last log record received from the subsystem, BATCH job, or BBO job. The timestamp is of the format `hhmmss`, where `hh` represents hours, `mm` represents minutes, and `ss` represents seconds. RECEIVED-LOG does not apply to conversations with XRF-alternate subsystems, in which case N/A is displayed.

**ROUTED-LOG**
The universal coordinated time of the last log routed by the log router. The timestamp is of the format `hhmmss`, where `hh` represents hours, `mm` represents minutes, and `ss` represents seconds. ROUTED-LOG does not apply to conversations with XRF-alternate subsystems, in which case N/A is displayed.

**NOT-ROUTED**
The number of log records that have been received by the tracker but not yet routed by the log router. The number is in the format `nnnK`, where `K` represents 1024 log records. The number is rounded off to the nearest K. If this number exceeds 999K, then >999K is displayed. NOT-ROUTED does not apply to conversations with XRF-alternate subsystems, in which case N/A is displayed.

**STATUS**
The tracking status. If a conversation exists between the tracking subsystem and the active IMS, the status field contains CONV-ACT. If there is no conversation, the status field is left blank.

**GAPS**
The status of gaps between the tracker and the active subsystems, BATCH jobs, or BBO jobs. One line is displayed for each gap associated with an active subsystem.

If the gap information is not known to the tracking subsystem, the PRILOG token associated with the gap is displayed as "MISSING LOG, PRILOG TOKEN=". The following gap information is displayed:
/DISPLAY TRACKING STATUS

NAME  The IMSID of the active system for which there is a gap, or the jobname of the BATCH or BBO job for which there is a gap.

In an XRF environment, the NAME is the RSENAME rather than the IMSID.

LOG-SEQ-FIRST  The log sequence number, in hexadecimal, of the first log record in the gap

IN-GAP  The number of records, in decimal, that are in the gap. The number is of the form $nnnK$, where $K$ represents 1024 records. The number is rounded off to the nearest $K$. If this number exceeds 999$K$, then $>999K$ is displayed.

RECEIVED  The number of records, in decimal, that have been received. The number is of the form $nnnK$, where $K$ represents 1024 records. The number is rounded off to the nearest $K$. If this number exceeds 999$K$, then $>999K$ is displayed.

NOT-ROUTED  The number of log records, in decimal, that have not been routed for the oldest gap. The number is of the form $nnnK$, where $K$ represents 1024 records. If this number exceeds 999$K$, then $>999K$ is displayed. This number does not apply to gaps other than the oldest one.

STATUS  The status of the gap, which is one of the following:

FILLING  The gap is currently being filled.

WAITING  The gap is not being filled yet. For example, the gap might be waiting to be filled if there are not enough conversations to send the log records, or a batch job is still running.

PERMNT ERR  There is a permanent error, such as a read error, that prevents this gap from being filled.

UNAVAIL  The log data needed to fill the gap is not available at the active site. The log or log data sets might have been deleted.

ISOLATED LOG SENDER STATUS  Status of isolated log sender conversations.

SYSTEM NAME OF TRANSPORT MANAGER SUBSYSTEM  If the tracking subsystem has a conversation with an isolated log sender, the system name of the Transport Manager to which the isolated log sender is identified is displayed.

NUMBER OF CONVERSATIONS  Number of conversations with this instance of isolated log sender.
ONLINE FORWARD RECOVERY STATUS
The following online forward recovery (OFR) status is displayed:

NUMBER OF STREAMS BEING PROCESSED
Number of OFR processes initiated. The online forward recoveries are processed one at a time.

OFR ROUTING TIME
The latest close time of any log data set that has been or is currently being read for OFR.

MILESTONE INDEX STATUS
The following milestone information is displayed:

CURRENT MILESTONE INDEX
The current milestone index.

RESTART MILESTONE INDEX
The restart milestone index.

DLI TRACKING STATUS
Status of DL/I database tracking.

TRACKING PSTs
Number of DL/I database tracking PSTs currently in use. The number can be from 0 to 255.

USAGE OF TRACKING PSTs
Average percent usage of DLI database tracking PSTs currently in use.

BACKLOG OF REDO RECORDS IN DATASPACE
The backlog number of redo records in the data space. The backlog is a measure of how well the tracker is keeping up with the workload. The backlog is a number in the form of nnnK, where K represents 1024 redo records. The number is rounded off to the nearest K. If the number of redo records exceeds 999K, then >999K is displayed.

FP TRACKING STATUS
Status of Fast Path database tracking.

TRACKING PSTs
Number of FP database tracking PSTs and the reason the PSTs are invoked. The number of tracking PSTs can be from 0 to 255. The reason the PSTs are invoked can be one of the following and only appears if there are one or more PSTs:

AREAWRITE
The PSTs are invoked by a write request for a specific area.

MILESTONE
The PSTs are invoked by milestone processing.

THRESHOLD
The PSTs are invoked by threshold write.

CURRENT LOG VOLUME IN DATASPACE
Current log volume in Fast Path tracking data space. This number can be from 0 to nnnnnnnnK, where K represents 1024 log records. The maximum possible number is 2000000K (two gigabytes). The number is rounded off to the nearest K.
MAX LOG VOLUME IN DATASPACE
Maximum log volume in Fast Path tracking data space. This number can be from 0 to \( nnnnnnK \), where \( K \) represents 1024 log records. The maximum possible number is \( 2000000K \) (two gigabytes). The number is rounded off to the nearest \( K \).

/DISPLAY TRANSACTION
The /DISPLAY TRANSACTION command displays the class, priorities, queue counts, the number and size of output segments for a specified transaction code, and the number of regions the transaction is currently scheduled in, all on the first line. The next two indented lines show the PSB name associated with the transaction and the status. DFSCPIC is displayed as PSB name for CPI Communications driven transactions that have not issued a DL/I APSB call to allocate a PSB. Fast Path exclusive transaction codes only have the transaction code and class displayed. The queue counts are not shown because Fast Path processing bypasses the IMS message queues.

IMS Open Transaction Manager Access (OTMA) supports an architected format for the output from the /DISPLAY TRANSACTION command. The architected output is returned to the OTMA client, not to an IMS operator.

The TRANSACTION keyword parameter can be generic.

The status displayed can be one of the following:

- BAL
- DYNAMIC
- I/O PREV
- LOCK
- PSTOP
- PUR
- QERR
- SPND
- STOP
- TRA
- USTOP

for an explanation of the status.

/DISPLAY TRANSACTION also displays I/O prevention when a BMP program containing GSAM cannot complete scheduling.

Examples of using /DISPLAY TRANSACTION are shown in Example 1 for /DISPLAY TRANSACTION Command on page 338 and Example 2 for /DISPLAY TRANSACTION Command on page 338.

QCNT
Specifies that global queue count information is to be displayed. If QCNT is not specified, local queue counts are displayed; when it is specified, no local queue counts are displayed.

IMS does not check that the specified name is a valid transaction in the IMS subsystem on which the command is entered.

The command /DISPLAY TRAN ALL QCNT displays all of the transactions on the shared queues with a global queue count. /DISPLAY TRAN ALL QCNT also displays an AFFINITY column which gives the IMS SYSID for transactions which have an affinity for a particular IMS system. This is valuable information.
particularly when there are multiple output lines for the same transaction name. See “Example 4 for /DISPLAY TRANSACTION Command” on page 339.

This keyword is only valid in a shared-queues environment.

/DISPLAY UOR

The /DISPLAY UOR command displays status information about IMS units of recovery (UORs) for protected resources on the RRS/MVS recovery platform.

If you specify the six-byte pseudo-token of the protected UOR (the prtkn), this command displays information about the requested UOR.

ACTIVE
Displays only active UORs.

ALL
Displays active and indoubt UORs. ALL is the default.

INDOUBT
Displays only UORs that were indoubt when they were terminated. Indoubt UORs identify residual work that needs resolution.

The output from the /DISPLAY UOR command consists of the following:

ST Status of the UOR, which can be one of the following:
A Active; work is inflight.
B Active; work is being backed out.
C Active; work is being committed.
E Active; work is in cleanup phase.
I Active; work is indoubt, awaiting phase 2 action.
RI Residual indoubt; indoubt UOR from a prior IMS execution or a dependent-region abend.

P-TOKEN
The IMS pseudo token, which can be used in subsequent commands to refer to this particular UOR. This token only displays for indoubt UORs (status RI). Use this token for subsequent /DISPLAY UOR and /CHANGE UOR commands.

PSBNAME
The IMS PSB scheduled for this UOR.

RRS-URID
The unique identifier for a protected unit of recovery (of which IMS work is part). RRS generates and maintains this data.

IMS-RECTOKN
The IMS recovery token that uniquely identifies the IMS portion of the UOR.

LUWID
The identifier of a work request across multiple distributed systems connected by LU 6.2 conversations. This data is only provided for /DIS UOR ACTIVE commands, and appears on a separate line of output.

EID
The identifier of a work request across multiple connected distributed systems coordinated by the Encina® toolkit. This data is only provided for /DIS UOR ACTIVE commands, and appears on a separate line of output.
XID  X/Open identifier (XID). One possible work identifier for a distributed transaction used by a communications resource manager that uses X/Open distributed transaction processing model.

/DISPLAY USER

The /DISPLAY USER command displays all the USER structures and USERIDs that match the parameter or attribute specified.

The USER parameter can be generic when the generic parameter specifies users that already exist.

The following information is displayed:

- The USER field shows the user structure name. N/A appears for all userid structures signed on to static nodes.
- The USERID field shows the RACF userid that was used to sign on to the node. N/A appears if a user structure is not associated with a node. In that case, the user structure exists to hold status or has messages inserted into it. If no messages or status exist, the user structure is deleted at the next checkpoint.
- The node name appears if the user is allocated to a node or signed on to a static node.
- The cumulative queue counts for enqueues, dequeues, and number of items still on the queue for the specified users is displayed. The cumulative counts include all LTERMs associated with the specified users, whether the LTERMs are allocated to a node or not.
  For non-ISC static users, queue counts are displayed as N/A, because non-ISC static users are not associated with queues.
- STOPPED or ALLOC is displayed to show whether the user LTERMs are assigned to a node (ALLOC) or the user is stopped (STO).

USERIDs can only be used as parameters with the /DISPLAY USER command and the /SIGN ON command. In other commands that support the USER keyword, the user structure name, not the userid, must be used.

“Attributes” are reserved parameters for the /DISPLAY USER command and cannot be used to name users. Any one attribute can be used with the USER keyword. Users are selected for display based on the attribute or attributes specified. The attribute display format is the same as the standard USER display. Attributes usually correspond to the conditions displayed for users.

Following is a list of the attributes that can be specified with the USER keyword:
- ALLOC
- CONVACT
- CONVHLD
- DEADQ
- EXCL
- MFST
- PRST
- RESP
- RESPINP
- STATIC
- STOPPED
Explanations of the attributes can be found in Appendix G, “Status and Attributes for the /DISPLAY Command,” on page 793.

The ALLOC status is followed by the nodename (in parentheses) to which the user is allocated or signed on to.

The use of DEADQ with the /DISPLAY USER command shows all users that have queues marked as dead letter queues. When all the messages are purged by the /DEQUEUE command, the DEADQ status is removed. After all the messages have been purged and the status removed, then the user structure is deleted at the next simple checkpoint.

Examples of using the /DISPLAY USER command are shown in:
- “Example 1 for /DISPLAY USER Command” on page 340
- “Example 2 for /DISPLAY USER Command” on page 341
- “Example 3 for /DISPLAY USER Command” on page 341
- “Example 4 for /DISPLAY USER RECOVERY Command” on page 342

AUTOLOGON
Displays the current autologon information for the specified user. The autologon information can be changed dynamically with the /CHANGE command.

EMHQ
Specifies that global queue count information on the Expedited Message Handler Queues (EMHQ) displays when both EMHQ and QCNT are specified. If EMHQ is specified, QCNT must also be specified. This keyword is only valid in a shared-queues environment.

QCNT
Specifies that global queue count information displays. If QCNT is not specified, local queue counts are displayed; when it is specified, no local queue counts are displayed. If QCNT is specified and EMHQ is not, global queue count information on the shared message queues (MSGQ) displays.

IMS does not check if the specified name is a valid LTERM in the IMS subsystem on which the command is entered.

This command does not display queue counts for Fast Path output messages for the NODE unless EMHQ and QCNT are specified.

This keyword is only valid in a shared-queues environment.

RECOVERY
The /DISPLAY NODE|USER RECOVERY command can be used to display the recovery values that pertain to the node or user. The recovery values may be displayed from the local control blocks, if available, or from values saved for the node or user in the Resource Manager, if resource information is being kept in Resource Manager, and the node or user is defined to have its status kept in Resource Manager. The recovery information displayed with this command are:
- IMS owner
  The IMS ID (RSEname if an XRF system) of the IMS system that currently owns this resource. If the resource is not currently owned, this field will be displayed as NONE.
- Status Recovery Mode (SRM)
The scope of recovery for a resource, and from where the end-user significant status is maintained and recovered.

- **End-user significant status**
  The following status are end-user significant status for nodes and users.
  - Conversation
  - STSN
  - Fast Path

These are status that frequently change for a resource, and thus there are performance considerations related to maintaining end-user significant status. The installation can tell IMS how to recover end-user significant status by specifying the level of recovery for each status. Shown for each resource is the level of recovery for each end-user significant status.

**username**
Specifies either a user structure name, or a RACF userid.

### Examples

The following are examples of the /DISPLAY command.

#### Example 1 for /DISPLAY ACTIVE Command

**Entry ET:**

/DISPLAY ACTIVE

**Response ET:**

```
REGID JOBNAME TYPE TRAN/STEP PROGRAM STATUS CLASS
MSGREG TP NONE
BATCHREG BMP NONE
FPRGN FP NONE
DBTRGN DBT NONE
1 IMSMPP0 TPE DSNBPS DSNB1P13 1, 3
BATCHREG BMP NONE
FPRGN FP NONE
DBR3CTA3 DBRC
DL13CTA3 DLS
VTAM ACB OPEN -LOGONS ENABLED
LINE ACTIVE-IN - 1 ACTIV-OUT - 0
NODE ACTIVE-IN - 0 ACTIV-OUT - 4
LINK ACTIVE-IN - 0 ACTIV-OUT - 0
*89041/163619*
```

#### Example 2 for /DISPLAY ACTIVE Command

**Entry ET:**

/DISPLAY A

**Response ET:**

```
REGID JOBNAME TYPE TRAN/STEP PROGRAM STATUS CLASS
1 I3YMPP TP WAITING 4, 1, 2, 3
BATCHREG BMP NONE
FPRGN FP NONE
DBRC DBRC
VTAM ACB CLOSED
LINE ACTIVE-IN - 1 ACTIV-OUT - 0
NODE ACTIVE-IN - 0 ACTIV-OUT - 0
*89041/100117*
```
### Example 3 for /DISPLAY ACTIVE Command

**Entry ET:**
```
/DISPLAY A
```

**Response ET:**
```
<table>
<thead>
<tr>
<th>REGID</th>
<th>JOBNAM</th>
<th>TYPE</th>
<th>TRAN/STEP</th>
<th>PROGRAM</th>
<th>STATUS</th>
<th>CLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>I431MPP</td>
<td>TP</td>
<td>SKS7</td>
<td>DFSDDLT7</td>
<td></td>
<td>1, 3, 6, 7</td>
</tr>
<tr>
<td>3</td>
<td>IMS1IMP</td>
<td>BMP</td>
<td>REGION</td>
<td>SIS04P01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>I431IFP</td>
<td>FPM</td>
<td>TXCDRN07</td>
<td>DDLTRN07</td>
<td>WAIT-MESSAGE</td>
<td>1, 3, 6, 7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

```
VTAM ACB OPEN  -LOGONS ENABLED
LINE ACTIVE-IN - 2 ACTIV-OUT - 0
NODE ACTIVE-IN - 0 ACTIV-OUT - 0
LINK ACTIVE-IN - 0 ACTIV-OUT - 0
*89041/144425* DFSRSENM ACTIVE
```

**Explanation:** The system is XRF capable so the date time stamp includes the RSE name and system indicator.

### Example 4 for /DISPLAY ACTIVE Command

**Entry ET:**
```
/DISPLAY A
```

**Response ET:**
```
<table>
<thead>
<tr>
<th>REGID</th>
<th>JOBNAM</th>
<th>TYPE</th>
<th>TRAN/STEP</th>
<th>PROGRAM</th>
<th>STATUS</th>
<th>CLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I431MPP</td>
<td>TP</td>
<td>TXCDRN18</td>
<td>DDLTRN18</td>
<td>WAIT-INPUT</td>
<td>1, 3, 6, 7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>I431IFP</td>
<td>FPM</td>
<td>NO MSG.</td>
<td>DDLTRN07</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

```
VTAM ACB OPEN  -LOGONS ENABLED
LINE ACTIVE-IN - 1 ACTIV-OUT - 0
NODE ACTIVE-IN - 0 ACTIV-OUT - 0
LINE ACTIVE-IN - 0 ACTIV-OUT - 0
*89041/132348* DFSRSENM ACTIVE
```

**Explanation:** Transaction TXCDRN18 is waiting for an input message. Program DDLTRN07 currently has no messages to process. Region 1 is in WAIT-FOR-INPUT (WFI) mode.

### Example 5 for /DISPLAY ACTIVE Command

**Entry ET:**
```
/DISPLAY A
```

**Response ET:**
```
<table>
<thead>
<tr>
<th>REGID</th>
<th>JOBNAM</th>
<th>TYPE</th>
<th>TRAN/STEP</th>
<th>PROGRAM</th>
<th>STATUS</th>
<th>CLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>I431MPP</td>
<td>TP</td>
<td>SKS7</td>
<td>DFSDDLT7</td>
<td>WAIT-MESSAGE</td>
<td>1, 3, 6, 7</td>
</tr>
<tr>
<td>3</td>
<td>IMS1IMP</td>
<td>BMP</td>
<td>REGION</td>
<td>SIS04P01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>I431IFP</td>
<td>FPM</td>
<td>TXCDRN07</td>
<td>DDLTRN07</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

```
VTAM ACB OPEN  -LOGONS ENABLED
LINE ACTIVE-IN - 2 ACTIV-OUT - 0
NODE ACTIVE-IN - 0 ACTIV-OUT - 0
LINK ACTIVE-IN - 0 ACTIV-OUT - 0
*89041/144425* DFSRSENM ACTIVE
```

**Explanation:** Transaction SKS7 is waiting for an input message. Program DFSDDLT7 currently has no messages to process. Region 2 is in Pseudo Wait-For-Input (PWFI) mode.
### Example 6 for /DISPLAY ACTIVE Command

**Entry ET:**

`/DISPLAY A`

**Response ET:**

```
** SUBSYSTEM NAME **
SYS3
REGID JOBNAME TYPE TRAN/STEP PROGRAM STATUS CLASS
2 I431MPP TP SKS7 DFSDDLT7 WAIT-MESSAGE 1,3,6,7
3 IMS1BMP BMP REGION SIS04P01
1 I431IFP FPM TXCDRN07 DDLTRN07
R3 DBRC
VTAM ACB OPEN
LINE ACTIVE-IN- 2 ACTIV-OUT- 0
NODE ACTIVE-IN- 0 ACTIV-OUT- 0
LINK ACTIVE-IN- 0 ACTIV-OUT- 0
*89041/144425* DFSRSENM ACTIVE
```

**Explanation:** Transaction SKS7 is waiting for an input message. Program DFSDDLT7 currently has no messages to process. Region 2 is in Pseudo Wait-For-Input (WPFI) mode.

### Example 7 for /DISPLAY ACTIVE Command

**Entry ET:**

`/DISPLAY ACTIVE`

**Response ET:**

```
REGID JOBNAME TYPE TRAN/STEP PROGRAM STATUS CLASS
MSGRGN TP NONE
BATCHREG BMP NONE
FPRGN FP NONE
DBTREGN DBT NONE
DBRSCH5 DBRC
DLISCH5 DLS
VTAM ACB OPEN
LINE ACTIVE-IN- 1 ACTIV-OUT- 0
NODE ACTIVE-IN- 0 ACTIV-OUT- 0
LINK ACTIVE-IN- 0 ACTIV-OUT- 0
*90332/114253*
```

### Example 8 for /DISPLAY ACTIVE Command

**Entry ET:**

`/DISPLAY ACTIVE`

**Response ET:**

```
REGID JOBNAME TYPE TRAN/STEP PROGRAM STATUS CLASS
MSGRGN TP NONE
BATCHREG BMP NONE
FPRGN FP NONE
DBTREGN DBT NONE
DBRSCH5 DBRC
DLISCH5 DLS
VTAM ACB OPEN
LINE ACTIVE-IN- 1 ACTIV-OUT- 0
NODE ACTIVE-IN- 0 ACTIV-OUT- 0
LINK ACTIVE-IN- 0 ACTIV-OUT- 0
*95080/183050*
```
Explanation: The IMS subsystem is both XRF-capable and RSR-capable.

Example 9 for /DISPLAY ACTIVE Command
Entry ET:
   /DISPLAY ACTIVE

Response ET:
   REGID JOBNAME TYPE TRAN/STEP PROGRAM STATUS CLASS
   1 IMSMPPA TP WAITING 4, 1, 2
   2 IMS1BMP BMP REGION SIS04P01 WAIT-AOI
   4 IMS2BMP BMP REGION SIS04P02 WAIT-AOI
   3 I510MPP TP WAIT-EPCB POOL 8, 8, 8, 8
   2 IMS3BMP BMP WAIT-EPCB POOL

   FPRGN FP NONE
   DBRC DBRC
   VTAM ACB CLOSED
   LINE ACTIVE-IN - 1 ACTIV-OUT - 0
   NODE ACTIVE-IN - 0 ACTIV-OUT - 0
   *96280/095345*

Example 10 for /DISPLAY ACTIVE Command
Entry ET:
   /DISPLAY ACTIVE DC

Response ET:
   VTAM STATUS AND ACTIVE DC COUNTS
   VTAM ACB OPEN -LOGONS ENABLED
   LINE ACTIVE-IN - 1 ACTIV-OUT - 0
   NODE ACTIVE-IN - 1 ACTIV-OUT - 0
   LINK ACTIVE-IN - 1 ACTIV-OUT - 0
   *89041/110704*

Example 11 for /DISPLAY ACTIVE Command
Entry ET:
   /DISPLAY ACTIVE DC

Response ET:
   VTAM STATUS AND ACTIVE DC COUNTS
   VTAM ACB OPEN -LOGONS ENABLED
   IMSL=SYS1.IMSLUNME STATUS=ENABLED
   APPLID=APPL8 USERVAR=IMS1
   LINE ACTIVE-IN - 2 ACTIV-OUT - 0
   NODE ACTIVE-IN - 0 ACTIV-OUT - 0
   LINK ACTIVE-IN - 0 ACTIV-OUT - 0
   *92232/114253*

Example 12 for /DISPLAY ACTIVE Command
Entry ET:
   /DISPLAY ACTIVE REGION

Response ET:
Examples for /DISPLAY ACTIVE Command

<table>
<thead>
<tr>
<th>REGID</th>
<th>JOBNAME</th>
<th>TYPE</th>
<th>TRAN/STEP</th>
<th>PROGRAM</th>
<th>STATUS</th>
<th>CLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSGRGN</td>
<td>TP</td>
<td>NONE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BATCHREG</td>
<td>BMP</td>
<td>NONE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPRGN</td>
<td>FP</td>
<td>NONE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DBRGCTAN</td>
<td>DBRC</td>
<td>NONE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example for /DISPLAY AFFINITY Command

Entry ET:

/DISPLAY AFFIN NODE NDSLU2A1

Response ET:

NODE APPLID
NDSLU2A1 APPL9

*97098/162106*

Explanation: The node has an affinity for APPL ID APPL9.

Entry ET:

/DISPLAY AFFIN NODE LU37722

Response ET:

NODE APPLID
LU37722 N/A

*97098/162156*

Explanation: The node has no affinities.

Example for /DISPLAY AOITOKEN Command

Entry ET:

/DISPLAY AOITOKEN

Response ET:

AOITOKEN ENQCT QCT SEGS W-REGID
AOITOKN1 4 2 12 NONE
AOITOKN2 0 0 0 2,4
AOITOKN3 1 0 0 NONE
AOITOKN4 1000000000 1000000000 2147483647 NONE

*92280/095345*

Example for /DISPLAY APPC Command

Entry ET:

/DISPLAY APPC

Response ET:

IMSLU #APPC-CONV SECURITY STATUS DESIRED
IMSLUNME 0 FULL ENABLED ENABLED

*90347/114253*

Entry ET:

/DISPLAY APPC

Response ET:
Example for /DISPLAY APPC Command

```
IMSLU  #APPC-CONV SECURITY STATUS DESIRED
IMSLUNME 0 FULL DISABLED ENABLED
*90347/114253*
```

Entry ET:
/DISPLAY APPC

Response ET:
```
IMSLU  #APPC-CONV SECURITY STATUS DESIRED
SYS1.IMSLUNME 0 FULL STOPPED STOPPED
*92232/114253*
```

Example 1 for /DISPLAY AREA Command

Entry ET:
/DIS AREA db21ar1 db21ar3 db21ar6 IOVF

Response ET:
```
AREANAME  EQECT  TOTALUNUSED  TOTALUNUSED  DBNAME  EEQECT  CONDITIONS
DDNAME   REMAIN  SEQ  DEPENDENT  DIR  ADDRESSABLE
DB21AR1  N/A  13  11  74  74-CI  DEDBJN21  999  VIR, PREO, PREL
DB21AR1R  10  N/A  N/A  N/A  N/A  N/A  N/A
DB21AR1B  10  N/A  N/A  N/A  N/A  N/A  N/A
DB21AR1C  10  N/A  N/A  N/A  N/A  N/A  N/A
DB21AR3  N/A  13  11  74  56-CI  DEDBJN21  PREO
DB21AR3R  10  N/A  N/A  N/A  N/A  N/A  N/A
DB21AR3B  10  N/A  N/A  N/A  N/A  N/A  N/A
DB21AR6  N/A  17  15  74  56-CI  DEDBJN21
DB21AR6R  10  N/A  N/A  N/A  N/A  N/A  N/A
*93076/173254*
```

Explanation: DIR ADDRESSABLE means Independent Overflow part.

Example 2 for /DISPLAY AREA Command

Entry ET:
/DIS AREA ALL

Response ET:
```
AREANAME  EQECT  TOTALUNUSED  TOTALUNUSED  DBNAME  EEQECT  CONDITIONS
DDNAME   REMAIN  SEQ  DEPENDENT  DIR  ADDRESSABLE
DB21AR0  N/A  17  15  74  N/A  DEDBJN21  999  VIR, PREO, PREL
DB21AR0R  10  N/A  N/A  N/A  N/A  N/A  N/A
DB21AR1  N/A  13  11  74  N/A  DEDBJN21  VIR, PREO
DB21AR1R  10  N/A  N/A  N/A  N/A  N/A  N/A
DB21AR1B  10  N/A  N/A  N/A  N/A  N/A  N/A
DB21AR1C  10  N/A  N/A  N/A  N/A  N/A  N/A
DB21AR10  N/A  17  15  74  N/A  DEDBJN21  VIR, PREO, PREL
DB21AR10R  10  N/A  N/A  N/A  N/A  N/A  N/A
DB21AR11  N/A  133  131  74  N/A  DEDBJN21  VIR
DB21AR11R  10  N/A  N/A  N/A  N/A  N/A  N/A
DB21AR2  N/A  19  17  74  0-UW  DEDBJN21  VIR, PREO, PREL
UTILITY:  HSRE  PVTTOT#  45  PVTAVL#  15  DB21AR2  10  N/A  N/A  N/A  N/A  N/A
DB21AR3  N/A  13  11  74  N/A  DEDBJN21  PREO
DB21AR3R  10  N/A  N/A  N/A  N/A  N/A  N/A
DB21AR3B  10  N/A  N/A  N/A  N/A  N/A  N/A
DB21AR4  N/A  N/A  N/A  N/A  N/A  DEDBJN21  STOPPED, NOTOPEN
DB21AR5  N/A  N/A  N/A  N/A  N/A  DEDBJN21  STOPPED, NOTOPEN
DB21AR6  N/A  N/A  N/A  N/A  N/A  DEDBJN21  STOPPED, NOTOPEN
*93076/173254*
```

Example for /DISPLAY APPC Command
Examples for /DISPLAY AREA Command

<table>
<thead>
<tr>
<th>DB21AR7</th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
<th>DEDBJN21</th>
<th>NOTOPEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB21AR8</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>DEDBJN21</td>
<td>NOTOPEN</td>
</tr>
<tr>
<td>DB21AR9</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>DEDBJN21</td>
<td>NOTOPEN</td>
</tr>
</tbody>
</table>

Explanation: DIR ADDRESSABLE means Independent Overflow part.

**Example 3 for /DISPLAY AREA Command**

Entry ET:
/DIS AREA db11ar4

Response ET:

```
AREANAME EQECT TOTAL UNUSED TOTAL UNUSED DBNAME EQECT CONDITIONS
DDNAME REMAIN SEQ DEPENDENT DIR ADDRESSABLE

DB21AR4 N/A N/A N/A N/A N/A DEDBJN21 999 STOPPED, NOTOPEN, RECOVERY
```

Explanation: RECOVERY means this Fast Path area is undergoing recovery with the Online Recovery Service.

**Example 1 for /DISPLAY ASSIGNMENT Command**

Entry ET:
/DISPLAY ASSIGNMENT LINE 2 PTERM ALL

Response ET:

```
TERMINAL
  2-  1 IN - L2740S2
      OUT - L2740S1, L2740S2
*90295/130910*
```

Entry ET:
/DISPLAY ASSIGNMENT LINE 4 PTERM 1, 2

Response ET:

```
TERMINAL
  4-  1 IN - L2740SM1
      OUT- L2740SM1
  4-  2 IN - L2740SM2
      OUT- L2740SM2
*90295/130328*
```

Entry ET:
/DISPLAY ASSIGNMENT LINK ALL

Response ET:

```
LINK PLINK SIDR SIDL MSNAME
  1 BLCB1ICTC 1  4 SYSTEM2A
      1  5 SYSTEM2B
      3  6 FRENSO
  2 BLCB2BSC 21 23 BOSTON
     22 24 ALBANY
  3 BLCB1MTM 19 20 TEST1
*90280/072935*
```

Entry ET:
/DISPLAY ASSIGNMENT LTERM DIALQ1 INQUIRY1 L2740S1 MASTER WTOR
Examples for /DISPLAY ASSIGNMENT Command

Response ET:

```
LTERM  IN-TERMINAL OUT-TERMINAL USER
DIALQ1  11-  1  11-  1
INQUIRY1  5-  1  5-  1
L2740S1  3-  1  3-  1
MASTER  3-  1  3-  1
WTOR  1-   SC  1-   SC
*90295/130657*
```

Entry ET:
```
/DISPLAY ASMT LTERM L1 L2 L3
```

Response ET:

```
LTERM  IN-TERMINAL OUT-TERMINAL USER
L1  14-  1  14-  1
L2  NODEA -1  NODEA -1  A
L3  N/A -1  N/A -1  B
*90231/143059*
```

Entry ET:
```
/DISPLAY ASSIGNMENT LTERM ALL
```

Response ET:

```
LTERM  IN-TERMINAL OUT-TERMINAL USER
CRDPUNCH  14-  1  14-  1
DIALQ1  11-  1  11-  1
DIALQ2  12-  1  12-  1
DIALQ3  13-  1  13-  1
INQUIRY1  5-  1  5-  1
INQUIRY2  6-  1  6-  1
INQUIRY3  7-  1  7-  1
INQUIRY4  8-  1  8-  1
INQUIRY5  9-  1  9-  1
INQUIRY6 10-  1  10-  1
L2740SM1  4-  1  4-  1
L2740SM2  4-  2  4-  2
L2740S1  3-  1  3-  1
L2740S2  2-  1  2-  1
MASTER  3-  1  3-  1
PTPPUNCH 14-  1  14-  1
WS12DS  WS12- 1  WS12- 1
WTOR  1-   SC  1-   SC
*90295/160953*
```

Entry ET:
```
/DISPLAY ASSIGNMENT LTERM ALL
```

Response ET:

```
LTERM  IN-TERMINAL OUT-TERMINAL USER
CRDPUNCH  14-  1  14-  1
DIALQ1  11-  1  11-  1
DIALQ2  12-  1  12-  1
DIALQ3  13-  1  13-  1
INQUIRY1  5-  1  5-  1
INQUIRY2  6-  1  6-  1
INQUIRY3  7-  1  7-  1
INQUIRY4  8-  1  8-  1
INQUIRY5  9-  1  9-  1
INQUIRY6 10-  1  10-  1
L2740SM1  4-  1  4-  1
L2740SM2  4-  2  4-  2
L2740S1  3-  1  3-  1
L2740S2  2-  1  2-  1
MASTER  3-  1  3-  1
```

Chapter 20. /DISPLAY  281
**Examples for /DISPLAY ASSIGNMENT Command**

```
L2740S2  2-  1  2-  1
MASTER   3-  1  3-  1
PTPPUNCH 14- 1  14- 1
WS120S  WS12- 1 WS12- 1
WTOR     1- SC  1- SC

*90295/160953*
```

**Entry ET:**

```
/DISPLAY ASSIGNMENT MSNAME ALL
```

**Response ET:**

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<table>
<thead>
<tr>
<th>LINK</th>
<th>PLINK</th>
<th>SIDR</th>
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<th>MSNAME</th>
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*97258/170244*
```

**Entry ET:**

```
/DISPLAY ASSIGNMENT MSPLINK ALCB3MTM
```

**Response ET:**

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<th>MAXSESS</th>
<th>NODE</th>
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<td></td>
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</table>

*90280/072754*
```

**Entry ET:**

```
/DISPLAY ASMT NODE NLU1 NLUT6S NLUT6P
```
Examples for /DISPLAY ASSIGNMENT Command

Response ET:

```
NODE USER
NLU1 IN -L1 , L2
      OUT-L2 , L1
NLUT6S IN -L3
      OUT-L3
NLUT6P A IN -L5 , L6
NLUT6P N/A IN -NONE
      OUT-NONE
NLUT6P C IN -L7
      OUT-L7
```

Entry ET:

```
/DISPLAY ASMT NODE NLUT6P USER C
```

Response ET:

```
NODE USER
NLUT6P C IN -L7
      OUT-L7
```

Entry ET:

```
/DISPLAY ASSIGNMENT NODE ALL
```

Response ET:

```
NODE USER
CT3275 IN -VT3275 , VT3275P
      OUT-VT3275 , VT3275P
CT3277A IN -VT3270A
      OUT-VT3270A
CT3277B IN -VT3270B
      OUT-VT3270B
CT3277C IN -VT3270C
      OUT-VT3270C
CT3277D IN -VT3270P1
      OUT-VT3270P1
CT3277E IN -VT3270P2
      OUT-VT3270P2
L3270A IN -VT3270L1
      OUT-VT3270L1
L3270B IN -VT3270L2
      OUT-VT3270L2
L3284A IN -VT3270P3
      OUT-VT3270P3
W612 IN -W610JP , W610D6 , W610FP
      OUT-W610D6 , W610FP , W610JP
W613 IN -W620JP , W620D6 , W620P8 , W620M6
      OUT-W620D6 , W620JP , W620M6 , W620P8
FCBOX1 IN -W6CIT
      OUT-W6CIT
```

Entry ET:

```
/DISPLAY ASMT USER A B C D
```

Response ET:
Examples for /DISPLAY ASSIGNMENT Command

USER ID NODE
A  CICSA NLUT6P I/O- L1, L2
B  I/O- L3
C  CICSB NLUT6P I/O- L4
D  I/O- NONE
*90229/083059*

Entry ET:
/DISPAY ASSIGNMENT SYSID ALL

Response ET:

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<tr>
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<th>MSNAME</th>
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*90280/072821*

Entry ET:
/DISPAY ASSIGNMENT SYSID ALL

Response ET:

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*97258/170653*

Entry ET:
/DISPAY ASSIGNMENT SYSID 22 23 24

Response ET:

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*90280/072902*

Example 2 for /DISPLAY ASSIGNMENT Command

Entry ET:
/DIS ASMT USER IMSUS01 IMSUS02

Response ET:
Examples for /DISPLAY ASSIGNMENT Command

| USER | USERID | ID | NODE       | I/O- |
|------|--------|----|------------|------|----------------------|
| IMSUS01 | IMSUS01 |    | DTSLU201   | I/O- | IMSUS01              |
| N/A   | IMSUS01 |    | L3270A     | I/O- | T3270LA              |
| N/A   | IMSUS02 |    | L3270B     | I/O- | T3270LB              |
| DT327002 | IMSUS02 |    | DT327002   | I/O- | DT327002             |

Entry ET:
/DIS ASMT USER IMSUS01*

Response ET:

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Example 1 for /DISPLAY CCTL Command

Entry ET:
/DISPLAY CCTL

Response ET:

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Example 2 for /DISPLAY CCTL Command

Entry ET:
/DISPLAY CCTL ALL

Response ET:

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<th>PSBNAME</th>
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*92350/112229*

*92350/113904*

*92350/113904*

*92350/114845*

*89067/114857*

*89067/113236*
Examples for /DISPLAY CCTL Command

Example 3 for /DISPLAY CCTL Command
Entry ET:
/DISPLAY CCTL CICS1

Response ET:

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</tbody>
</table>

*89067/113251*

Example 4 for /DISPLAY CCTL Command
Entry ET:
/DISPLAY CCTL CICS1 ACTIVE

Response ET:

<table>
<thead>
<tr>
<th>CCTL</th>
<th>PSEUDO-RTKN</th>
<th>RECOVERY-TOKEN</th>
<th>REGID</th>
<th>PSBNAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CICS1</td>
<td></td>
<td></td>
<td>9FFA0967C26D69B02</td>
<td>2 BMP255</td>
<td>ATTACHED</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>9FFA0967ACF9E8002</td>
<td>1 BMP255</td>
<td>ACTIVE</td>
</tr>
</tbody>
</table>

*89067/114557*

Example 5 for /DISPLAY CCTL Command
Entry ET:
/DISPLAY CCTL CICS1 INDOUBT

Response ET:

<table>
<thead>
<tr>
<th>CCTL</th>
<th>PSEUDO-RTKN</th>
<th>RECOVERY-TOKEN</th>
<th>REGID</th>
<th>PSBNAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CICS1</td>
<td></td>
<td></td>
<td>000100C0</td>
<td>9FFA095687AE24E00</td>
<td>INDUBT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>00010040</td>
<td>9FFA09568FF594301</td>
<td>INDUBT</td>
</tr>
</tbody>
</table>

*89067/113413*

Example for /DISPLAY CONVERSATION Command
Entry ET:
/DISPLAY CONVERSATION

Response ET:

<table>
<thead>
<tr>
<th>TERMINAL USER ID</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO CONVERSATIONS</td>
<td></td>
</tr>
</tbody>
</table>

*91113/182917*

Entry ET:
/DISPLAY CONVERSATION

Response ET:

<table>
<thead>
<tr>
<th>TERMINAL USER ID</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>11- 2 0001 HELD</td>
<td></td>
</tr>
<tr>
<td>4- 2 0002 ACTIVE, SCHEDULED</td>
<td></td>
</tr>
<tr>
<td>11- 4 0001 HELD</td>
<td></td>
</tr>
<tr>
<td>2- 1 0001 HELD</td>
<td></td>
</tr>
<tr>
<td>5- 1 0002 ACTIVE</td>
<td></td>
</tr>
</tbody>
</table>

*91115/135706*
Example for /DISPLAY CONVERSATION Command

/DISPLAY CONVERSATION

Response ET:
TERMINAL USER ID STATUS
LUNAME1 USERID1 0001 ACTIVE
DT327001 IMSUS01 0005 ACTIVE
LUNAME2 0002 ACTIVE,SCHEDULED
LUNAME3 USERID4 0003 ACTIVE,SCHEDULED
LUNAME1 USERID5 0004 SCHEDULED
*90332/114253*

Entry ET:
/DISPLAY CONVERSATION BUSY

Response ET:
TERMINAL USER ID STATUS
NO BUSY CONVERSATIONS
*91113/182959*

Entry ET:
/DISPLAY CONVERSATION BUSY

Response ET:
TERMINAL USER ID STATUS
2- 1 0001 ACTIVE, SCHEDULED
4- 2 0001 ACTIVE, SCHEDULED
4- 1 0002 ACTIVE, SCHEDULED
*91113/192021*

Entry ET:
/DISPLAY CONVERSATION BUSY LINE 4 PTERM ALL

Response ET:
TERMINAL USER ID STATUS
4- 2 0001 ACTIVE, SCHEDULED
4- 1 0001 ACTIVE, SCHEDULED
*91113/192101*

Entry ET:
/DISPLAY CONVERSATION BUSY

Response ET:
TERMINAL USER ID STATUS
NETWORK1.LUNAME1 USERID1 0001 ACTIVE
DT327001 IMSUS01 0005 ACTIVE
NID2.LUNAME2 0002 ACTIVE,SCHEDULED
LUNAME3 USERID4 0003 ACTIVE,SCHEDULED
NETWORK1.LUNAME1 USERID4 0004 ACTIVE
*92232/114253*

Entry ET:
/DISPLAY CONVERSATION HELD

Response ET:
TERMINAL USER ID STATUS
NO HELD CONVERSATIONS
*91113/183022*
Example for /DISPLAY CONVERSATION Command

Entry ET:
/DISPLAY CONVERSATION HELD NODE NSLUTP6

Response ET:
<table>
<thead>
<tr>
<th>TERMINAL</th>
<th>USER</th>
<th>ID</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSLUTP6</td>
<td>SPOOLA</td>
<td>0007</td>
<td>HELD</td>
</tr>
<tr>
<td>NSLUTP6</td>
<td>SPOOLC</td>
<td>000A</td>
<td>HELD</td>
</tr>
</tbody>
</table>

*91113/183033*

Example for /DISPLAY CQS Command

Entry ET:
/DISPLAY CQS

Response ET:
<table>
<thead>
<tr>
<th>JOBNAME</th>
<th>VERS#</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CQS1</td>
<td>1.1</td>
<td>CONNECTED</td>
</tr>
</tbody>
</table>

*95200/170817*

Explanation: IMS is connected to the Common Queue Server, CQS1.

Example 1 for /DISPLAY DATABASE Command

Entry ET:
/DISPLAY DATABASE ALL

Response ET:

<table>
<thead>
<tr>
<th>DATABASE</th>
<th>TYPE</th>
<th>TOTAL UNUSED</th>
<th>TOTAL</th>
<th>UNUSED</th>
<th>ACC</th>
<th>CONDITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DD41M702</td>
<td>DL/I</td>
<td>EX</td>
<td>NOTOPEN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DD41M803</td>
<td>DL/I</td>
<td>EX</td>
<td>NOTOPEN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEDB</td>
<td>DEDB</td>
<td>SEQ</td>
<td>DEPEND</td>
<td>DIRECT</td>
<td>ADDRES</td>
<td>EX</td>
</tr>
<tr>
<td>DB21AR0</td>
<td>AREA</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>NOTOPEN</td>
</tr>
<tr>
<td>DB21AR1</td>
<td>AREA</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>NOTOPEN</td>
</tr>
<tr>
<td>DB21AR2</td>
<td>AREA</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>NOTOPEN</td>
</tr>
<tr>
<td>DB21AR3</td>
<td>AREA</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>NOTOPEN</td>
</tr>
<tr>
<td>DB21AR4</td>
<td>AREA</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>NOTOPEN</td>
</tr>
<tr>
<td>DB21AR5</td>
<td>AREA</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>NOTOPEN</td>
</tr>
<tr>
<td>DB21AR6</td>
<td>AREA</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>NOTOPEN</td>
</tr>
<tr>
<td>DB21AR7</td>
<td>AREA</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>NOTOPEN</td>
</tr>
<tr>
<td>DB21AR8</td>
<td>AREA</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>NOTOPEN</td>
</tr>
<tr>
<td>DB21AR9</td>
<td>AREA</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>NOTOPEN</td>
</tr>
<tr>
<td>DB21AR10</td>
<td>AREA</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>NOTOPEN</td>
</tr>
<tr>
<td>DB21AR11</td>
<td>AREA</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>NOTOPEN</td>
</tr>
<tr>
<td>DEDB</td>
<td>DEDB</td>
<td>SEQ</td>
<td>DEPEND</td>
<td>DIRECT</td>
<td>ADDRES</td>
<td>EX</td>
</tr>
<tr>
<td>DB22AR0</td>
<td>AREA</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>NOTOPEN</td>
</tr>
<tr>
<td>DB22AR1</td>
<td>AREA</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>NOTOPEN</td>
</tr>
<tr>
<td>DEDB</td>
<td>DEDB</td>
<td>SEQ</td>
<td>DEPEND</td>
<td>DIRECT</td>
<td>ADDRES</td>
<td>EX</td>
</tr>
<tr>
<td>DB23AR0</td>
<td>AREA</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>NOTOPEN</td>
</tr>
<tr>
<td>DB23AR1</td>
<td>AREA</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>NOTOPEN</td>
</tr>
<tr>
<td>DIM5RN01</td>
<td>DL/I</td>
<td>EX</td>
<td>NOTOPEN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIM5RN02</td>
<td>DL/I</td>
<td>EX</td>
<td>NOTOPEN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIM5RN03</td>
<td>DL/I</td>
<td>EX</td>
<td>NOTOPEN</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*89184/142639*

Entry ET:
/DISPLAY DB DD41M803 BKERR

Response ET:
Explanation: An I/O toleration error queue element exists for database DD41M803 on a newly created active system in an XRF environment.

Following an /UNLOCK SYSTEM command on the above system, the /DISPLAY DB DD41M803 BKERR command would yield the following display:

DATABASE
DD41M803
NO EEQE OR INCOMPLETE BACKOUT INFORMATION AVAILABLE
*90135/163500*

Example 2 for /DISPLAY DATABASE Command
Entry ET:
/DIS DB BE3ORDER BE3PARTS.

Response ET:

<table>
<thead>
<tr>
<th>DATABASE</th>
<th>TYPE</th>
<th>TOTAL UNUSED</th>
<th>TOTAL UNUSED</th>
<th>ACC</th>
<th>CONDITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE3ORDER</td>
<td>DL/I</td>
<td></td>
<td></td>
<td>EX</td>
<td>STOPPED, LOCK, NOTOPEN,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RECALL</td>
</tr>
<tr>
<td>BE3PARTS</td>
<td>DL/I</td>
<td></td>
<td></td>
<td>EX</td>
<td>NOTOPEN, RECALL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
*94277/124039*

Example 3 for /DISPLAY DATABASE Command
Entry ET:
/DIS DB RECALL.

Response ET:

<table>
<thead>
<tr>
<th>DATABASE</th>
<th>TYPE</th>
<th>TOTAL UNUSED</th>
<th>TOTAL UNUSED</th>
<th>ACC</th>
<th>CONDITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE3ORDER</td>
<td>DL/I</td>
<td></td>
<td></td>
<td>EX</td>
<td>STOPPED, LOCK, NOTOPEN,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RECALL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BE3PARTS</td>
<td>DL/I</td>
<td></td>
<td></td>
<td>EX</td>
<td>NOTOPEN, RECALL</td>
</tr>
<tr>
<td>IVPDB1</td>
<td>DL/I</td>
<td></td>
<td></td>
<td>UP</td>
<td>STOPPED, LOCK, NOTOPEN,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RECALL</td>
</tr>
<tr>
<td>IVPDB2</td>
<td>DL/I</td>
<td></td>
<td></td>
<td>UP</td>
<td>NOTOPEN, RECALL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
*94277/124119*

Example 4 for /DISPLAY DATABASE Command
Entry ET:
/DISPLAY DATABASE DEDBJN21 BKERR

Response ET:

<table>
<thead>
<tr>
<th>DATABASE</th>
<th>TYPE</th>
<th>BLOCK</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEDBJN21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ERROR DD</td>
<td>TYPE</td>
<td>BLOCK</td>
</tr>
<tr>
<td></td>
<td>IOT</td>
<td>00015000</td>
</tr>
<tr>
<td>DB21AR0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DB21AR0</td>
<td>IOT/VSO 00000001</td>
<td></td>
</tr>
<tr>
<td>DB21AR1</td>
<td>IOT</td>
<td>00054000</td>
</tr>
<tr>
<td>DB21AR1</td>
<td>IOT/VSO 00000001</td>
<td></td>
</tr>
</tbody>
</table>

Explanation: The /DIS DATABASE command with the BKERR keyword does not display individual RBAs for I/O tolerated non-SDEP CIs of a DEDB area defined with the
Examples for /DISPLAY DATABASE Command

Virtual Storage Option (VSO). Instead, a single entry with a value of 0000001 is displayed and the EEQE type is set to 10T/VSO. I/O tolerated SDEP CIs for the area are displayed individually by RBA.

Example 5 for /DISPLAY DATABASE Command

Entry ET:

/DISPLAY DATABASE OFR

Response ET:

```
DATABASE  TYPE  TOTAL UNUSED  TOTAL UNUSED ACC  CONDITIONS
BE2PCUST  DL/I   EX  ALLOCS OFR
BE3ORDER  DL/I   EX  ALLOCS OFR
BE3ORDERX DL/I   EX  ALLOCS OFR
BE3PARTS  DL/I   EX  ALLOCS OFR
BE3PSID1  DL/I   EX  ALLOCS OFR
*91240/132406*  SYS3
```

Example 6 for /DISPLAY DATABASE Command

If a full function database data set is undergoing recovery with Online Recovery Service, the output of the /DISPLAY DATABASE command includes this information in the command response.

Entry ET:

/DISPLAY DATABASE DD41M702

Response ET:

```
DATABASE  TYPE  TOTAL UNUSED  TOTAL UNUSED ACC  CONDITIONS
DD41M702  DL/I   EX  STOPPED, LOCK, NOTOPEN  RECOVERY
*97184/142639*
```

Example 7 for /DISPLAY DATABASE Command

Display the HALDB master for the PHIDAM database called PARTMAST.

Entry ET:

/DIS DB PARTMAST

Response ET:

```
DATABASE  TYPE  TOTAL UNUSED  TOTAL UNUSED ACC  CONDITIONS
PARTMAST  PHIDAM  UP
PART1     PART  UP  ALLOCS
PART2     PART  UP  NOTOPEN
PART3     PART  UP  STOPPED
*99166/092514*
```

Example 8 for /DISPLAY DATABASE Command

Display the HALDB partition for PHIDAM PART2.

Entry ET:

/DIS DB PART2

Response ET:
Example for /DISPLAY DATABASE Command

Entry ET:

/DISPLAY DATABASE PARTMAD PHIDAM

Response ET:

<table>
<thead>
<tr>
<th>DATABASE</th>
<th>TYPE</th>
<th>TOTAL</th>
<th>UNUSED</th>
<th>TOTAL</th>
<th>UNUSED</th>
<th>ACC</th>
<th>CONDITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DFS000I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example for /DISPLAY DBD Command

Entry ET:

/DISPLAY DBD MSDBLM01 MSDBLM02 MSDBLM03 MSDBLM04

Response ET:

<table>
<thead>
<tr>
<th>DBD-NAME</th>
<th>TYPE</th>
<th>PSB-NAME</th>
<th>ACCESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSDBLM01</td>
<td>MSDB</td>
<td>DDLTM06</td>
<td>R/W</td>
</tr>
<tr>
<td>MSDBLM02</td>
<td>MSDB</td>
<td>DDLTM07</td>
<td>R/W</td>
</tr>
<tr>
<td>MSDBLM03</td>
<td>MSDB</td>
<td>DDLTM07</td>
<td>R/W</td>
</tr>
<tr>
<td>MSDBLM04</td>
<td>MSDB</td>
<td>DDLTM07</td>
<td>R/W</td>
</tr>
</tbody>
</table>

Example for /DISPLAY DESCRIPTOR Command

Entry ET:

/DISPLAY DESCRIPTOR ALL

Response ET:

<table>
<thead>
<tr>
<th>DESC</th>
<th>LUNAME</th>
<th>TPNAME</th>
<th>MODE</th>
<th>SIDE</th>
<th>SYNCELEVEL</th>
<th>TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>LU62DES1</td>
<td>LUNAME4</td>
<td>ACCOUNT</td>
<td>ALPHA</td>
<td>SIDENME1</td>
<td>CONFIRM</td>
<td>MAPPED</td>
</tr>
<tr>
<td>LU62DES2</td>
<td>LUNAME7</td>
<td>APPLE67890123456</td>
<td>BETHA</td>
<td>SIDENME2</td>
<td>NONE</td>
<td>BASIC</td>
</tr>
</tbody>
</table>

Example for /DISPLAY FDR Command

Entry ET:

/DISPLAY FDR

Response ET:

<table>
<thead>
<tr>
<th>FDR-REGION</th>
<th>GROUPNAME</th>
<th>TIMEOUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDBRSYS3</td>
<td>055</td>
<td></td>
</tr>
</tbody>
</table>

Example for /DISPLAY FPVIRTUAL Command

Entry ET:

/DISPLAY FPVIRTUAL
Example for /DISPLAY FPVIRTUAL Command

Response ET:

```plaintext
DATASPACE MAXSIZE(4K) AREANAME AREASIZE(4K) OPTION
001  524188
    DB21AR1  76 PREO
    DB21AR11 152
000  524188
    DB21AR0  19 PREO, PRL
    DB21AR10 19 PREO, PRL
    DB21AR2  38 PREO, PRL
```

*93076/173254*

Entry ET:

/DISPLAY FPVIRTUAL

Response ET:

```plaintext
DATASPACE MAXSIZE(4K) AREANAME AREASIZE(4K) OPTION
000  524263
    DB21AR4  167 PREO, PRL
    DB21AR2  42 PREO, PRL
001  524263
    DB21AR3  84 PREO
    DB21AR1  84
    CF  4K  N
         AREA2  1000 PREO, PRL
    CF2  512  Y
```

*95225/173254*

Entry ET:

/DISPLAY FPVIRTUAL

Response ET:

```plaintext
DATASPACE MAXSIZE(4K) AREANAME AREASIZE(4K) OPTIONS
NO AREAS LOADED INTO DATA SPACES
```

*90254/080845*

Example for /DISPLAY HSB Command

Entry ET (Active System):

/DISPLAY HSB

Response ET:

```plaintext
RSENNAME STATUS MODE IMS-ID VTAM UVAR
DSFRSENM ACTIVE IMSA USERVAR1
SURVEILLANCE INTERVAL TIMEOUT STATUS
LOG  10  99 ACTIVE
LNK  3  9 ACTIVE
RDS  10  99 ACTIVE
```

*89340/094236*

Entry ET (Alternate System):

/DISPLAY HSB

Response ET:

```plaintext
RSENNAME STATUS PHASE IMS-ID VTAM UVAR ACT-ID LOG-TIME
DSFRSENM BACKUP TRK IMSB USERVAR1 IMSA 09:42:56
SURVEILLANCE INTERVAL TIMEOUT STATUS
LOG  10  99 INACTIVE
LNK  3  9 INACTIVE
```

292 Command Reference
Example for /DISPLAY HSSP Command

Entry ET (Active System):

/DISPLAY HSSP

Response ET:

<table>
<thead>
<tr>
<th>RGN</th>
<th>TYP</th>
<th>JOBNAME</th>
<th>PSB</th>
<th>DATABASE</th>
<th>AREAS-OPTIONS</th>
<th>SYS3</th>
</tr>
</thead>
<tbody>
<tr>
<td>RGN</td>
<td>TYP</td>
<td>JOBNAME</td>
<td>PSB</td>
<td>DATABASE</td>
<td>AREAS-OPTIONS</td>
<td>SYS3</td>
</tr>
<tr>
<td>1 BMP CSSP020B BMPFPE02 DEDBJN21 IC=(1,C)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*89122/094325* SYS3

Example for /DISPLAY LINE Command

Entry ET:

/DISPLAY LINE 1, 3, 5, 10

Response ET:

<table>
<thead>
<tr>
<th>LINE</th>
<th>TYPE</th>
<th>ADDR</th>
<th>RECD</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
<th>SENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 CONSOLE</td>
<td>****</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>3 2740-II</td>
<td>****</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>STOPPED IDLE</td>
<td></td>
</tr>
<tr>
<td>5 3270 R</td>
<td>0C9</td>
<td>43</td>
<td>51</td>
<td>43</td>
<td>8</td>
<td>79</td>
<td></td>
</tr>
</tbody>
</table>

*85098/141118*

Entry ET:

/DISPLAY LINE ALL

Response ET:

<table>
<thead>
<tr>
<th>LINE</th>
<th>TYPE</th>
<th>ADDR</th>
<th>RECD</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
<th>SENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 CONSOLE</td>
<td>****</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>2 2740-I</td>
<td>****</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>STOPPED IDLE</td>
<td></td>
</tr>
<tr>
<td>3 2740-II</td>
<td>****</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>STOPPED IDLE</td>
<td></td>
</tr>
<tr>
<td>4 2740 MSC</td>
<td>****</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>STOPPED IDLE</td>
<td></td>
</tr>
<tr>
<td>5 3270 R</td>
<td>0C9</td>
<td>43</td>
<td>51</td>
<td>43</td>
<td>8</td>
<td>STOPPED IDLE</td>
<td></td>
</tr>
<tr>
<td>6 3270 L</td>
<td>****</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>STOPPED IDLE</td>
<td></td>
</tr>
<tr>
<td>7 3270 L</td>
<td>1234</td>
<td>20</td>
<td>22</td>
<td>20</td>
<td>2</td>
<td>STOPPED IDLE</td>
<td></td>
</tr>
<tr>
<td>8 SYSTEM/3</td>
<td>****</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>STOPPED IDLE</td>
<td></td>
</tr>
<tr>
<td>9 SYSTEM/7</td>
<td>****</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>STOPPED IDLE</td>
<td></td>
</tr>
<tr>
<td>10 2741</td>
<td>****</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>STOPPED IDLE</td>
<td></td>
</tr>
<tr>
<td>11 2741 SW</td>
<td>****</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>STOPPED IDLE</td>
<td></td>
</tr>
<tr>
<td>12 2741 SW</td>
<td>****</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>STOPPED IDLE</td>
<td></td>
</tr>
<tr>
<td>13 RDR/PTR</td>
<td>****</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>STOPPED IDLE</td>
<td></td>
</tr>
<tr>
<td>14 RDR/PTR</td>
<td>****</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>STOPPED IDLE</td>
<td></td>
</tr>
<tr>
<td>15 RDR/PTR</td>
<td>****</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>STOPPED IDLE</td>
<td></td>
</tr>
<tr>
<td>16 RDR/PTR</td>
<td>****</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>STOPPED IDLE</td>
<td></td>
</tr>
<tr>
<td>17 2740 SW</td>
<td>****</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>STOPPED IDLE</td>
<td></td>
</tr>
<tr>
<td>18 DIAL POOL</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>POOL STOPPED IDLE</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*85098/141244*

Entry ET:

/DISPLAY LINE 5 PTERM ALL

Response ET:

<table>
<thead>
<tr>
<th>LIN/PTM</th>
<th>TYPE</th>
<th>ADDR</th>
<th>RECD</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
<th>SENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>5- 1</td>
<td>3270 R</td>
<td>4040B1</td>
<td>3</td>
<td>6</td>
<td>6</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>5- 2</td>
<td>3270 R</td>
<td>C140B1</td>
<td>0</td>
<td>6</td>
<td>6</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>5- 3</td>
<td>3270 R</td>
<td>C1C1B1</td>
<td>40</td>
<td>30</td>
<td>28</td>
<td>2</td>
<td>61</td>
</tr>
</tbody>
</table>
Example for /DISPLAY LINE Command

Entry ET:
/DISPLAY LINE PSTOPPED, PUR

Response ET:

<table>
<thead>
<tr>
<th>LINE</th>
<th>TYPE</th>
<th>ADDR</th>
<th>RECD</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
<th>SENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3270</td>
<td>****</td>
<td>4</td>
<td>8</td>
<td>8</td>
<td>0</td>
<td>33</td>
</tr>
<tr>
<td>18</td>
<td>3270</td>
<td>022</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
</tbody>
</table>

Example 1 for /DISPLAY LINK Command

Entry ET:
/DISPLAY LINK ALL

Response ET:

<table>
<thead>
<tr>
<th>LINK PARTNER</th>
<th>RECD</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
<th>SENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 AB</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2 AC</td>
<td>8</td>
<td>21</td>
<td>12</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>3 AD</td>
<td>4</td>
<td>6</td>
<td>6</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>4 BC</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5 AE</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

Example 2 for /DISPLAY LINK Command

Entry ET:
/DISPLAY LINK ALL MODE

Response ET:

<table>
<thead>
<tr>
<th>LINK PARTNER</th>
<th>DEF</th>
<th>MODETBL</th>
<th>ACT</th>
<th>MODETBL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 AB</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2 AC</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>3 AD</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>4 AE</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>5 AK</td>
<td>MSC12V</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>6 AL</td>
<td>MS12V</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Explanation: N/A is displayed in the mode table name fields of non-VTAM MSC links. MSC12V and MS12V are mode table names defined at system definition or established using the /CHA command.

Example 1 for /DISPLAY LTERM Command

Entry ET:
/DISPLAY LTERM DIALQ1 INQUIRY1 L2740S1 L2740SM1 MASTER WTOR
Examples for /DISPLAY LTERM Command

Response ET:

<table>
<thead>
<tr>
<th></th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIAL01</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>INQUIRY1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>L2740S1</td>
<td>1</td>
<td>1</td>
<td>STOP</td>
</tr>
<tr>
<td>L2740SM1</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>MASTER</td>
<td>12</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>WTOR</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Example 2 for /DISPLAY LTERM Command

Entry ET:

/DISPLAY LTERM ALL

Response ET:

<table>
<thead>
<tr>
<th></th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSPLY1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DSPLY2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DSPLY3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>MASTER</td>
<td>8</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>WTOR</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2740AA1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2740AA2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2740AA3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2740C1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2740C2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2740SM1</td>
<td>2</td>
<td>2</td>
<td>STOP</td>
</tr>
<tr>
<td>2740SM2</td>
<td>2</td>
<td>2</td>
<td>STOP</td>
</tr>
<tr>
<td>2740S1</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2740S2</td>
<td>1</td>
<td>1</td>
<td>0 QERR</td>
</tr>
<tr>
<td>LU6A</td>
<td>1</td>
<td>1</td>
<td>QLOCK</td>
</tr>
</tbody>
</table>

Example 3 for /DISPLAY LTERM Command

Entry ET:

/DISPLAY LTERM LTERMA LTERM123 ABCD QCNT

Response ET:

<table>
<thead>
<tr>
<th></th>
<th>GBLQCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTERMA</td>
<td>1000000000</td>
</tr>
<tr>
<td>LTERM123</td>
<td>25</td>
</tr>
<tr>
<td>ABCD</td>
<td>0</td>
</tr>
</tbody>
</table>

Example 4 for /DISPLAY LTERM Command

Entry ET:

/DISPLAY LTERM EMHQ QCNT

(one user is on the queue)

Response ET:

<table>
<thead>
<tr>
<th></th>
<th>GBLQCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPE0001</td>
<td>1</td>
</tr>
</tbody>
</table>

*90295/123755*

*91276/125448*

*95200/170817*

*95200/170817*
Example for /DISPLAY LUNAME Command

Entry ET:
/DISPLAY LUNAME luname1 luname2 INPUT

Response ET:
LUNAME #APPC-CONV
LUNAME1 15 TRA
LUNAME2 5
*90332/114253*

Entry ET:
/DISPLAY LUNAME luname1 luname3 BADLNUME OUTPUT

Response ET:

<table>
<thead>
<tr>
<th>LUNAME</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
<th>CONVCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>LUNAME1</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>LUNAME3</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
BADLNUME IS INVALID
*90332/114253*

Entry ET:
/DISPLAY LUNAME LUNAME1 TPNAME TPNAME1 BADTPNAME

Response ET:
LUNAME/TPNAME ENQCT DEQCT QCT
LUNAME1 -TPNAME1 0 0 0 STO
BADTPNAME IS INVALID
*90332/114253*

Entry ET:
/DISPLAY LUNAME LUNAME1 TPNAME ALL OUTPUT

Response ET:
LUNAME/TPNAME ENQCT DEQCT QCT
LUNAME1 -TPNAME1 0 0 0 STO
-TPNAME7890123456+ 5 3 2 TRA,STO 789END
-DFSSIDE 2 2 0
*90332/114253*

Entry ET:
/DISPLAY LUNAME LUNAME2 TPNAME ALL

Response ET:
LUNAME/TPNAME ENQCT DEQCT QCT
NO TPNAME(S) ASSOCIATED WITH LUNAME
*90332/114253*

Entry ET:
/DISPLAY LUNAME 'network1.luname1' luname3 'nid2.luname4' OUTPUT

Response ET:
Example for /DISPLAY LUNAME Command

<table>
<thead>
<tr>
<th>LUNAME</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
<th>CONVCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NETWORK1.LUNAME1</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>LUNAME3</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>NID2.LUNAME4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*92232/114253*

Entry ET:

/DISPLAY LUNAME 'network1.luname1' TPNAME tpname1 badtpnme

Response ET:

<table>
<thead>
<tr>
<th>LUNAME/TPNAME</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NETWORK1.LUNAME1 TPNAME1</td>
<td>0</td>
<td>0</td>
<td>0 STO</td>
</tr>
<tr>
<td>-TPNAME1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-BADTPNAME</td>
<td>IS INVALID</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*92232/114253*

Entry ET:

/DISPLAY LUNAME ALL INPUT

Response ET:

<table>
<thead>
<tr>
<th>LUNAME</th>
<th>#APPC-CONV</th>
</tr>
</thead>
<tbody>
<tr>
<td>NET1.LU1</td>
<td>0 STO,TRA</td>
</tr>
<tr>
<td>NET2.LU1</td>
<td>0</td>
</tr>
<tr>
<td>LU3</td>
<td>0 STO,TRA</td>
</tr>
<tr>
<td>NET4.LU3</td>
<td>0 STO</td>
</tr>
<tr>
<td>NET5.LU5</td>
<td>0 TRA</td>
</tr>
<tr>
<td>FUTURE INPUT:</td>
<td>STO,TRA</td>
</tr>
</tbody>
</table>

*93069/114435*

Entry ET:

/DISPLAY LUNAME ALL OUTPUT

Response ET:

<table>
<thead>
<tr>
<th>LUNAME</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
<th>CONVCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NET1.LU1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0 STO</td>
</tr>
<tr>
<td>NET2.LU1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0 TRA</td>
</tr>
<tr>
<td>LU3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0 STO,TRA</td>
</tr>
<tr>
<td>NET4.LU3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0 TRA</td>
</tr>
<tr>
<td>NET5.LU5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0 STO</td>
</tr>
<tr>
<td>FUTURE OUTPUT:</td>
<td>STO,TRA</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*93069/114435*

Entry ET:

/DISPLAY LUNAME LUNAMEA TPNAME TPNAME1 TPNAME2 QCNT

Response ET:

<table>
<thead>
<tr>
<th>LUNAME/TPNAME</th>
<th>GBLQCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>LUNAMEA</td>
<td></td>
</tr>
<tr>
<td>-TPNAME1</td>
<td>25</td>
</tr>
<tr>
<td>-TPNAME2</td>
<td>IS INVALID</td>
</tr>
</tbody>
</table>

*95200/170017*

Entry ET:

/DISPLAY LUNAME LUNAMEA1 LUNAMEB LUNAMEC QCNT

Response ET:
Example for /DISPLAY LUNAME Command

LUNAME  GBLQCT
LUNAMEA1 1000000000
LUNAMEB  25
LUNAMEC  IS INVALID
*95200/170817*

Entry ET:
/DISPLAY LUNAME LUNAMEB TPNAME ALL QCNT

Response ET:
LUNAME/TPNAME  GBLQCT
LUNAMEB
-TPNAMEB1  10
-TPNAMB1234567890+
1234567890123456789012345678901234567890
*95200/170817*

Example for /DISPLAY MASTER Command

Entry ET:
/DISPLAY MASTER

Response ET:
LTERM MASTER
PTERM  3-  1
*89117/130245*

Example 1 for /DISPLAY MODIFY Command

In the following examples for /DISPLAY MODIFY, /MODIFY PREPARE has already succeeded.

Entry ET:
/DISPLAY MODIFY ALL

Response ET:
LIBRARY IMSACBA (A)  OLC.ACBLIB.ALL
LIBRARY FORMATA (I)  IMSQA.FMT1
LIBRARY MODBLKSA (A)  I41RTS42.CMODBLKS
LIBRARY MATRIXA (A)  OLC1.MATRIX1
LIBRARY IMSACBB (I)  OLC.ACBLIB.ALL
LIBRARY FORMATB (A)  IMSQA.FMT1
LIBRARY MODBLKSB (I)  I41RTS42.CMODBLK1
LIBRARY MATRIXB (I)  OLC1.MATRIX2
DATABASE OLCDB088   /DBR ACTIVE
DATABASE OLCDB101   PSB SCHEDULED
PROGRAM OLCPB021   SCHEDULED
PROGRAM OLCPB109   SCHEDULED
RTCODE OLCRC056   ACTIVE
TRAN OLCTB105   QUEUING  1
TRAN CDEBTRN5   CONVERSATION TERM/USER  4-  2   ID= 0009
TRAN OLCTB109   SCHEDULED
TRAN CDEBTRN8   CONVERSATION TERM/USER L3270D   ID= 0002
TRAN OLCTB111   QUEUING  5
TRAN CDEBTRN2   CONVERSATION TERM/USER DYNT0001 IMSUS01   ID= 0005
TRAN CDEBTRN3   CONVERSATION TERM/USER 12-  1   ID= 0008
TRAN CDEBTRN1   CONVERSATION TERM/USER IMSUS12   ID= 0001
DISPLAY MODIFY COMPLETE
*93336/093025*

Entry ET:
Example 1 for /DISPLAY MODIFY Command

/DISPLAY MODIFY DBS

Response ET:

DATABASE CALENDER AREAS OPEN:
  AREA FEBRUARY
  AREA APRIL
  AREA JULY
  AREA AUGUST
  AREA SEPTEMBER
  AREA OCTOBER
  AREA DECEMBER

DATABASE CALENDER RANDOMIZER: RMOD3
DEDBS SHARING RANDOMIZER: RMOD3
DATABASE DEDBJN21 RANDOMIZER: RMOD3
RMOD3 NOT LOADED
DATABASE DEBJN22 RANDOMIZER: RMOD5
RMOD5 NOT LOADED

DISPLAY MODIFY COMPLETE *95299/161529*

Entry ET:

/DISPLAY MODIFY TRS

Response ET:

TRAN OLCFT112 QUEUING 2
TRAN OLCFT115 QUEUING 23
PROGRAM OLCFP115 QUEUING 1
TRAN CDEBTRN8 GLOBAL QUEUE COUNT INTERNAL ERROR
TRAN OLCFT116 QUEUING 6

DISPLAY MODIFY COMPLETE *96193/135935*

Explanation: Work is in progress that will cause online change to fail, because several transactions and a FP program have a global queue count on the shared queues. The global queue count for transaction CDEBTRN8 could not be determined because of an internal error.

Example 2 for /DISPLAY MODIFY Command

Entry ET:

/DISPLAY MODIFY MODS

Response ET:

DFS000I FORMAT OC01_FF02A _O ADDED
DFS000I FORMAT OC01_FF02B _O ADDED
DFS000I FORMAT OC7F_FN01A _O CHANGED
DFS000I FORMAT OC7F_FN01B _O CHANGED
DFS000I FORMAT OC7F_FN01C _O CHANGED
DFS000I FORMAT OC7F_FF04A _O DELETED
DFS000I FORMAT MF04E _DELETED
DFS000I DATABASE OLCDB101 ADDED
DFS000I DATABASE OLCDB102 ADDED
DFS000I DATABASE OLCDB103 ADDED
DFS000I DATABASE OLCDB104 ADDED
DFS000I DATABASE OLCDB105 ADDED
DFS000I DATABASE OLCDB111 DELETED
DFS000I DATABASE OLCDB109 DELETED
DFS000I DATABASE OLCDB110 DELETED
DFS000I DATABASE OLCDB106 DELETED
DFS000I DMB OLCDB101 ADDED
DFS000I DMB OLCDB102 ADDED
DFS000I DMB DEDBJN24 CHANGED
DFS000I AREA DB24A000 CHANGED
DFS000I DMB OLCDB105 DELETED

Chapter 20. /DISPLAY 299
Example 2 for /DISPLAY MODIFY Command

Explanation: Displays resources to be modified (added, changed, or deleted) by online change.

Example 3 for /DISPLAY MODIFY Command

Entry ET:
/DISPLAY MODIFY ALL

Response ET:

 LIBRARY IMSACBA (A) IMSTESTG.DELTALIB
 (A) IMSTESTL.TNUC2
 (A) IMSTESTG.IMS61RC.ACLIB
 (A) IMSTESTG.IMS61R.ACLIB
 LIBRARY FORMATA (A) IMSTESTG.MFS.OVERRIDE.FORM
 (A) IMSTESTG.MFS.FORMAT
 (A) IMSQA.FMT1
 LIBRARY MODBLKSA (I) IMSBLD.I61RTS25.COMDBLKS
 LIBRARY MATRIXA (I) IMSTESTG.I61RTS25.MATRIX
 LIBRARY IMSACBB (I) IMSTESTG.DELTALIB
 (I) IMSTESTL.TNUC3
 (I) IMSTESTG.IMS61RC.ACLIB
 (I) IMSTESTG.IMS61R.ACLIB
 LIBRARY FORMATB (I) IMSTESTG.MFS.OVERRIDE.FORM
 (I) IMSTESTG.MFS.FORMAT
 (I) IMSQA.FMT1
 LIBRARY MODBLKSB (I) IMSBLD.I61RTS25.COMDBLKS
 LIBRARY MATRIXB (I) IMSTESTG.I61RTS25.MATRIX
 DATABASE DEDBJN21 RANDOMIZER: RMOD3 (1)
 RMOD3 LOADED (2)
 DEDBS SHARING RANDOMIZER: RMOD3 (3)
 DEDB DEDBJN22
 DEDB DEDBJN23
 DEDB DEDB3301
 DATABASE DEDBJN22 RANDOMIZER: RMOD3
 RMOD3 NOT LOADED
 DEDBS SHARING RANDOMIZER: RMOD3
 DEDB DEDBJN21
 DEDB DEDBJN23
 DEDB DEDB3301
 DATABASE DEDBJN23 RANDOMIZER: RMOD3
 RMOD3 LOADED
 DEDBS SHARING RANDOMIZER: RMOD3
Example 2 for /DISPLAY MODIFY Command

DEDDB DEDBJN21
DEDDB DEDBJN22
DEDDB DEDBJN3301
NO WORK PENDING *99328/110535*  SYS3

Explanation: In the previous example:

- DEDB databases DEDBJN21, DEDBJN22, and DEDBJN23 have undergone Online Change.
- After a database line for DEDBS displays, a line follows containing randomizer status (loaded or not loaded).
- After the randomizer status displays, a line might follow containing DEDBS SHARING RANDOMIZER; this line is followed by DEDB lines listing the DEDBs that share the randomizer.

Entry ET:

/DISPLAY MODIFY ALL

Response ET:

LIBRARY  IMSACBA (A) IMSTESTG.DELTALIB
          (A) IMSTESTG.TEMPB.MFS.FORMAT
          (A) IMSTESTG.IMSACBB.MFS.FORMAT
          (A) IMSQA.FMT1
LIBRARY  FORMATA (A) IMSTESTG.IMSACBA.MFS.FORMAT
LIBRARY  MODBLKSA (A) IMSTESTG.IMSACBA.MFS.FORMAT
LIBRARY  MATRIXA (A) IMSTESTG.IMSACBA.MFS.FORMAT
LIBRARY  IMSACBB (I) IMSTESTG.IMSACBA.MFS.FORMAT
LIBRARY  MODBLKSB (I) IMSTESTG.IMSACBA.MFS.FORMAT
LIBRARY  MATRIXB (I) IMSTESTG.IMSACBA.MFS.FORMAT
DATABASE DEDBJN21 NOT OPEN, BUT DBR NEEDED ON TRACKER (1)
DATABASE DEDBJN21 RANDOMIZER: RMOD03
RMO03 NOT LOADED
DATABASE DEDBJN22 RANDOMIZER: RMOD05
RMO05 NOT LOADED
DATABASE DEDBJN24 RANDOMIZER: RMOD04
RMO04 NOT LOADED
DATABASE THFP1WEB RANDOMIZER: DBFHDC44
DBFHDC44 NOT LOADED
DISPLAY MODIFY COMPLETE *01303/085213*  SYS3

Explanation: The DEDB database DEDBJN21 is prepared to be online changed on a tracker environment. If the AREA is not stopped and the database is not open, the AREA can be open if log records type 5701 or 5950 are routed to the RSR tracking IMS from the active IMS while Online Change is in progress. It is then required that database be DBRed in the case of database level change. The tracking suspend point (Suspended Log Sequence Number) is registered in RECON when the AREA is stopped. After the online change committed successfully, and when the /STA AREA command is entered, the Online Forward Recovery will open the AREA and all log records from the suspended point will be applied to the AREA.
Example for /DISPLAY MSNAME Command

Example for /DISPLAY MSNAME Command

Entry ET:

/DISPLAY MSNAME ALL

Response ET:

<table>
<thead>
<tr>
<th>MSNAME</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
<th>IMS1</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYSTEM2A</td>
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<td>0</td>
<td>IMS1</td>
</tr>
<tr>
<td>SYSTEM2B</td>
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<td>IMS1</td>
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<tr>
<td>FRENO</td>
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<td>IMS1</td>
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<tr>
<td>BOSTON</td>
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<td>IMS1</td>
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<td>ALBANY</td>
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<td>0</td>
<td>0</td>
<td>IMS1</td>
</tr>
</tbody>
</table>

*91350/053859*

Entry ET:

/DISPLAY MSNAME ALL

Response ET:

<table>
<thead>
<tr>
<th>MSNAME</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
<th>IMS1</th>
</tr>
</thead>
<tbody>
<tr>
<td>LINK23B4</td>
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<td>0</td>
<td>DYNAMIC IMS1</td>
</tr>
<tr>
<td>LINK12V1</td>
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<td>0</td>
<td>0</td>
<td>IMS1</td>
</tr>
<tr>
<td>LINK23U2</td>
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<td>DYNAMIC IMS1</td>
</tr>
<tr>
<td>ELINK211</td>
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<td>DYNAMIC IMS1</td>
</tr>
<tr>
<td>LINK13B3</td>
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<td>0</td>
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<td>IMS1</td>
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<td>LINK13V</td>
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<td>0</td>
<td>0</td>
<td>IMS1</td>
</tr>
<tr>
<td>LINK12V</td>
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<td>0</td>
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<td>IMS1</td>
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<td>LINK13C2</td>
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<td>0</td>
<td>IMS1</td>
</tr>
<tr>
<td>LINK13X</td>
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<td>IMS1</td>
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<td>LINK12V2</td>
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<td>0</td>
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<tr>
<td>LINK13M2</td>
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<td>0</td>
<td>IMS1</td>
</tr>
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<td>LINK13V2</td>
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<td>ELINK124</td>
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<td>LINK23V1</td>
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<td>0</td>
<td>0</td>
<td>DYNAMIC IMS1</td>
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<tr>
<td>LINK12B1</td>
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<td>IMS1</td>
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<td>LINK12B2</td>
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<td>LINK23V</td>
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<td>DYNAMIC IMS1</td>
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<td>LINK13U2</td>
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<td>0</td>
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<td>IMS1</td>
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<tr>
<td>LINK23B3</td>
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<td>DYNAMIC IMS1</td>
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<tr>
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</tr>
<tr>
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<tr>
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<td>DYNAMIC IMS1</td>
</tr>
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<td>LINK12U1</td>
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<td>0</td>
<td>IMS1</td>
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<tr>
<td>LINK23M2</td>
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<td>DYNAMIC IMS1</td>
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<td>ELINK122</td>
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<td>0</td>
<td>0</td>
<td>IMS1</td>
</tr>
<tr>
<td>LINK13V1</td>
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<td>IMS1</td>
</tr>
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<td>ELINK123</td>
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<td>PTH3TSTB</td>
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<td>0</td>
<td>IMS1</td>
</tr>
</tbody>
</table>

*97258/175636*

Example 1 for /DISPLAY NODE Command

Entry ET:

/DISPLAY NODE DTSLU* LUP1 ENDS01 LU6NDPA LU6NDPH

302 Command Reference
Response ET:

<table>
<thead>
<tr>
<th>NODE-USR</th>
<th>TYPE</th>
<th>CID</th>
<th>RECD</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
<th>SENT</th>
<th>SYS3</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTSLU002</td>
<td>SLU</td>
<td>01000003</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>SIGN(IMUS05)</td>
</tr>
<tr>
<td>DTSLU202</td>
<td>SLU2</td>
<td>010000CB</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>SIGN(IMUS02)</td>
</tr>
<tr>
<td>DTSLU603</td>
<td>LUT6</td>
<td>010000C7</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>SIGN(IMUS04)</td>
</tr>
<tr>
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<td>2</td>
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<td>1</td>
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<td>3</td>
<td>SIGN(IMUS14)</td>
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<td>SLU2</td>
<td>010000A4</td>
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<td>SIGN(IMUS13)</td>
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<td>DTSLU203</td>
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<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>SIGN(IMUS12)</td>
</tr>
</tbody>
</table>

Explanation: User IMSUS05 is signed on to dynamic node DTSLU002. User IMSUS02 is signed on to dynamic node DTSLU202. User IMSUS04 is allocated to ISC node DTSLU603. User IMSUS14 is signed on to dynamic node DTSLU205 and has an active conversation. User IMSUS13 is signed on to dynamic node DTSLU204 and is in exclusive mode. User IMSUS12 is signed on to dynamic node DTSLU203 and has a preset destination of LTERM WTOR and is in MFS test mode. Static node LUP1 is logged on. User IMSUS08 is signed on to static node ENDS01. Users LU6SPG, CA12, and CA11 are allocated to static ISC node LU6NDPA, which means node LU6NDPA has 3 active parallel sessions. User CA14 is allocated to static ISC node LU6NDPH, which means node LU6NDPH has one active parallel session.

Example 2 for /DISPLAY NODE Command

Entry ET:

```
/DISPLAY NODE NSLUTP1 NSLUTP6 NPLUTP6
```

Response ET:

<table>
<thead>
<tr>
<th>NODE-USR</th>
<th>TYPE</th>
<th>CID</th>
<th>RECD</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
<th>SENT</th>
</tr>
</thead>
<tbody>
<tr>
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<td>3</td>
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</tr>
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<td>-B</td>
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<td>13</td>
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</tr>
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<td>4</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
</tbody>
</table>

Entry ET:

```
/DISPLAY NODE ALL
```

Response ET:
Examples for /DISPLAY NODE Command

The following commands illustrate the use of /DISPLAY to monitor changes in the mode table values for a node.

Entry ET:

/DISPLAY NODE IN902D1 IN902D4

Response ET:

<table>
<thead>
<tr>
<th>NODE-USR TYPE</th>
<th>CID</th>
<th>RECD</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
<th>SENT</th>
<th>SYS3</th>
</tr>
</thead>
<tbody>
<tr>
<td>IN902D1 SLU1</td>
<td>100121C5</td>
<td>125</td>
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</tr>
</tbody>
</table>
*91012/192544*

Entry ET:

/DISPLAY NODE NLUTP6P USER C

Response ET:

<table>
<thead>
<tr>
<th>NODE-USR TYPE</th>
<th>CID</th>
<th>RECD</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
<th>SENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NLUTP6P LUT6</td>
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<td>0</td>
<td>10</td>
<td>8</td>
<td>2</td>
<td>8</td>
</tr>
</tbody>
</table>
*90229/083059*

Example 3 for /DISPLAY NODE Command

The following commands illustrate the use of /DISPLAY to monitor changes in the mode table values for a node.

Entry ET:

/DISPLAY NODE LUTYPEP1 MODE

Response ET:

<table>
<thead>
<tr>
<th>NODE-USR TYPE</th>
<th>DEF MODETBL</th>
<th>ACT MODETBL</th>
</tr>
</thead>
<tbody>
<tr>
<td>LUTYPEP1 SLUP</td>
<td>DEFRESP</td>
<td></td>
</tr>
</tbody>
</table>
*90179/100206*
Explanation: DEFRESP is the mode table name defined for node LUTYPEP1 at system definition. The session is not active so the ACT MODETBL field is blank.

Entry ET:
/OPN NODE LUTYPEP1

Response ET:
DF5058I OPNDST COMMAND COMPLETED

Entry ET:
/DISPLAY NODE LUTYPEP1 MODE.

Response ET:

<table>
<thead>
<tr>
<th>NODE-USR TYPE</th>
<th>DEF MODETBL</th>
<th>ACT MODETBL</th>
</tr>
</thead>
<tbody>
<tr>
<td>LUTYPEP1 SLUP</td>
<td>DEFRESP</td>
<td>DEFRESP</td>
</tr>
<tr>
<td><em>90179/100508</em></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Explanation: A mode table name was not specified with the /OPNDST command so the default value defined at system definition was used to initiate the session.

Entry ET:
/CLS NODE LUTYPEP1

Response ET:
DF5058I CLSDST COMMAND COMPLETED

Entry ET:
/DISPLAY NODE LUTYPEP1 MODE

Response ET:

<table>
<thead>
<tr>
<th>NODE-USR TYPE</th>
<th>DEF MODETBL</th>
<th>ACT MODETBL</th>
</tr>
</thead>
<tbody>
<tr>
<td>LUTYPEP1 SLUP</td>
<td>DEFRESP</td>
<td>DEFRESP</td>
</tr>
<tr>
<td><em>90179/100630</em></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Explanation: Active mode table name displays as blank at normal session termination.

Entry ET:
/OPN NODE LUTYPEP1 MODE ALPHA.

Response ET:
DF5058I OPNDST COMMAND COMPLETED

Entry ET:
/DISPLAY NODE LUTYPEP1 MODE

Response ET:

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Explanation: The mode table name specified with the /OPNDST command (ALPHA) is used to initiate the session. The default value specified at system definition (DEFRESP) is overridden by the /OPNDST command.
Examples for /DISPLAY NODE Command

Example 4 for /DISPLAY NODE Command

The following example shows the display of all nodes with the automatic session restart designation.

Entry ET:
   /DISPLAY NODE AUTOSR

Response ET:

```
       NODE-USR TYPE  CID       RECQ CTQ CTQ CTQ       SENT
  WS12  FIN     00000000  0  0  0  0  0  0 ASR
 NODE0005 FIN   00000000  0  0  0  0  0  0 ASR
 NODE0006 FIN   00000000  0  0  0  0  0  0 ASR
 NODE0007 FIN   00000000  0  0  0  0  0  0 ASR
 NTOLUUNS NTO   00000000  0  0  0  0  0  0 ASR IDLE
 NTO2741 NTO   00000000  0  0  0  0  0  0 ASR IDLE
         LU6NO2 E2 LUT6
   -N/A     00000000  0  0  0  0  0  0 ASR IDLE
   -N/A     00000000  0  0  0  0  0  0 ASR IDLE
   -N/A     00000000  0  0  0  0  0  0 ASR IDLE
       *90179/101609*
```

Example 5 for /DISPLAY NODE Command

Entry ET:
   /DISPLAY NODE NODE1 NODE2 QCNT

Response ET:

```
       NODE  GBLQCT
 NODE1   100000
 NODE2     25
       *95200/170817*
```

Entry ET:
   /DISPLAY NODE NODE1 USER USER1 USER2 QCNT

Response ET:

```
       NODE/USER  GBLQCT
 NODE1
   -USER1     10
   -USER2      0
       *95200/170817*
```

Example 6 for /DISPLAY NODE Command

Entry ET:
   /DISPLAY NODE FPEN0001 EMHQ QCNT

Response ET:

```
       LTERM  GBLQCT
 FPEN0001     0
       *98203/143542*
```

Example 7 for /DISPLAY NODE RECOVERY Command

Entry ET:
   /DISPLAY NODE DTSLU* DTSLU202 L3270A RECOVERY

Response ET:
**Example for /DISPLAY NODE Command**

NODE-USR OWNER SRM CONV STSN FPATH
DTSLU002 IMSA GLOBAL Y Y Y
DTSLU603
-IMSUS04 IMSA LOCAL Y Y Y
DTSLU202 IMSB GLOBAL Y N N
L3270A IMSA LOCAL Y N Y
+99240/134730*

**Example for /DISPLAY OASN Command**

Entry ET:
/DDISPLAY OASN SUBSYS ALL

Response ET:
SUBSYS OASN
SSTR
0000000001
+90207/095627*

**Example for /DISPLAY OLDS Command**

Entry ET:
/DDISPLAY OLDS

Response ET:
OLDS-DONAME % FULL RATE ARCH-JOB ARCH-STATUS OTHER-STATUS
*DFSOLP00 37 9 IN USE
DFSOLP02 AVAILABLE
DFSOLP01 AVAILABLE
SINGLE OLDS LOGGING, SINGLE WADS LOGGING
AUTOMATIC ARCHIVE = 01
WADS = +DFSWADS0 DFSWADS1
SLOSREAD ON
+89184/141407*

**Example 1 for /DISPLAY OTMA Command**

Entry ET:
/DDISPLAY OTMA

Response ET:
GROUP/MEMBER XCF-STATUS USER-STATUS SECURITY
HOANG
-APPL8 ACTIVE SERVER FULL
-CLIENT1 ACTIVE ACCEPT TRAFFIC
+94165/165753*

**Example 2 for /DISPLAY OTMA Command**

Entry ET:
/DDISPLAY OTMA

Response ET:
GROUP/MEMBER XCF-STATUS USER-STATUS SECURITY
HOANG
-APPL8 NOT DEFINED SERVER FULL
-CLIENT1 ACTIVE ACCEPT TRAFFIC
+94165/165753*
Example for /DISPLAY OVERFLOWQ Command

Example for /DISPLAY OVERFLOWQ Command

Entry ET:

/DISPLAY OVERFLOWQ STRUCTURE ALL

Response ET:

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Example 1 for /DISPLAY POOL Command

Entry ET:

/DISPLAY POOL ALL

Response ET:

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Examples for /DISPLAY POOL Command

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CBT POOLS: GLBL 1541K LCL 2236K
MESSAGE QUEUE POOL: BFRS/SIZE 20/2112

ENQ 6 DEQ 6 CAN 30 WAIT 0 I/O 15 ERR 0
QBLKS: MAX # RECORDS AVAIL 1332 CUR IN USE 3 = 0 %
SMMSGQ: MAX # RECORDS AVAIL 5940 CUR IN USE 4 = 0 %
Examples for /DISPLAY POOL Command

LMSGQ:  MAX # RECORDS AVAIL 1350 CUR IN USE 4 = 0 ½
MESSAGE FORMAT POOL: SIZE 49152 SPACE 48576 DIRS 9011
REQI 2 I/O 2 DIR 4
WAIT 2 FREE 48432 ERR 0
SEQUENTIAL BUFFERING: STATUS = NOT INIT
MAX N.A. FREE N.A. CURR 0K HIGH OK
OSAM DB BUFFER POOL: ID 004K BSIZE 4K NBUF 1000 FX=Y/Y
LCTREQ 1765296 NEWBLK 0 ALTREQ 340800
PURGQ 39371 FNDIPL 1370897 BFSRCH 1987640
RDREQ 378355 BFSTLW 0 PURGWR 150284
WSYID 1431 WBSYWR 0 WBSYRD 0
WRLEO 296 WNOBFR 0 ERRORS 00000/00000
OSAM DB BUFFER POOL: ID 008K BSIZE 8K NBUF 100 FX=Y/Y
LCTREQ 228080 NEWBLK 0 ALTREQ 0
PURGQ 0 FNDIPL 204190 BFSRCH 316566
RDREQ 23891 BFSTLW 0 PURGWR 0
WSYID 0 WBSYWR 0 WBSYRD 0
WRLEO 0 WNOBFR 0 ERRORS 00000/00000
OSAM DB BUFFER POOL: ID 012K BSIZE 12K NBUF 100 FX=Y/Y
LCTREQ 83282 NEWBLK 0 ALTREQ 6896
PURGQ 4384 FNDIPL 70743 BFSRCH 81395
RDREQ 7622 BFSTLW 0 PURGWR 6110
WSYID 0 WBSYWR 0 WBSYRD 0
WRLEO 0 WNOBFR 0 ERRORS 00000/00000
VSAM DB BUFFER POOL: ID VLP1 BSIZE 2K TYPE D FX=N/Y/N
RRBA 0 RKEY 0 BFALT 0
NREC 0 SYNC PT 29446 NBUSFS 500
VRDS 1253 FOUND 0 WTS 68
HSR-S 0 HSW-S 0 HS NBUSFS 0
HS R/W-FAIL 000000/00000 ERRORS 000000/000000
VSAM DB BUFFER POOL: ID VLP1 BSIZE 4K TYPE D FX=N/Y/N
RRBA 0 RKEY 187583 BFALT 0
NREC 10750 SYNC PT 29446 NBUSFS 1000
VRDS 145632 FOUND 0 WTS 9771
HSR-S 0 HSW-S 50 HS NBUSFS 50
HS R/W-FAIL 000000/00000 ERRORS 000000/000000
VSAM DB BUFFER POOL: ID VLP1 BSIZE 8K TYPE D FX=N/Y/N
RRBA 0 RKEY 6704 BFALT 0
NREC 0 SYNC PT 29446 NBUSFS 100
VRDS 7362 FOUND 0 WTS 0
HSR-S 0 HSW-S 0 HS NBUSFS 0
HS R/W-FAIL 000000/00000 ERRORS 000000/000000
VSAM DB BUFFER POOL: BSIZE ALL VS= 5800K HS= 200K
RRBA 7745 RKEY 194287 BFALT 0
NREC 10752 SYNC PT 29446 NBUSFS 1600
VRDS 154247 FOUND 0 WTS 9839
HSR-S 0 HSW-S 50 HS NBUSFS 50
HS R/W-FAIL 000000/00000 ERRORS 000000/000000
DMPB BUFFER POOL:
SIZE 200K FREE 200K HIGH OK
PSBP BUFFER POOL:
SIZE 80K FREE 80K HIGH OK
DPSB BUFFER POOL:
SIZE 160K FREE 160K HIGH OK
CIOP BUFFER POOL:
SIZE 14K HIGH 65K LIMIT NONE OVERFLOW 0K
MAIN BUFFER POOL:
SIZE 40K FREE 39K HIGH 1K
SPAP BUFFER POOL:
SIZE 0K HIGH 0K LIMIT 9999K OVERFLOW 0K
PSBW BUFFER POOL:

310 Command Reference
Examples for /DISPLAY POOL Command

SIZE 600K FREE 600K HIGH 0K
DBWP BUFFER POOL:
SIZE 80K FREE 80K HIGH 0K
HIOP BUFFER POOL:
SIZE 214K HIGH 420K LIMIT 9999K OVERFLOW 0K
FPDB BUFFER POOL:
   AVAIL = 60 WRITING = 0 PGMUSE = 0 UNFIXED = 90
   POOLNAME CISIZE PBSIZE 50064 00016 00064 00256 00064 N NA NA
   2048 02048 00064 00016 00256 00064 N NA NA
   CESS BUFFER POOL:
   POOL IS NOT AVAILABLE FOR STATISTICS
EMHB BUFFER POOL:
SIZE 0K HIGH 0K LIMIT NONE OVERFLOW 0K
FPWP BUFFER POOL:
SIZE 0K HIGH 0K LIMIT NONE OVERFLOW 0K
EPCB BUFFER POOL:
SIZE 300K FREE 300K HIGH 0K
LUMP BUFFER POOL:
SIZE 68K HIGH 68K LIMIT NONE OVERFLOW 0K
*92120/134306*

Example 2 for /DISPLAY POOL Command

Entry ET:
/DISPLAY POOL AOIP

Response ET:
AOIP BUFFER POOL:
SIZE 32K HIGH 32K LIMIT NONE OVERFLOW 0K
*92280/095545*

Example 3 for /DISPLAY POOL Command

Entry ET:
/DISPLAY POOL CBT

Response ET:

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Chapter 20. /DISPLAY 311
### Examples for /DISPLAY POOL Command

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*CBT POOLS: GLBL 1187K LCL 658K
*91057/132506*
Example 4 for /DISPLAY POOL Command

Entry ET:

/DISPLAY POOL CIOP SPAP HIOP CESS EMHB FPWP LUMP LUMC

Response ET:

CIOP BUFFER POOL:
SIZE 16K HIGH  96K LIMIT  999K OVERFLOW  0K
SPAP BUFFER POOL:
SIZE 0K HIGH  0K LIMIT  9999K OVERFLOW  0K
HIOP BUFFER POOL:
SIZE 128K HIGH  128K LIMIT  9999K OVERFLOW  0K
CESS BUFFER POOL:
POOL IS NOT AVAILABLE FOR STATISTICS
EMHB BUFFER POOL:
SIZE 0K HIGH  0K LIMIT  9999K OVERFLOW  0K
FPWP BUFFER POOL:
SIZE 0K HIGH  0K LIMIT  9999K OVERFLOW  0K
LUMP BUFFER POOL:
SIZE 32K HIGH  32K LIMIT  NONE OVERFLOW  0K
LUMC BUFFER POOL:
SIZE 0K HIGH  32K LIMIT  NONE OVERFLOW  0K

Example 5 for /DISPLAY POOL Command

Entry ET:

/DISPLAY POOL DBAS

Response ET:

SEQUENTIAL BUFFERING:  STATUS = NOT INIT
MAX N.A. FREE N.A. CURR OK HIGH 0K
OSAM DB BUFFER POOL: ID BSIZE 2K NBUF 4 FX=N/N
  LCTREQ 0 NEWBLK 0 ALTREQ 0
  PURGQR 0 FNDIPL 0 BFSRCH 0
  ROREQ 0 BFSTLW 0 PURGWR 0
  WBSYID 0 WBSYWR 0 WBSYRD 0
  WRLSEQ 0 WNOBFER 0 ERRORS 00000/00000
OSAM DB BUFFER POOL: ID BSIZE 6K NBUF 4 FX=N/N
  LCTREQ 0 NEWBLK 0 ALTREQ 0
  PURGQR 0 FNDIPL 0 BFSRCH 0
  ROREQ 0 BFSTLW 0 PURGWR 0
  WBSYID 0 WBSYWR 0 WBSYRD 0
  WRLSEQ 0 WNOBFER 0 ERRORS 00000/00000
OSAM DB BUFFER POOL: ID BSIZE 8K NBUF 4 FX=N/N
  LCTREQ 0 NEWBLK 0 ALTREQ 0
  PURGQR 0 FNDIPL 0 BFSRCH 0
  ROREQ 0 BFSTLW 0 PURGWR 0
  WBSYID 0 WBSYWR 0 WBSYRD 0
  WRLSEQ 0 WNOBFER 0 ERRORS 00000/00000
OSAM DB BUFFER POOL: BSIZE ALL NBUF 12 OSM= 64K
  LCTREQ 0 NEWBLK 0 ALTREQ 0
  PURGQR 0 FNDIPL 0 BFSRCH 0
  ROREQ 0 BFSTLW 0 PURGWR 0
  WBSYID 0 WBSYWR 0 WBSYRD 0
  WRLSEQ 0 WNOBFER 0 ERRORS 00000/00000
VSAM DB BUFFER POOL: ID XXXX BSIZE 1K TYPE D FX=N/N/N/N
  RRBA 0 RKEY 0 BFALT 0
  NREC 0 SYNC PT 0 NBUFFS 8
  VRDS 0 FOUND 0 VWTS 0
  HSR-S 0 HSW-S 0 HS NBUFFS 0
  HS R/W-FAIL 000000/000000 ERRORS 000000/000000
VSAM DB BUFFER POOL: ID XXXX BSIZE 2K TYPE D FX=N/N/N/N
  RRBA 0 RKEY 0 BFALT 0

Chapter 20. /DISPLAY  313
Examples for /DISPLAY POOL Command

Example 6 for /DISPLAY POOL Command
Entry ET:
/DISPLAY POOL DBB

Response ET:
NAME SP# CURR MAX GETS FREES
PDIR 231 36K 36K 1 0
DDIR 231 28K 28K 1 0
SMB 231 61K 61K 1 0
BQEL 231 0K 0K 0 0
IEQE 0 0K 0K 0 0
EQEL 241 0K 0K 0 0
DDRE 0 0K 0K 0 0
CLASS = DBB GLBL 125K LCL 0K
CBT POOLS GLBL 1187K LCL 662K
*91051/161027*

Example 7 for /DISPLAY POOL Command
Entry ET:
/DISPLAY POOL DCC

Response ET:
NAME SP# CURR MAX GETS FREES
PCI8 0 0K 0K 0 0
VTCB 251 305K 305K 0 0
RECA 0 19K 19K 1 0
LND 251 16K 16K 4 0
AHDR 251 0K 0K 0 0
IAFP 231 0K 0K 0 0
RACW 231 0K 0K 0 0
LUB 251 0K 0K 0 0
TIB 251 28K 28K 1 0
DESC 251 0K 0K 0 0
P62 251 0K 0K 0 0
QAB 251 0K 0K 0 0
CBLK 251 0K 0K 0 0
CLASS = DCC GLBL 0K LCL 368K
CBT POOLS GLBL 1187K LCL 662K
*91051/161038*

Example 8 for /DISPLAY POOL Command
Entry ET:
/DISPLAY POOL MFP
Examples for /DISPLAY POOL Command

Response ET:
MESSAGE FORMAT POOL: SIZE  49152 SPACE  48576 DIRS 9011
REQ1 2 I/O 2 DIR 4
WAIT 2 FREE 48432 ERR 0
*91051/172502*

Example 9 for /DISPLAY POOL Command
Entry ET:
/DISPLAY POOL MFP CIOP MAIN

Response ET:
MESSAGE FORMAT POOL: SIZE  49152 SPACE  48576 DIRS 9011
REQ1 2 I/O 2 DIR 4
WAIT 2 FREE 48432 ERR 0
CIOP BUFFER POOL:
SIZE 96K HIGH 96K LIMIT 999K OVERFLOW 0K
MAIN BUFFER POOL:
SIZE 40K FREE 40K HIGH 5K
*91051/160913*

Example 10 for /DISPLAY POOL Command
Entry ET:
/DISPLAY POOL MFP STAT

Response ET:
MFBP BUFFER POOL:
 0170 00000000 00000002 00000002 00000000 00000000 00000000 00000000 00000000
 0190 00000000 00000000 00000000 00000002 00000000 00000000 00000000 00000000
 01B0 00000000 00000001
*91051/160913*

Example 11 for /DISPLAY POOL Command
Entry ET:
/DISPLAY POOL PSBP

Response ET:
PSBP BUFFER POOL:
SIZE 80K FREE 80K HIGH 0K
DPSB BUFFER POOL:
SIZE 160K FREE 160K HIGH 0K
*91051/161048*

Example 12 for /DISPLAY POOL Command
Entry ET:
/DISPLAY POOL QBUF

Response ET:
MESSAGE QUEUE POOL: BFRS/SIZE 20/2112 SYS3
ENQ 18 DEQ 18 CAN 52 WAIT 0 I/O 15 ERR 0
QBLKS: MAX # RECORDS AVAIL  5 CUR IN USE 3 = 60 %
SMSGQ: MAX # RECORDS AVAIL 262167 CUR IN USE 4 = 0 %
LMSGQ: MAX # RECORDS AVAIL 524293 CUR IN USE 2 = 0 %
*91051/172432*
Examples for /DISPLAY POOL Command

Example 13 for /DISPLAY POOL Command

Entry ET:
/DISPLAY POOL QBUF STAT

Response ET:
QBUF BUFFER POOL:
0054 00000000 0000005E 00000126 00000001 00000000 00000007 00000008
0074 00000008 00000000 00000000 00000000 00000000 00000000 00000000
0094 00000000 00000000 00000000 00000000 00000000 00000000 00000000
00B4 00000035 00000000 00000000 00000000 00000000 00000000 00000000
*91051/172440* SYS3

Example 14 for /DISPLAY POOL Command

Entry ET:
/DISPLAY POOL SUM

Response ET:
CBT POOLS    GLBL  1187K  LCL   662K
CLASS = OSAM    GLBL  28K  LCL    0K
CLASS = GEN    GLBL  724K  LCL   54K
CLASS = DEP    GLBL  216K  LCL    0K
CLASS = DISP    GLBL  88K  LCL  128K
CLASS = DBB    GLBL  125K  LCL    0K
CLASS = DCC    GLBL    0K  LCL  368K
CLASS = FP    GLBL    7K  LCL    0K
*91051/161003*

Example for /DISPLAY PROGRAM Command

Entry ET:
/DISPLAY PROGRAM APOL1 DBFSAMP3 BMP255

Response ET:

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>TRAN</th>
<th>TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>APOL1</td>
<td>APOL11</td>
<td>TP</td>
</tr>
<tr>
<td></td>
<td>APOL12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>APOL13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>APOL14</td>
<td></td>
</tr>
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<td>APOL15</td>
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<tr>
<td></td>
<td>APOL16</td>
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</tr>
<tr>
<td></td>
<td>APOL17</td>
<td></td>
</tr>
<tr>
<td></td>
<td>APOL18</td>
<td></td>
</tr>
<tr>
<td>DBFSAMP3</td>
<td>FPSAMP1</td>
<td>FPM</td>
</tr>
<tr>
<td>BMP255</td>
<td>TRAN255</td>
<td>BMP</td>
</tr>
<tr>
<td></td>
<td>TXCD255</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TXCD255W</td>
<td></td>
</tr>
</tbody>
</table>
*90288/140450* SYS3

Entry ET:
/DISPLAY PROGRAM ALL

Response ET:

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>TRAN</th>
<th>TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A02TP</td>
<td>TSTD2A</td>
<td>TP  NOTINIT</td>
</tr>
<tr>
<td></td>
<td>TSTD2R1</td>
<td></td>
</tr>
<tr>
<td>APOL1</td>
<td>APOL11</td>
<td>TP  NOTINIT</td>
</tr>
<tr>
<td></td>
<td>APOL12</td>
<td></td>
</tr>
<tr>
<td>A3270</td>
<td>A3270</td>
<td>TP  NOTINIT</td>
</tr>
<tr>
<td></td>
<td>3270S</td>
<td></td>
</tr>
<tr>
<td>BMAAJK41</td>
<td>BHE4</td>
<td>TP  NOTINIT</td>
</tr>
</tbody>
</table>

316 Command Reference
Example for /DISPLAY PROGRAM Command

Entry ET:
/DISPLAY PSB DDLTLM06 DDLTLM07

Response ET:

<table>
<thead>
<tr>
<th>PSB-NAME</th>
<th>TRancode</th>
<th>RTCODE</th>
<th>DBD-NAME</th>
<th>ACCESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDLTLM06</td>
<td>TXCDLM06</td>
<td>TXCDLM06</td>
<td>MSDBLM01</td>
<td>R/W</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MSDBLM02</td>
<td>R/W</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MSDBLM03</td>
<td>R/W</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MSDBLM01</td>
<td>R/W</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MSDBLM04</td>
<td>R/W</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MSDBLM04</td>
<td>R/W</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MSDBLM05</td>
<td>R/W</td>
</tr>
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<td>R/W</td>
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<td>R/W</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MSDBLM06</td>
<td>R/O</td>
</tr>
</tbody>
</table>

| DDLTLM07 | TXCDLM07 | TXCDLM07 | MSDBLM01 | R/W |
|          |          |          | MSDBLM02 | R/W |
|          |          |          | MSDBLM03 | R/W |
|          |          |          | MSDBLM01 | R/W |
|          |          |          | MSDBLM04 | R/W |
|          |          |          | MSDBLM04 | R/W |
|          |          |          | MSDBLM05 | R/W |
|          |          |          | MSDBLM05 | R/W |
Example for /DISPLAY PSB Command

This example shows the display of all physical terminals that are being traced.

Entry ET:
/DISPLAY PTERM TRA

Response ET:

<table>
<thead>
<tr>
<th>LIN/PTED TYPE</th>
<th>ADDR</th>
<th>RECE</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
<th>SENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2- 1 2740-II</td>
<td>***</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>STOPPED INOP</td>
</tr>
<tr>
<td>2- 2 2740-II</td>
<td>***</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>STOPPED INOP</td>
</tr>
<tr>
<td>1- 1 2740-II</td>
<td>***</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>STOPPED INOP</td>
</tr>
<tr>
<td>1- 2 2740-II</td>
<td>***</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>STOPPED INOP</td>
</tr>
</tbody>
</table>

Example 1 for /DISPLAY Q Command

Entry ET:
/DISPLAY Q

Response ET:

<table>
<thead>
<tr>
<th>CLS CT PTY CT MSG CT TRAN CT</th>
</tr>
</thead>
<tbody>
<tr>
<td>3   5  28  8</td>
</tr>
</tbody>
</table>

Entry ET:
/DISPLAY Q BALGRP

Response ET:

<table>
<thead>
<tr>
<th>BALGRP NO.RGNS MSG CT ENQ COUNT DEQ COUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDLTM06 1 1 2 1</td>
</tr>
<tr>
<td>DDLTM07 1 0 0 0</td>
</tr>
</tbody>
</table>

Entry ET:
/DISPLAY Q BALGRP QCNT

Response ET:

<table>
<thead>
<tr>
<th>BALGRP GBLQCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMQFP1 2</td>
</tr>
<tr>
<td>SMQFP2 3</td>
</tr>
</tbody>
</table>

Entry ET:
/DISPLAY Q CLASS ALL

Response ET:
Examples for /DISPLAY Q Command

<table>
<thead>
<tr>
<th>CLS</th>
<th>PTY CT</th>
<th>MSG CT</th>
<th>TRAN CT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><em>90253/103855</em></td>
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<td></td>
</tr>
</tbody>
</table>

Entry ET:
/DISPLAY Q CLASS 1 2

Response ET:
<table>
<thead>
<tr>
<th>CLS</th>
<th>PTY CT</th>
<th>MSG CT</th>
<th>TRAN CT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><em>90253/103913</em></td>
<td></td>
<td></td>
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</tbody>
</table>

Entry ET:
/DISPLAY Q PRIORITY ALL

Response ET:
<table>
<thead>
<tr>
<th>CLS</th>
<th>PTY</th>
<th>MSG CT</th>
<th>TRAN CT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><em>90253/103945</em></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Entry ET:
/DISPLAY Q PRIORITY 10

Response ET:
<table>
<thead>
<tr>
<th>CLS</th>
<th>PTY</th>
<th>MSG CT</th>
<th>TRAN CT</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>10</td>
<td>18</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>*90253/1104016</td>
<td></td>
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</tr>
</tbody>
</table>

Entry ET:
/DISPLAY Q CLASS 4 PRIORITY 10

Response ET:
<table>
<thead>
<tr>
<th>CLS</th>
<th>PTY</th>
<th>MSG CT</th>
<th>TRAN CT</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>10</td>
<td>18</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><em>90309/122418</em></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Entry ET:
/DISPLAY Q TRANSACTION

Response ET:
<table>
<thead>
<tr>
<th>CLS</th>
<th>PTY</th>
<th>MSG CT</th>
<th>TRAN</th>
<th>PSBNAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>10</td>
<td>3</td>
<td>10</td>
<td>CLOSE</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
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<td>10</td>
<td>ADDPART</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>4</td>
<td>10</td>
<td>PART</td>
</tr>
<tr>
<td>5</td>
<td>7</td>
<td>1</td>
<td>10</td>
<td>ADDINV</td>
</tr>
<tr>
<td>5</td>
<td>10</td>
<td>5</td>
<td>10</td>
<td>DLETINV</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>DFSSAM05</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DFSSAM04</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DFSSAM02</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DFSSAM04</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DFSSAM04</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><em>90243/110324</em></td>
</tr>
</tbody>
</table>

Entry ET:
/DISPLAY Q CLASS 3 5 TRANSACTION

Response ET:
Examples for /DISPLAY Q Command

Entry ET:
/DISPLAY Q CLASS 4 PRIORITY 10 11 TRANSACTION

Response ET:
CLS  PTY  MSG  CT  TRA N  PSBNAME
 4   10  2    ADDPART DFSSAM04
 4   10  4    PART  DFSSAM02
*90243/110343*

Entry ET:
/DISPLAY Q CLASS 1 2 3 PRIORITY 1

Response ET:
CLS  PTY  MSG  CT  TRAN  CT
 1   1  2    1
 2   1  2    1
 3   1  4    1
*90253/104321*

Example 2 for /DISPLAY Q Command

Entry ET:
/DISPLAY QUEUE TRANSACTION

Response ET:
CLS  PTY  MSG  CT  TRAN  PSBNAME
 20  5   2    TPN1  DFSCPIC
 20  2   5    TPN2  SAAPS81
 22  3   7    TPN3  SAAPS82
*90322/114253*

Example for /DISPLAY QCNT Command

Entry ET:
/DISPLAY QCNT LTERM MSGAGE 5

Response ET:
QUEUENAME  QCNT-TOTAL  QCNT-AGED  TSTMP-OLD  TSTMP-NEW
TESTLTEA   1    1  95280/132006  95280/132006
LTERMA    100  100 95275/080000  95281/212224
*L95290/132006*

Entry ET:
/DIS QCNT APPC MSGAGE 0

Response ET:
QUEUENAME  QCNT-TOTAL  QCNT-AGED  TSTMP-OLD  TSTMP-NEW
TMSTMP- SYS3  16  16  02192/080833  02192/080928
LUNAME: L62MVS1
TPNAME: TPNAME123
Example for /DISPLAY QCNT Command

Entry ET:
/DISP QCNT TRANSACTION MSGAGE 5

Response ET:

<table>
<thead>
<tr>
<th>QUEUENAME</th>
<th>QCNT-TOTAL</th>
<th>QCNT-AGED</th>
<th>TSTMP-OLD</th>
<th>TSTMP-NEW</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRANA</td>
<td>20</td>
<td>20</td>
<td>95200/132006</td>
<td>95280/132006</td>
</tr>
<tr>
<td>TRANBBBB</td>
<td>4</td>
<td>4</td>
<td>95274/083000</td>
<td>95275/091836</td>
</tr>
<tr>
<td>TRANSACA</td>
<td>220</td>
<td>220</td>
<td>95275/080000</td>
<td>95281/212224</td>
</tr>
<tr>
<td>TRANSDDD</td>
<td>13</td>
<td>0</td>
<td>95290/101455</td>
<td>95290/101456</td>
</tr>
<tr>
<td>TRANSEE</td>
<td>55</td>
<td>13</td>
<td>95277/152118</td>
<td>95290/114317</td>
</tr>
</tbody>
</table>

*95290/132006*

Entry ET:
/DISP QCNT OTMA MSGAGE 0

Response ET:

<table>
<thead>
<tr>
<th>QUEUENAME</th>
<th>QCNT-TOTAL</th>
<th>QCNT-AGED</th>
<th>TSTMP-OLD</th>
<th>TSTMP-NEW</th>
</tr>
</thead>
<tbody>
<tr>
<td>TMSTMP- SYS3</td>
<td>24</td>
<td>24</td>
<td>02192/083745</td>
<td>02192/083745</td>
</tr>
<tr>
<td>TMEMBER: VC5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TPIPE: CSQ0000D</td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*02192/083757*

Example 1 for /DISPLAY RECOVERY Command

In this example a /DISPLAY RECOVERY command is issued before a /RECOVER START for RCVTOKEN RECOV1 is issued.

Entry ET:
/DISP RECOVERY RCVTOKEN RECOV1

Response ET:

**** RECOVERY LIST INFORMATION ********************
<table>
<thead>
<tr>
<th>TOKEN</th>
<th>STATUS</th>
<th>ERROR- REC</th>
<th>TYPE</th>
<th>PROC</th>
<th>IC#</th>
<th>SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECOV1</td>
<td>FORMING</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**** RECOVERY LIST ENTRY INFORMATION **********************

<table>
<thead>
<tr>
<th>DATABASE DATA SET</th>
<th>START OPTION</th>
<th>STATUS</th>
<th>AUTH</th>
<th>SSID</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB23AR1</td>
<td>STAGLOBAL</td>
<td>NORMAL</td>
<td>NONE</td>
<td></td>
</tr>
<tr>
<td>DB23AR2</td>
<td>OFFLINE</td>
<td>NORMAL</td>
<td>NONE</td>
<td></td>
</tr>
<tr>
<td>DB23AR3</td>
<td>STAGLOBAL</td>
<td>NORMAL</td>
<td>NONE</td>
<td></td>
</tr>
<tr>
<td>DB23AR4</td>
<td>STALOCAL</td>
<td>NORMAL</td>
<td>NONE</td>
<td></td>
</tr>
<tr>
<td>DB23AR5</td>
<td>STALOCAL</td>
<td>NORMAL</td>
<td>NONE</td>
<td></td>
</tr>
<tr>
<td>DHVNTZ02 HIDAM</td>
<td>STAGLOBAL</td>
<td>NORMAL</td>
<td>NONE</td>
<td></td>
</tr>
<tr>
<td>DIVNTZ02 DBHVSAM1</td>
<td>OFFLINE</td>
<td>NORMAL</td>
<td>NONE</td>
<td></td>
</tr>
<tr>
<td>DXVNTZ02 XDLBT04I</td>
<td>STALOCAL</td>
<td>NORMAL</td>
<td>NONE</td>
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</tr>
</tbody>
</table>

*03127/153515*

Example 2 for /DISPLAY RECOVERY Command

In this example, a /DISPLAY RECOVERY command is issued before a /RECOVER START for RCVTOKEN RECOV1 is issued. Some of the database data sets in the recovery list are still authorized to two IMSs.

Entry ET:
/DISP RECOVERY RCVTOKEN RECOV1
Examples for /DISPLAY RECOVERY Command

Response ET:

**** RECOVERY LIST INFORMATION ***********************
TOKEN STATUS ERROR- REC TYPE PROC IC# SOURCE
RECOV1 FORMING N/A N/A N/A N/A
**** RECOVERY LIST ENTRY INFORMATION *******************
DATABASE DATA SET START OPTION STATUS AUTH SSID
DB23AR1 STAGLOBAL NORMAL N/A
DB23AR2 OFFLINE NORMAL N/A
DB23AR3 STAGLOBAL NORMAL N/A
DB23AR4 STALOCAL NORMAL N/A
DB23AR5 STALOCAL NORMAL N/A
DHWNTZ02 HIDAM STAGLOBAL NORMAL IMS1
                  IMS2
DIVNTZ02 DBHVSAM1 OFFLINE NORMAL IMS1
                  IMS2
DXVNTZ02 XDLBT04I STALOCAL NORMAL IMS1
                  IMS2
*03127/153515*

Example 3 for /DISPLAY RECOVERY Command

In this example, a /DISPLAY RECOVERY command is issued after a /RECOVER START RCVTOKEN RECOV1 ERRORCONT command was issued. This applies when IMS Online Recovery Service is the recovery product being used.

Entry ET:
/DISPLAY RECOVERY RCVTOKEN RECOV1

Response ET:

**** RECOVERY LIST INFORMATION ***********************
TOKEN STATUS ERROR- REC TYPE PROC IC# SOURCE
RECOV1 STARTED CONT FULL RTDB 0 PRI
**** RECOVERY PROGRESS INFORMATION **********************
TOKEN PROGRESS INFORMATION RCVTIME
RECOV1 2000.251 07:57:00.3 N/A
**** RECOVERY LIST ENTRY INFORMATION *******************
DATABASE DATA SET START OPTION STATUS AUTH SSID
DB23AR1 STAGLOBAL NORMAL N/A
DB23AR2 OFFLINE NORMAL N/A
DB23AR3 STAGLOBAL NORMAL N/A
DB23AR4 STALOCAL NORMAL N/A
DB23AR5 STALOCAL NORMAL N/A
DHWNTZ02 HIDAM STAGLOBAL NORMAL IMS1
                  IMS2
DIVNTZ02 DBHVSAM1 OFFLINE NORMAL IMS1
                  IMS2
DXVNTZ02 XDLBT04I STALOCAL NORMAL IMS1
                  IMS2
*03127/153515*

In this example, a /DISPLAY RECOVERY command is issued after a /RECOVER START RCVTOKEN RECOV1 ERRORCONT command was issued. This applies when the IMS Database Recovery Facility is the recovery product being used.

Entry ET:
/DISPLAY RECOVERY RCVTOKEN RECOV1

Response ET:

**** RECOVERY LIST INFORMATION ***********************
TOKEN STATUS ERROR- REC TYPE PROC IC# SOURCE
RECOV1 STARTED CONT FULL RTDB 0 PRI
**** RECOVERY PROGRESS INFORMATION **********************
TOKEN PROGRESS INFORMATION RCVTIME
RECOV1 0003 OF 0008 RESTORED N/A
**** RECOVERY LIST ENTRY INFORMATION *******************
Example 4 for /DISPLAY RECOVERY Command

In this example, a /DISPLAY RECOVERY command is issued after a /RECOVER START ERRORCONT command was issued. Also a /RECOVER STOP command was issued for DHVNTZ02, and DB23AR2 failed during recovery using the IMS Online Recovery Service.

Entry ET:
/DISPLAY RECOVERY RCVTOKEN RECOV1

Response ET:

**** RECOVERY LIST INFORMATION ***********************
  TOKEN  STATUS  ERROR- REC  TYPE  PROC  IC#  SOURCE
  RECOV1  STARTED  CONT  FULL  RTDB  0  PRI
**** RECOVERY PROGRESS INFORMATION ***********************
  TOKEN  PROGRESS INFORMATION  RCVTIME
  RECOV1  2000.251 07:57:00.3  N/A

**** RECOVERY LIST ENTRY INFORMATION ***********************
  DATABASE DATA SET  START OPTION  STATUS  AUTH  SSID
  DB23AR1  STAGLOBAL  NORMAL  N/A
  DB23AR2  OFFLINE  FAILED  N/A
  DB23AR3  STAGLOBAL  NORMAL  N/A
  DB23AR4  STALOCAL  NORMAL  N/A
  DB23AR5  STALOCAL  NORMAL  N/A
  DHVNTZ02 HIDAM  STAGLOBAL  STOPPED  N/A
  DIVNTZ02 DBHVSAM1  OFFLINE  NORMAL  N/A
  DXVNTZ02 XDLBT04I  STALOCAL  NORMAL  N/A
+03127/153515*

Example 5 for /DISPLAY RECOVERY Command

In the example below, a /DISPLAY RECOVERY ALL command is issued after three lists are created using the IMS Online Recovery Service recovery product. One of the lists (RECOV2) is undergoing TSR.

Entry ET:
/DISPLAY RECOVERY ALL

Response ET:

**** RECOVERY LIST INFORMATION ***********************
  TOKEN  STATUS  ERROR- REC  TYPE  PROC  IC#  SOURCE
  RECOV1  FORMING  N/A  N/A  N/A  N/A
  RECOV2  STARTED  ABORT  TSR  RTDB  0  PRI
  RECOV3  FORMING  N/A  N/A  N/A  N/A
**** RECOVERY PROGRESS INFORMATION ***********************
  TOKEN  PROGRESS INFORMATION  RCVTIME
  RECOV2  2003.127 07:57:00.3 2003.127 08:30:00.0
**** RECOVERY LIST ENTRY INFORMATION ***********************
  DATABASE DATA SET  START OPTION  STATUS  AUTH  SSID
  DB23AR1  STAGLOBAL  NORMAL  N/A
  DB23AR2  OFFLINE  NORMAL  N/A
  DB23AR3  STAGLOBAL  NORMAL  N/A

Example 4 for /DISPLAY RECOVERY Command

Example 5 for /DISPLAY RECOVERY Command
Examples for /DISPLAY RECOVERY Command

In the following example, a /DISPLAY RECOVERY ALL command is issued after three lists are created using the IMS Database Recovery Facility recovery product. In this case, the IMS Database Recovery Facility has processed 76 of the 126 logs that will need to be read. One of the lists (RECOV2) is undergoing TSR.

/DISPLAY RECOVERY ALL

**** RECOVERY LIST INFORMATION ***********************
TOKEN      STATUS  ERROR-REC  TYPE  PROC  IC#  SOURCE
RECOV1    FORMING  N/A       N/A  N/A  N/A
RECOV2    STARTED   CONT  TSR   RTDB  0  PRI
RECOV3    FORMING  N/A       N/A  N/A  N/A

**** RECOVERY PROGRESS INFORMATION *******************
TOKEN      PROGRESS INFORMATION  RCVTIME
RECOV2  0076 OF 0125 LOGS READ 2003.127 08:30:00.0

**** RECOVERY LIST ENTRY INFORMATION *******************
DATABASE DATA SET  START OPTION  STATUS  AUTH  SSID
DB23AR1       STAGLOBAL  NORMAL  N/A
DB23AR2       OFFLINE    NORMAL  N/A
DB23AR3       STAGLOBAL  NORMAL  N/A
DB23AR4       STALOCAL   NORMAL  N/A
DB23AR5       STALOCAL   NORMAL  N/A
DHVNTZ02      STAGLOBAL  NORMAL  N/A
DIVNTZ02      DBHVSAM1  OFFLINE  NORMAL  N/A
DXVNTZ02      XDLBT04I  STALOCAL  NORMAL  N/A

*03127/153515*

Example 6 for /DISPLAY RECOVERY Command

In the example below, a /DISPLAY RECOVERY command is issued after three lists are created. No other parameters are specified.

Entry ET:
/DISPLAY RECOVERY ALL

Response ET:

**** RECOVERY LIST INFORMATION ***********************
TOKEN      STATUS  ERROR-REC  TYPE  PROC  IC#  SOURCE
RECOV1    FORMING  N/A       N/A  N/A  N/A
RECOV2    FORMING  N/A       N/A  N/A  N/A
RECOV3    FORMING  N/A       N/A  N/A  N/A

*03127/153515*

Example 7 for /DISPLAY RECOVERY Command

In the example below, a /DISPLAY RECOVERY ALL command is issued when no recovery lists exist.

Entry ET:
/DISPLAY RECOVERY ALL

Response ET:
Example 8 for /DISPLAY RECOVERY Command

In the example below, a /DISPLAY RECOVERY RCVTOKEN RECOV3 is issued when the RCVTOKEN does not exist.

Entry ET:

/DISPLAY RECOVERY RCVTOKEN RECOV3

Response ET:

**** RECOVERY LIST INFORMATION ***********************
TOKEN STATUS ERROR- REC TYPE PROC IC# SOURCE
**** RECOVERY LIST INFORMATION ***********************
TOKEN STATUS ERROR- REC TYPE PROC IC# SOURCE
RECOV3 UNKNOWN N/A N/A
*03127/153515*

Example for /DISPLAY RTCODE Command

Entry ET:

/DISPLAY RTCODE ALL

Response ET:

RTCODE PROGRAM STATUS
DCL EMHPSB NOTSCHED,STOPPED
EMHCOBOL EMHCOBOL NOTSCHED,STOPPED
EMHPLI EMHPLI NOTSCHED,STOPPED
EMHTX EMHPSB NOTSCHED,STOPPED
TXCDLM06 DDLTLM06 STOPPED
TXCDLM07 DDLTLM07 STOPPED
*91068/114840*

Example 1 for /DISPLAY SHUTDOWN STATUS Command

Entry ET:

/DISPLAY SHUTDOWN STATUS

Response ET:

DFS134 SHUTDOWN CHECKPOINT NOT IN PROGRESS,
CANNOT PROCESS COMMAND

Entry ET:

/DISPLAY SHUTDOWN STATUS

Response ET:

SYSTEM PURGING

TERMINAL USER STATUS
  5-  1   INPUT IN PROCESS
  5-  2   INPUT IN PROCESS
  11- 1   OUTPUT IN PROCESS
TERMINAL USER STATUS
Examples for /DISPLAY SHUTDOWN STATUS Command

```
ENTRY ET:
/DISPLAY SHUTDOWN STATUS

RESPONSE ET:
TERMINAL USER STATUS
NSLUTP6 SPOOLA AWAITING RESPONSE
NSLUTP6 SPOOLB 5 MSGS IN QUEUE
NSLUTP6 SPOOLC INPUT IN PROCESS
NSLUTP6 SPOOLD OUTPUT IN PROCESS
*91111/222226*
```

Example 2 for /DISPLAY SHUTDOWN STATUS Command

```
ENTRY ET:
/DISPLAY SHUTDOWN STATUS

RESPONSE ET:
TERMINAL USER STATUS
5- 1 INPUT IN PROCESS
5- 2 INPUT IN PROCESS
11- 1 OUTPUT IN PROCESS
TERMINAL USER STATUS
LINK 10 OUTPUT IN PROCESS
MSG-IN 2 MSG-OUT 2
MASTER ACTIVE
CPI TRAN TRNCODE1 ACTIVE IN REGID 1
CPI TRAN TRNCODE2 ACTIVE IN REGID 4
IMSLU=L62IMS #APPC-CONV= 8 ENABLED
LUNAME STATUS
LUNAME1 3 CONVERSATION(S) IN PROCESS
LUNAME1 1 OUTPUT IN PROCESS
LUNAME2 4 CONVERSATION(S) IN PROCESS
*90332/114253*
```

```
ENTRY ET:
/DISPLAY SHUTDOWN STATUS

RESPONSE ET:
TERMINAL SUBPOOL STATUS
5- 1 INPUT IN PROCESS
5- 2 INPUT IN PROCESS
11- 1 OUTPUT IN PROCESS
TERMINAL SUBPOOL STATUS
LINK 10 OUTPUT IN PROCESS
MSG-IN 2 MSG-OUT 2
MASTER ACTIVE
CPI TRAN TRNCODE1 ACTIVE IN REGID 1
CPI TRAN TRNCODE2 ACTIVE IN REGID 4
IMSLU=SYS1.IMSLUNME #APPC-CONV= 8 ENABLED
LUNAME STATUS
NETWORK1.LUNAME1 3 CONVERSATION(S) IN PROCESS
NETWORK1.LUNAME1 1 OUTPUT IN PROCESS
NETWORK1.LUNAME2 4 CONVERSATION(S) IN PROCESS
*92232/114253*
```
Example 3 for /DISPLAY SHUTDOWN STATUS Command

Entry ET:

/DISPLAY SHUTDOWN STATUS

Response ET:

TERMINAL USER STATUS
1- 1 INPUT IN PROCESS
TERMINAL USER STATUS
NO OUTPUTTING LINES
MSG-IN 1 MSG-OUT 0
MASTER ACTIVE
OTMA PHASE=2
COMMIT 0 TEMBER=CLIENT1 TPIPE=TPipe1
*94298/174604*

Example 1 for /DISPLAY STATUS Command

Entry ET:

/DISPLAY STATUS

Response ET:

**TRAN****PSBNAME
STATUS UNRESTRICTED
**DATABASE**
BMACC1 NOTOPEN,NOTINIT,STOPPED
DED801
-AREA01 RECOVERY-NEEDED
DEDEB03
-AREA02
ADS01 PRE-OPEN FAILED
DED804 NOTOPEN,STOPPED
-AREA01 RECOVERY-NEEDED
ADS01 UNAVAILABLE
**PROGRAM***
HIMASN01 STOPPED
SWITCH STOPPED
**NODE****
CT3275 DISCONNECTED
CT3277A DISCONNECTED
CT3277B SHUT
W612 DISCONNECTED
**LINE******
4 STOPPED,IDLE
5 STOPPED,IDLE,NOTOPEN
8 STOPPED,IDLE
10 STOPPED,IDLE,NOTOPEN
**PTERM*****
3 1 INOP, STOPPED
3 2 INOP, STOPPED
4 2 INOP, PSTOPPED
5 1 INOP, STOPPED
5 2 INOP, STOPPED
6 1 INOP, STOPPED
**LTERM*****
LU6A STOPPED
VA01 QLOCK
**CLASS*****
2 STOPPED
**RTCODE*****
STATUS UNRESTRICTED
**LINK******
1 PSTOPPED,IDLE,NOTOPEN
3 PSTOPPED,IDLE,COLD
4 PSTOPPED,IDLE,N/A
Examples for /DISPLAY STATUS Command

5  PSTOPPED, IDLE, NOTOPEN
**MSNAME****
STATUS UNRESTRICTED
**USER******
STATUS UNRESTRICTED
**LUNAME**TPNAME****
STATUS UNRESTRICTED
*92198/132223*

Example 2 for /DISPLAY STATUS Command

Entry ET:
/DISPLAY STATUS DATABASE

Response ET:
**DATABASE**
DED801
-AREA01  STOPPED
DED802
-AREA02  NOTOPEN
-AREA03
  ADS03  PRE-OPEN FAILED
DED803
-AREA05  STOPPED, NOTOPEN
  ADS03  PRE-OPEN FAILED
  ADS08  UNAVAILABLE
DED804  STOPPED
DED805  NOTOPEN, NOTINIT
-AREA01  STOPPED
-AREA08  STOPPED, NOTOPEN
DED806  STOPPED
-AREA03
  ADS03  UNAVAILABLE
DED80777  NOTOPEN, LOCK
-AREA0555  STOPPED, NOTOPEN
  ADS03333  SEVERE ERROR
  ADS08888  UNAVAILABLE
*90263/092128*

Example 3 for /DISPLAY STATUS Command

Entry ET:
/DISPLAY STATUS LUNAME

Response ET:
**LUNAME/TPNAME**
LU2
-TPN2  STO
LU5
-TPNAME1234567890+  STO
1234567890
LU3  STO-INP
LU4  STO-OUTP
LU1  STO-INP, STO-OUTP
*95229/155100*

Entry ET:
/DISPLAY STATUS LUNAME

Response ET:
**LUNAME/TPNAME**
LU2  STO-INP, STO-OUTP
-TPN2  STO
Examples for /DISPLAY STATUS Command

Example 4 for /DISPLAY STATUS Command

Entry ET:
/DISPLAY STATUS NODE

Response ET:
**NODE******
NLU6S DISCONNECTED
TLP1 STOPPED, DISCONNECTED
NLU1 STOPPED, DISCONNECTED
NLU1P -A HELD
-N/A STOPPED, DISCONNECTED
-E FORCE
-C
*90231/040059*

Entry ET:
/DISPLAY STATUS RTCODE

Response ET:
**RTCODE****
DCL STOPPED
EMHCDBL STOPPED
EMHPLI STOPPED
EMHTX STOPPED
TXDBP04 STOPPED
TXDBP05 STOPPED
TXDBP06 STOPPED
*91068/114900*

Example 5 for /DISPLAY STATUS Command

Entry ET:
/DISPLAY STATUS TMEMBER

Response ET:
**TMEMBER/TPIPE**
CLIENT1 -TPIPE1 STO
*94168/095431*

Example 6 for /DISPLAY STATUS Command

Entry ET:
/DISPLAY STATUS TRANSACTION

Response ET:
**TRAN****PSBNAME
TPN4 DFSCPIC PUR
TPN5 DFSCPIC STOPPED
Examples for /DISPLAY STATUS Command

TPN6   DFSCPIC I/O PREVEN
TPN7   DFSCPIC USTOPPED
TRAN1  LU2PGM1 PSTOPPED
TRAN2  LU2PGM2 PSTOPPED
*90332/114253*

Example for /DISPLAY STRUCTURE Command

Entry ET:
/DISPLAY STRUCTURE ALL

Response ET:

<table>
<thead>
<tr>
<th>STRUCTURE NAME</th>
<th>TYPE</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSGQ1</td>
<td>MSGQ</td>
<td>CONNECTED, AVAILABLE, SHUTDOWN-STRCHKPT</td>
</tr>
<tr>
<td>EMHQ1</td>
<td>EMHQ</td>
<td>CONNECTED, AVAILABLE, IN-OVERFLOW</td>
</tr>
</tbody>
</table>
*95200/170817*

Entry ET:
/DISPLAY STRUCTURE MSGQ111 EMHQ1

Response ET:

<table>
<thead>
<tr>
<th>STRUCTURE NAME</th>
<th>TYPE</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSGQ111</td>
<td>INVALID</td>
<td></td>
</tr>
<tr>
<td>EMHQ1</td>
<td></td>
<td>DISCONNECTED</td>
</tr>
</tbody>
</table>
*95201/121800*

Example 1 for /DISPLAY SUBSYS Command

Entry ET:
/DISPLAY SUBSYS ALL

Response ET:

<table>
<thead>
<tr>
<th>SUBSYS</th>
<th>CRC</th>
<th>REGID</th>
<th>PROGRAM</th>
<th>LTERM</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSTR</td>
<td>?</td>
<td></td>
<td></td>
<td></td>
<td>CONN</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 DDLTM17 PTERM01 CONN, ACTIVE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 DDLTMG6 PTERM02 CONN</td>
</tr>
</tbody>
</table>
*89202/065933*

Example 2 for /DISPLAY SUBSYS Command

Entry ET:
/DISPLAY SUBSYS XXX1 XXX3

Response ET:

<table>
<thead>
<tr>
<th>SUBSYS</th>
<th>CRC</th>
<th>REGID</th>
<th>PROGRAM</th>
<th>LTERM</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>XXX1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>CONN</td>
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<tr>
<td>XXX3</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>CONN</td>
</tr>
</tbody>
</table>
*90083/154241*

Example for /DISPLAY SYSID Command

Entry ET:
/DISPLAY SYSID TRANSACTION SKS1 SKS2 SKS3 SKS4

Response ET:
Example for /DISPLAY TIMEOVER Command

Entry ET:

/DISPLAY TIMEOVER 10

Response ET:

<table>
<thead>
<tr>
<th>NODE</th>
<th>USER</th>
<th>TYPE</th>
<th>LAST OUTPUT</th>
<th>START TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLU1A</td>
<td>N/A</td>
<td>SLU1</td>
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<tr>
<td>LU6NDPC</td>
<td>LU6SPC</td>
<td>LUT6</td>
<td>88118/095921</td>
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<tr>
<td>SLU1C</td>
<td>N/A</td>
<td>SLU1</td>
<td>88118/095929</td>
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<tr>
<td>SLU1B</td>
<td>N/A</td>
<td>SLU1</td>
<td>88118/095937</td>
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<tr>
<td>SLU1D</td>
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<td>88118/095943</td>
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<tr>
<td>LU6NDPA</td>
<td>LU6SPA</td>
<td>LUT6</td>
<td>88118/095949</td>
<td></td>
</tr>
</tbody>
</table>

Example 1 for /DISPLAY TMEMBER Command

Entry ET:

/DISPLAY TMEMBER ALL

Response ET:

GROUP/MEMBER       XCF-STATUS    USER-STATUS    SECURITY
APPL8              ACTIVE        SERVER        FULL
CLIENT1            ACTIVE        ACCEPT        TRAFFIC

Example 2 for /DISPLAY TMEMBER Command

Entry ET:

/DISPLAY TMEMBER CLIENT1 TPIPE ALL

Response ET:

MEMBER/TPIPE  ENQCT  DEQCT  QCT  STATUS
CLIENT1       -TPIPE1  0     0     0   TRA,STO
-CPIPE2  2     2     0   TRA,STO
-CPIPE3  1     0     1   TRA,STO

Example 1 for /DISPLAY TRACE Command

Entry ET:

/DISPLAY TRACE ALL

Response ET:

IMS ACTIVE TRACES

<table>
<thead>
<tr>
<th>LINE</th>
<th>TYPE</th>
<th>1</th>
<th>CONSOLE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
<td>3270</td>
<td>R</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LINK</th>
<th>PARTNER</th>
<th>2</th>
<th>AC</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>NODE</th>
<th>TYPE</th>
<th>USERS</th>
</tr>
</thead>
</table>
Examples for /DISPLAY TRACE Command

SLUP1  SLUP
LU6NDPA LUT6 N/A N/A N/A
VAT11  3277

NO PSB TRACES FOUND

MONITOR IS INACTIVE

TRAN CODE  PSB-NAME
ADDINV     DFSSAM04

PROGRAM NAME
APOL1
DEBS
TACP1

<table>
<thead>
<tr>
<th>TABLE</th>
<th>TRACE</th>
<th>LOGGING</th>
<th>ENTRIES</th>
<th>VOLUME</th>
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</thead>
<tbody>
<tr>
<td>RETR</td>
<td>ON</td>
<td>N/A</td>
<td>128/PST</td>
<td>N/A</td>
</tr>
<tr>
<td>DL/I</td>
<td>OFF</td>
<td>2268</td>
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<tr>
<td>DL/I</td>
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<td>LOCK</td>
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<td>PI</td>
<td>ON</td>
<td>LOW</td>
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<td></td>
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<td>OFF</td>
<td>1512</td>
<td>MEDIUM</td>
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<td>LOW</td>
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<td>SCHD</td>
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<td>OFF</td>
<td>630</td>
<td>OFF</td>
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<td>SUBS</td>
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<td>OFF</td>
<td>1008</td>
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<td>DLOG</td>
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<td>HIGH</td>
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<td>ICO</td>
<td>ON</td>
<td>OFF</td>
<td>2268</td>
<td>HIGH</td>
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<tr>
<td>LUMI</td>
<td>ON</td>
<td>OFF</td>
<td>1008</td>
<td>LOW</td>
</tr>
</tbody>
</table>

PI TRACE IS ACTIVE  OPTIONS: NOT LOGGED NOTIME VOLUME: MEDIUM

NO TRAP TRACES FOUND

IMS EXTERNAL TRACE IS USABLE

XTRC DNAME  ALLOC  STATUS  STATUS
DFSTRA01  DYNA  UNALLOCATED  CLOSED
DFSTRA02  DYNA  UNALLOCATED  CLOSED
DFSTRA0T  DYNA  UNALLOCATED  CLOSED

VTAM I/O TIMEOUT FACILITY IS INACTIVE
TCO IS NOT ACTIVE

LUNAME  TPNAME  TYPE
NO LUNAME TRACES FOUND

OSAMGTF TRACE IS INACTIVE
*94060/100733*

Example 2 for /DISPLAY TRACE Command

Entry ET:
/DISPLAY TRACE LINE LINK NODE

Response ET:
IMS ACTIVE TRACES

LINE  TYPE
1  CONSOLE
Example 3 for /DISPLAY TRACE Command

Entry ET:
/DISPLAY TRACE LUNAME

Response ET:
IMS ACTIVE TRACES

<table>
<thead>
<tr>
<th>LUNAME</th>
<th>TPNAME</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>LUNAME3</td>
<td>TPNAME1</td>
<td>INPUT</td>
</tr>
<tr>
<td>LUNAME3</td>
<td>TPNAME2</td>
<td>OUTPUT</td>
</tr>
<tr>
<td>LUNAME3</td>
<td>TPNAME3</td>
<td>OUTPUT</td>
</tr>
<tr>
<td>LUNAME4</td>
<td></td>
<td>INPUT</td>
</tr>
</tbody>
</table>

Entry ET:
/DISPLAY TRACE LUNAME

Response ET:
IMS ACTIVE TRACES

<table>
<thead>
<tr>
<th>LUNAME/TPNAME</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>NET1.LU1/TPN1</td>
<td>INP</td>
</tr>
<tr>
<td>NET2.LU1/TPN2</td>
<td>OUTP</td>
</tr>
<tr>
<td>LU3/TPN3</td>
<td>OUTP</td>
</tr>
<tr>
<td>LU3/TPN4</td>
<td>OUTP</td>
</tr>
<tr>
<td>NET4.LU3/TPN5</td>
<td>OUTP</td>
</tr>
<tr>
<td>NET5.LU5/TPN6</td>
<td>INP</td>
</tr>
</tbody>
</table>

*93069/114435*

Example 4 for /DISPLAY TRACE Command

Entry ET:
/DISPLAY TRACE OSAMGTF

Response ET:
IMS ACTIVE TRACES
OSAMGTF TRACE IS INACTIVE
*92107/090819*

Entry ET:
/TRACE SET ON OSAMGTF

Response ET:
DFS058I 09:08:32 TRACE COMMAND COMPLETED

Entry ET:
Examples for /DISPLAY TRACE Command

/DISPLAY TRACE OSAMGTF

Response ET:
IMS ACTIVE TRACES
OSAMGTF TRACE IS ACTIVE
*92107/090841*

Example 5 for /DISPLAY TRACE Command

Entry ET:
/DISPLAY TRACE MONITOR

Response ET:
IMS ACTIVE TRACES
MONITOR IS ACTIVE: LA SCHD APMQ APOB
   APOB dbname/partition-name/area-name ...
   REGION reg# ... region-name ... 
   INTERVAL #seconds EXPIRING hh:mm:ss.tt
*98029/114114*

Example 6 for /DISPLAY TRACE Command

Entry ET:
/TRACE SET ON TABLE QMGR
/TRACE SET ON TABLE SQTT
/DISPLAY TRACE TABLE

Response ET:
IMS ACTIVE TRACES
TABLE TRACE LOGGING ENTRIES VOLUME
RETR ON N/A 128/PST N/A
DL/I OFF 2268
   DL/I ON N/A MEDIUM
   LOCK ON N/A MEDIUM
   PI OFF N/A OFF
   LATC ON OFF 1512 MEDIUM
   DISP ON OFF 1260 MEDIUM
   SCHD ON OFF 630 MEDIUM
   SUBS OFF OFF 1008 OFF
   DLOG ON OFF 756 MEDIUM
   FAST OFF OFF 252 OFF
   STRG ON OFF 1260 MEDIUM
   IDCO OFF OFF 2268 OFF
   LUMI OFF OFF 1008 OFF
   OTMT OFF OFF 1008 OFF
   QMGR ON OFF 1008 MEDIUM
   SQTT ON OFF 1008 MEDIUM
*96225/153244*

Example 7 for /DISPLAY TRACE Command

Entry ET:
/DISPLAY TRACE TCO

Response ET:
IMS ACTIVE TRACES
TCO IS NOT ACTIVE
*89100/170509*
Example 8 for /DISPLAY TRACE Command
Entry ET:
   /DISPLAY TRACE TIMEOUT

Response ET:
   IMS ACTIVE TRACES
   VTAM I/O TIMEOUT FACILITY IS INACTIVE
   *89033/170200*

Example 9 for /DISPLAY TRACE Command
Entry ET:
   /DISPLAY TRACE TIMEOUT

Response ET:
   IMS ACTIVE TRACES
   VTAM I/O TIMEOUT FACILITY IS ACTIVE
      OPTION = NONE    TIMEOUT VALUE = 0
   *89110/131429*

Example 10 for /DISPLAY TRACE Command
Entry ET:
   /DISPLAY TRACE TIMEOUT

Response ET:
   IMS ACTIVE TRACES
   VTAM I/O TIMEOUT FACILITY IS ACTIVE
      OPTION = AUTO    TIMEOUT VALUE = 10
   *89033/170200*

Example 11 for /DISPLAY TRACE Command
Entry ET:
   /DISPLAY TRACE TIMEOUT

Response ET:
   IMS ACTIVE TRACES
   VTAM I/O TIMEOUT FACILITY IS ACTIVE
      OPTION = MSG     TIMEOUT VALUE = 60
   *89033/131630*

Example 12 for /DISPLAY TRACE Command
Entry ET:
   /DISPLAY TRACE TMEMBER

Response ET:
Examples for /DISPLAY TRACE Command

IMS ACTIVE TRACES

T MEMBER/T PIPE TYPE
CLIENT1         TRA
-T PIPE1         TRA
*94168/095325*

Example 13 for /DISPLAY TRACE Command

Entry ET:
/DISPLAY TRACE XTRC

Response ET:
IMS ACTIVE TRACES

IMS EXTERNAL TRACE IS USABLE
SYS3
XTRC DDNAME ALLOC STATUS       STATUS
DFSTRA01  DYN A UNALLOCATED    CLOSED
DFSTRA02  DYN A UNALLOCATED    CLOSED
DFSTRA0T  DYN A UNALLOCATED    CLOSED
*91091/124215*

Example 14 for /DISPLAY TRACE Command

Entry ET:
/DIS Trace EXIT

Response ET:
55/DIS TRACE EXIT

IEE600I REPLY TO 55 IS;/DIS TRACE EXIT
DFS000I   IMS ACTIVE TRACES IMS3
DFS000I   IMS3
DFS000I   EXIT FUNC STATUS IMS3
DFS000I   DFSMSCE0 TRBT ON IMS3
DFS000I   DFSMSCE0 TRVT ON IMS3
DFS000I   DFSMSCE0 TR62 OFF IMS3
DFS000I   DFSMSCE0 TROT OFF IMS3
DFS000I   DFSMSCE0 LRTR ON IMS3
DFS000I   DFSMSCE0 LRLT ON IMS3
DFS000I   DFSMSCE0 LRDI ON IMS3
DFS000I   DFSMSCE0 LRIN ON IMS3
DFS000I   DFSMSCE0 PRCN ON IMS3
DFS000I   DFSMSCE0 PRIS N/A IMS3
DFS000I   *99096/103002* IMS3
56 DFS096I *IMS READY* IMS3

Response ET:
39/DIS TRACE EXIT
IEE600I REPLY TO 39 IS;/DIS TRACE EXIT
DFS000I   IMS ACTIVE TRACES IMS3
DFS000I   IMS3
DFS000I   EXIT FUNC STATUS IMS3
DFS000I   DFSMSCE0 TRBT N/A IMS3
DFS000I   DFSMSCE0 TRVT N/A IMS3
DFS000I   DFSMSCE0 TR62 N/A IMS3
DFS000I   DFSMSCE0 TROT N/A IMS3
DFS000I   DFSMSCE0 LRTR N/A IMS3
DFS000I   DFSMSCE0 LRLT N/A IMS3
DFS000I   DFSMSCE0 LRDI N/A IMS3
DFS000I   DFSMSCE0 LRIN N/A IMS3

336 Command Reference
Example 1 for /DISPLAY TRACKING STATUS Command

The following is an example of a /DISPLAY TRACKING STATUS entered from a tracking subsystem in Los Angeles. The two active systems in San Jose are named IMSA and IMSC. IMSA has an XRF alternate named IMSB. IMSC has an XRF alternate named IMSD. The Coordinated Universal Time is 23:32:09. The local Los Angeles time is 15:32:09. OFR is also in progress and has started processing log data up through 14:11:34 local time.

Entry ET:

/DIS TRACKING STATUS

Response ET:

**** TRACKING SUBSYSTEM ****************************
IMSID READINESS-LEVEL GSG-NAME SG-NAME SG-STATUS
IMST RECOVERY IMSSG1 STLSITE2 IDENTIFIED
**** TRACKING STATUS: TRACKING
NUMBER OF ACTIVE SUBSYSTEMS: 4
**** TRACKING ACTIVITY ****************************
NAME TYPE RECEIVED-LOG ROUTED-LOG NOT-ROUTED STATUS
IMSD ONLINE N/A N/A N/A CONV-ACT
IMSC ACTIVE 15:31:00 15:29:54 2K CONV-ACT
IMSB ONLINE N/A N/A N/A CONV-ACT
IMSA ACTIVE 15:31:10 15:29:47 3K CONV-ACT
**** GAPS ****************************
NAME LOG-SEQ-FIRST IN-GAP RECEIVED NOT-ROUTED STATUS
IMSC 0000000000007D31 2K 0K N/A WAITING
**** ISOLATED LOG SENDER STATUS ****************************
SYSTEM NAME OF TRANSPORT MANAGER SUBSYSTEM: TMPAR
 NUMBER OF CONVERSATIONS: 1
**** ONLINE FORWARD RECOVERY STATUS ****************************
NUMBER OF STREAMS BEING PROCESSED: 0
OFR ROUTING TIME: 2002.090 14:11:34
**** MILESTONE INDEX STATUS ****************************
CURRENT MILESTONE INDEX: 38
RESTART MILESTONE INDEX: 37
**** DLI TRACKING STATUS ****************************
TRACKING PSTS: 0
USAGE OF TRACKING PSTS: 0%
BACKLOG OF REDO RECORDS IN DATASPACE: 0K
**** FP TRACKING STATUS ****************************
TRACKING PSTS: 0
CURRENT LOG VOLUME IN DATASPACE: 0K
MAX LOG VOLUME IN DATASPACE: 0K
*02090/153209*

Example 2 for /DISPLAY TRACKING STATUS Command

The following is an example of a /DISPLAY TRACKING STATUS command entered on an active system IMSC, located in San Jose.

See [“Example 1 for /DISPLAY ACTIVE Command” on page 274] for a description of the sample RSR environment.

Entry ET:

/DIS TRACKING STATUS
### Example 1 for /DISPLAY TRANSACTION Command

**Entry ET:**

```
/DISPLAY TRANSACTION ALL
```

**Response ET:**

```
<table>
<thead>
<tr>
<th>TRAN</th>
<th>CLS</th>
<th>ENQCT</th>
<th>QCT</th>
<th>LCT</th>
<th>PLCT</th>
<th>CP</th>
<th>NP</th>
<th>LP</th>
<th>SEGZ</th>
<th>SEGNO</th>
<th>PARLM</th>
<th>RC</th>
</tr>
</thead>
<tbody>
<tr>
<td>TPN1</td>
<td>22</td>
<td>14</td>
<td>7</td>
<td>5</td>
<td>0</td>
<td>8</td>
<td>5</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PSBNAME: DFSCPIC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TPN2</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PSBNAME: DFSCPIC</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STATUS: PUR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>TPN2</td>
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<td>0</td>
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<td>0</td>
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<td>0</td>
</tr>
<tr>
<td>PSBNAME: DFSCPIC</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>STATUS: STOP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRAN1</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>5</td>
<td>8</td>
<td>8</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>PSBNAME: LU2PGM1</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>TRAN2</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>65535 65535</td>
<td>8</td>
<td>8</td>
<td>8</td>
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<td>0</td>
<td>0</td>
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</tr>
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<td>PSBNAME: LU2PGM2</td>
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</tr>
<tr>
<td>STATUS: PSTOP</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

*90332/114253*

### Example 2 for /DISPLAY TRANSACTION Command

**Entry ET:**

```
/DISPLAY TRANSACTION SKS1 SKS2 SKS3 SKS4 SKS5 SKS6 SKS7
```

**Response ET:**

```
<table>
<thead>
<tr>
<th>TRAN</th>
<th>CLS</th>
<th>ENQCT</th>
<th>QCT</th>
<th>LCT</th>
<th>PLCT</th>
<th>CP</th>
<th>NP</th>
<th>LP</th>
<th>SEGZ</th>
<th>SEGNO</th>
<th>PARLM</th>
<th>RC</th>
</tr>
</thead>
<tbody>
<tr>
<td>SKS1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>65535 65535</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>PSBNAME: DFSDDLT1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STATUS: TRA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SKS2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>65535 65535</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>PSBNAME: DFSDDLT2</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>SKS3</td>
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<td>0</td>
<td>65535 65535</td>
<td>8</td>
<td>8</td>
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<td>0</td>
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<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>PSBNAME: DFSDDLT3</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>STATUS: STOP,TRAP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SKS4</td>
<td>4</td>
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<td>0</td>
<td>65535 65535</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>PSBNAME: DFSDDLT4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STATUS: STOP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SKS5</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>65535 65535</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>PSBNAME: DFSDDLT5</td>
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</tr>
<tr>
<td>SKS6</td>
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<td>0</td>
<td>65535 65535</td>
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<td>8</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>PSBNAME: DFSDDLT6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STATUS: BAL{2}</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SKS7</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>65535 65535</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>PSBNAME: DFSDDLT7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STATUS: BAL{2}</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

*89184/142345*

### Example 3 for /DISPLAY TRANSACTION Command

**Entry ET:**

```
/DISPLAY TRANSACTION TRANA TRANB TRANC QCNT
```
Example 4 for /DISPLAY TRANSACTION Command

Entry ET:

/DISPLAY TRAN ALL QCNT

Response ET:

<table>
<thead>
<tr>
<th>TRAN</th>
<th>GBLQCT</th>
<th>AFFINITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRAN1234</td>
<td>1524</td>
<td>IMS1</td>
</tr>
<tr>
<td>TRAN1234</td>
<td>3</td>
<td>IMSA</td>
</tr>
<tr>
<td>TRAN1234</td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>

Example: This example command receives multiple lines of output for a transaction, TRAN1234. The output shows there are 1524 messages for the transaction that have an affinity to execute on IMS1. A transaction might have an affinity if it were an APPC, OTMA, or serial transaction. If an output line shows no affinity, like the example output line with a GBLQCNT of 14, then there could be a single IMS system indicated, or multiple IMS systems that have messages that contribute to the GBLQCNT.

Example for /DISPLAY UOR Command

Entry ET:

/DISPLAY UOR

Response ET:

<table>
<thead>
<tr>
<th>ST</th>
<th>P-TOKEN</th>
<th>PSBNAME</th>
<th>RRS-URID</th>
<th>IMS-TOKEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>PLAPJK01 AF3278A27EC3E29808000000402010000</td>
<td>SYS1</td>
<td>0000000400000002</td>
<td></td>
</tr>
<tr>
<td>EID=0EIMSNET.L62IMS1999E359820810001</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>DBOVLFPB AF1124A27EE1C2380000000501020000</td>
<td>SYS1</td>
<td>0000007000000002</td>
<td></td>
</tr>
<tr>
<td>EID=EIMSNET.L62IMS1999E359820810001</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R1</td>
<td>00010120 PLAPJK02 12345678901234567890123456789012</td>
<td>SYS1</td>
<td>0000001300000001</td>
<td></td>
</tr>
<tr>
<td>EID=0EIMSNET.L62IMS1999E359820810001</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
*96337/145345*

Entry ET:

/DISPLAY UOR ACTIVE

Response ET:

<table>
<thead>
<tr>
<th>ST</th>
<th>P-TOKEN</th>
<th>PSBNAME</th>
<th>RRS-URID</th>
<th>IMS-TOKEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>PLAPJK01 AF3278A27EC3E29808000000402010000</td>
<td>SYS1</td>
<td>0000000400000002</td>
<td></td>
</tr>
<tr>
<td>LUWID=OEIMSNET.L62IMS1999E359820810001</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
*96338/091642*

Entry ET:

/DISPLAY UOR INDOUBT

Response ET:
Example for /DISPLAY UOR Command

Enter ET:
/DISPLAY UOR 010140

Response ET:

Enter ET:
/DIS UOR

Response ET:

Example 1 for /DISPLAY USER Command

Enter ET:
/DISPLAY USER IMSUS01 IMSUS02

Response ET:

Enter ET:
/DISPLAY USER USER1 USER2 USER3 QCNT

Response ET:

Enter ET:
/DISPLAY USER IMSUS01
Examples for /DISPLAY USER Command

<table>
<thead>
<tr>
<th>USER</th>
<th>USERID</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSUS01C</td>
<td>N/A</td>
<td>0</td>
<td>0</td>
<td>STOPPED</td>
</tr>
<tr>
<td>IMSUS01D</td>
<td>N/A</td>
<td>0</td>
<td>0</td>
<td>STOPPED</td>
</tr>
<tr>
<td>IMSUS01</td>
<td>IMSUS01</td>
<td>1</td>
<td>1</td>
<td>0 ALLOC(DTSLU201) CONV-HLD</td>
</tr>
<tr>
<td>N/A</td>
<td>IMSUS01</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A ALLOC(L3270A ) STATIC</td>
</tr>
<tr>
<td>+92350/113904*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Entry ET:

/DISPLAY USER ALL

Response ET:

<table>
<thead>
<tr>
<th>USER</th>
<th>USERID</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA13</td>
<td>N/A</td>
<td>0</td>
<td>0</td>
<td>0 STATIC</td>
</tr>
<tr>
<td>IMSUS01C</td>
<td>N/A</td>
<td>0</td>
<td>0</td>
<td>STOPPED</td>
</tr>
<tr>
<td>IMSUS01D</td>
<td>N/A</td>
<td>0</td>
<td>0</td>
<td>STOPPED</td>
</tr>
<tr>
<td>LU6SPA</td>
<td>N/A</td>
<td>0</td>
<td>0</td>
<td>0 ALLOC(LU6NDPF ) STATIC</td>
</tr>
<tr>
<td>DT327002</td>
<td>IMSUS02</td>
<td>0</td>
<td>0</td>
<td>0 ALLOC(DT327002)</td>
</tr>
<tr>
<td>IMSUS03</td>
<td>IMSUS03</td>
<td>0</td>
<td>0</td>
<td>0 ALLOC(DTSLU601)</td>
</tr>
<tr>
<td>IMSUS01</td>
<td>IMSUS01</td>
<td>1</td>
<td>1</td>
<td>0 ALLOC(DTSLU201) CONV-HLD</td>
</tr>
<tr>
<td>IMSUS05</td>
<td>N/A</td>
<td>0</td>
<td>0</td>
<td>STOPPED</td>
</tr>
<tr>
<td>N/A</td>
<td>IMSUS02</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A ALLOC(L3270B ) STATIC</td>
</tr>
<tr>
<td>N/A</td>
<td>IMSUS01</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A ALLOC(L3270A ) STATIC</td>
</tr>
<tr>
<td>N/A</td>
<td>IMSUS04</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A ALLOC(L3270C ) STATIC</td>
</tr>
<tr>
<td>+92350/114845*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example 2 for /DISPLAY USER Command

Entry ET:

/DISPLAY USER ABC100 EMHQ QCNT

One user is on the queue.

Response ET:

14.42.46   57/DIS USER ABC100 QCNT EMHQ.
14.42.46   IEE600I REPLY TO 57 IS;/DIS USER ABC100 QCNT EMHQ.
14.42.46   JOBO0110 DFS000I USER GBLQCT IMS1
14.42.46   JOBO0110 DFS000I ABC100 0 IMS1
14.42.46   JOBO0110 DFS000I *98203/144246* IMS1

Example 3 for /DISPLAY USER Command

Entry ET:

/DISPLAY USER IMSUS01 IMSUS02 IMSUS03 AUTOLOGON.

Response ET:

<table>
<thead>
<tr>
<th>USER</th>
<th>NODE</th>
<th>MODE</th>
<th>DESC</th>
<th>ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSUS01</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>IMSUS02</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>IMSUS03</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>+99243/082505*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Entry ET:

/CHANGE USER IMSUS01 AUTOLOGON DT327001 MODE LU032NT4.

Response ET:

DFS058I CHANGE COMMAND COMPLETED

Entry ET:

/CHANGE USER IMSUS02 AUTOLOGON DTSLU601 MODE LUGNGP5S ID IMS102.
Example for /DISPLAY USER Command

Response ET:
DFS058I CHANGE COMMAND COMPLETED

Entry ET:
/CHANGE USER IMSUS03 AUTOLOGON DT327001 LOGOND DFS3270 MODE LU032NT4.

Response ET:
DFS058I CHANGE COMMAND COMPLETED

Entry ET:
/DISPLAY USER IMSUS01 IMSUS02 IMSUS03 AUTOLOGON.

Response ET:

<table>
<thead>
<tr>
<th>USER</th>
<th>NODE</th>
<th>MODE</th>
<th>DESC</th>
<th>ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSUS01</td>
<td>DT327001</td>
<td>LU032NT4</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>IMSUS02</td>
<td>DTSLU601</td>
<td>LU6NEGPS</td>
<td>N/A</td>
<td>IMSID2</td>
</tr>
<tr>
<td>IMSUS03</td>
<td>DT327001</td>
<td>LU032NT4</td>
<td>DFS3270</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*99243/083309*

Example 4 for /DISPLAY USER RECOVERY Command

Entry ET:
/DISPLAY USER IMSUS* IMSUS03 LU6SPG RECOVERY

Response ET:

<table>
<thead>
<tr>
<th>USER</th>
<th>OWNER</th>
<th>SRM</th>
<th>CONV</th>
<th>STSN</th>
<th>FPATH</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSUS05</td>
<td>IMSA</td>
<td>GLOBAL</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>IMSUS01</td>
<td>IMSA</td>
<td>LOCAL</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>IMSUS03</td>
<td>IMSB</td>
<td>GLOBAL</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>LU6SPG</td>
<td>IMSA</td>
<td>LOCAL</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

*99240/134730*
Environments and Keywords

Table 56 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 56. Valid Environments for the /END Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/END</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>LINE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NODE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PTERM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>USER</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/END terminates all special operating modes established through the prior entry of an /EXCLUSIVE, /TEST, or /LOOPTEST command. /END NODE|USER does not reset TEST mode. Only the same terminal that is in TEST mode can reset the TEST mode (using /END without the NODE or USER keywords).

/END NODE applies to dynamic nodes in addition to static nodes because MFSTEST mode is associated with dynamic nodes as well as dynamic users. /END NODE and /END NODE USER reset MFSTEST mode at the node level. /END USER resets MFSTEST at the user level. /END with no keywords resets MFSTEST at the node level for static terminals (they have no user level) and at the user level for dynamic terminals. The /END NODE USER command supports static and dynamic ISC sessions. When/END NODE or /END NODE USER commands are used for a dynamic node, only MFSTEST is reset. Exclusive mode can only be reset for a dynamic resource with the /END USER command. If global resource information is kept in Resource Manager, MFSTEST mode is reset globally and locally. If global resource information is not kept in Resource Manager, MFSTEST mode is reset locally.

/END with no keywords operates on the entering terminal with a signed on user. /END with no keywords is not supported through the OM API in an IMSplex.

LINE

Specifies the communication line for which special operating modes are terminated.

NODE

Specifies the VTAM node for which special operating modes are terminated.
/END

/END NODE is not valid for ISC nodes with users or nodes that were dynamically created. /END NODE USER only applies to ISC sessions and affects the half-session allocated to username.

USER
Without the NODE keyword, USER specifies the dynamic user for which special operating modes are terminated. The named user must exist in IMS, must be dynamic, and must not be signed on to a node. When /END USER is issued against a temporary user, which was created solely to retain status that is now reset, the temporary user is deleted at the next simple checkpoint.

Example for /END Command

Entry ET:
/END

Response ET:
DFS058I  END COMMAND COMPLETED

Explanation: All modes that previously existed are ended.
Chapter 22. /ERESTART

Format

Manual Restart of an XRF Alternate System
Use this command only after the active system issues message DFS3804I.

Restart of IMS Following Loss of Virtual Storage Only

Restart of IMS Following Loss of Virtual Storage and Message Queue Data Set Integrity
The message queues have not been dumped to the system log since the most recent cold start.

Restart of IMS Following /ERESTART Failure of the Database Component

Restart of IMS Following /ERESTART Failure of Communication Component
Restart of IMS Following /ERESTART Failure of Both the Database and Communication Components

Environments and Keywords

Table 57 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 57. Valid Environments for the /ERESTART Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ERESTART</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>BACKUP</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>BUildo</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>CHECKPOINT</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>CMDAUTH</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>CMDAUTH3E</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>COLDBASE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>COLDCOMM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>COLDSYS</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>FORMAT</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>MULTSIGN</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NOBMP</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>NOCMDAUTH</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NOCMDAUTH3E</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NOPASSWORD</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Table 57. Valid Environments for the /ERESTART Command and Keywords (continued)

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOTERMINAL</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NOTRANAUTH</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOTRANCMDS</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NOUSER</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OVERRIDE</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>PASSWORD</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SNGLSIGN</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TERMINAL</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRANAUTH</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRANCMDS</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>USER</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/ERESTART is a multisegment command used to:

- Perform a manual restart of an IMS XRF alternate system.
- Restart IMS any time the system was not terminated with an orderly /CHECKPOINT shutdown. Three conditions that result in the need for an emergency restart are:
  - Abnormal termination of IMS
  - Abnormal termination of MVS/ESA
  - Forced termination of IMS using the MVS/ESA MODIFY command

For an /ERESTART command restart, the base security definition is created:

- From the IMS system definition and the EXECUTE parameter specifications, when the COLDSYS keyword is specified.
- From the IMS checkpoint data, when the COLDSYS keyword is not specified.

To override the security definitions, specify the COLDSYS keyword and the security keywords on the COLDSYS keyword.

The format for /ERESTART depends on whether or not the IMS system is an XRF alternate system. If the system is not an alternate system, the format also depends on the type of system failure associated with the termination and whether or not the message queues have been dumped to the system log since the most recent cold start.

All /ERESTART formats require an EOM indication to denote end-of-message; an EOS indication must be included for all segments that precede the last segment. See “Multisegment Command Input” on page 7 for more details on using EOS and EOM.

With Fast Path, the /ERESTART command loads the latest MSDB checkpoint data set and applies all MSDB changes up to the latest complete commit point. /ERESTART also ensures that DEDB updates created between the restart checkpoint and the latest complete commit point are applied. If the DEDB updates are not applied, they are queued for output. Output messages not acknowledged or not transmitted are also queued for output.
When IMS initializes, the system parameters used for this initialization can come from the IMS system generation, from a PROCLIB member, or from EXEC statements that can override both the defaults and the PROCLIB members. Therefore, message DFS1929I is displayed showing the system parameters used for this particular initialization. The system parameters are also written to the job log.

For a list of the commands recovered, see Commands Recovered During Emergency Restart on page 24.

BACKUP

Indicates that the control region is an alternate system in an XRF environment. This command is required when performing manual restart.

BUILDQ

Is required for any restart from a failure in which message queue data set integrity was lost. When a checkpoint other than checkpoint 0 is specified, the checkpoint must be one at which the message queues were dumped to the system log. Message queue data set integrity has been lost if one or more of the data sets have been reallocated or reformatted. If a checkpoint is not specified, IMS selects the appropriate checkpoint from which to start.

If an /ERESTART BUILDQ command fails, and then you issue the /ERESTART CHECKPOINT 0, /ERESTART COLDCOMM, or /ERESTART COLDSYS command, messages in local queues are lost. However, the IMS Message Requeuer (MRQ) program product (5655-038) can be used to recover local message queues. For more information about MRQ, refer to the IMS/ESA® Message Requeuer Program Description/Operations Manual.

In a shared-queues environment, the BUILDQ keyword is ignored because the message queue data sets are not used.

CHECKPOINT

CHECKPOINT is an optional keyword that identifies whether the restart should use the initial system checkpoint taken during the cold start of the IMS subsystem. If you do not specify this keyword, IMS determines the correct checkpoint to use. If you do specify this keyword, you can only specify CHECKPOINT 0 to use the initial system checkpoint.

The BUILDQ keyword must be specified if CHECKPOINT 0 is specified and the restarting system is not a DBCTL system or a TM system using shared message queues.

/ERE CHECKPOINT 0 BUILDQ will use the oldest SNAPQ CHECKPOINT that is a valid IMS system restart checkpoint considering all other factors. This may be the same checkpoint as IMS would have selected if the CHECKPOINT keyword was not specified or, if that checkpoint was a simple checkpoint, it will be the prior SNAPQ CHECKPOINT.

Normal /ERE processing is performed from this checkpoint to end of log and the message queues are rebuilt from the SNAPQ CHECKPOINT. /ERE CHECKPOINT 0 BUILDQ has the same effect as /ERE BUILDQ. For DBCTL systems, /ERE CHECKPOINT 0 is identical in processing to /ERE.

CMDAUTH

Specifies that both signon (user identification verification) and command authorization for static and ETO terminals are in effect at the end of the emergency restart. (Command authorization is same as specifying RCF=S on the startup parameter.)

To specify CMDAUTH, either:

SECURITY macro TYPE=RACFTERM|RACFCOM|SIGNEXIT|TRANEXIT
must be specified in the IMS system definition, or
EXEC parameters RCF=A|Y|T|C|S

must be specified on an EXEC parameter.

**CMDAUTH**
Specifies that command authorization for ETO terminals (same as RCF=S on the startup parameter) is in effect at the end of the emergency restart. CMDAUTH also resets command authorization for static terminals, if it was set.

To specify CMDAUTH, either:
SECURITY macro TYPE=RACFTERM|RACFCOM|SIGNEXIT|TRANEXIT

must be specified in the IMS system definition, or
EXEC parameters RCF=A|Y|T|C|S

must be specified on an EXEC parameter.

**COLDBASE**
Indicates a cold start of the database component, while performing an emergency restart of the communications component.

- If this keyword is used, the recovery of the databases is the responsibility of the user. The Fast Path areas will not be redone and no backouts of inflight DL/I databases will be performed. If in-doubts exist, a batch backout run with the cold start option will backout inflight DL/I data. This will place both DL/I and Fast Path data in the aborted state.
- If this keyword is not used, the database component will be warm started.

**COLDCOMM**
Indicates a cold start of the data communication component, while an emergency restart of the database component is being performed. This includes recovering Fast Path DEDBs, reloading MSDBs, backing out inflight changes to DL/I databases, and maintaining all existing indoubt data. COLDCOMM is used to get the DC network reinstated as soon as possible while databases are being recovered. As a result of COLDCOMM, all of the messages on the local message queue will be lost; inflight messages in shared queues are moved to the cold queue for later recovery. If this keyword is not used, the data communication component will be restarted.

**COLDSYS**
Indicates a cold start of both the database and the data communication components. The /ERESTART COLDSYS command performs the same function as the /NRESTART CHECKPOINT 0 DETACH command performed in prior releases, and replaces it.

The SGN=, TRN=, and RCF= startup parameters can be overridden by the /ERESTART COLDSYS command using the keywords shown in Table 58. The table lists the keywords and the startup parameters that those keywords can override and a brief description.

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Description</th>
<th>Startup Parameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMDAUTH</td>
<td>RACF command authorization on static and ETO terminals only</td>
<td>RCF=S</td>
</tr>
<tr>
<td>CMDAUTH</td>
<td>RACF command authorization on ETO terminals only</td>
<td>RCF=C</td>
</tr>
</tbody>
</table>

Table 58. Security Keywords and Their Startup Parameter Equivalents
Table 58. Security Keywords and Their Startup Parameter Equivalents (continued)

<table>
<thead>
<tr>
<th>Keyword¹</th>
<th>Description</th>
<th>Startup Parameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>MULTSIGN</td>
<td>Permits multiple signons for each user ID</td>
<td>SGN=M</td>
</tr>
<tr>
<td>NOCMDAUTH</td>
<td>Resets the command authorization on static and ETO terminals</td>
<td>Not RCF=S</td>
</tr>
<tr>
<td>NOCMDAUTHE</td>
<td>Resets the command authorization on ETO terminals only</td>
<td>Not RCF=C</td>
</tr>
<tr>
<td>NOTRANAUTH</td>
<td>Resets the transaction authorization.</td>
<td>Not TRN=F or Y</td>
</tr>
<tr>
<td>NOUSER</td>
<td>Resets user identification verification, transaction authorization, and command authorization</td>
<td>Not SGN=F or Y (G or Z becomes M) Not TRN=F or Y Not RCF=C or S</td>
</tr>
<tr>
<td>SNGLSIGN</td>
<td>Permits a single signon for each user ID</td>
<td>SGN=F and Y Not SGN=M (G or Z becomes F or Y)</td>
</tr>
<tr>
<td>TRANAUTH</td>
<td>Transaction authorization</td>
<td>TRN=F or Y</td>
</tr>
<tr>
<td>USER</td>
<td>Sets user identification verification</td>
<td>SGN=Y</td>
</tr>
</tbody>
</table>

**Note:**
1. Valid only with the /ERESTART COLDSYS command.

**FORMAT**

Specifies which queues or data sets should be formatted as part of the restart process when:

- A message queue or data set I/O error occurs.
- The size of a message queue or data set is to be changed.
- A message queue or data set is to be reallocated.
- Allocation of the WADS changes.

When queues or data sets must be formatted as part of the restart process, specify one or more of the following:

- **SM** Short-message queue
- **LM** Long-message queue
- **QC** Control record data set (QBLKs)
- **RS** Restart data set
- **WA** Write ahead data set
- **MD** MSDB dump data set (valid only for backup)
- **ALL** All message queues (SM and LM) and data sets (QC, WA and RS). For DBCTL, this supports RS and WA only.

Any combination of SM, LM, QC, WA, MD, and RS can be specified; for example, FORMAT LM RS. When you specify ALL, do not specify SM, LM, QC, WA, MD, or RS.

In a shared-queues environment, the LM, SM, and QC parameters are ignored because the message queue data sets are not used. If you specify ALL, IMS does not attempt to format the message queue data sets.

Table 59 on page 351 shows the environments in which the parameters are valid.
Table 59. /ERESTART FORMAT Command Parameter Environments

<table>
<thead>
<tr>
<th>Parameter</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>QC</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>RS</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>WA</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>MD</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>ALL</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

If the WADS must be reformatted during emergency restart, the ALL parameter can be used. IMS first closes the OLDS from the WADS and then reformats the WADS. If you generally use the ALL parameter during restart, do not be concerned that the WADS will not be available to close the OLDS.

**MULTSIGN**

Permits multiple signons for each user ID.

In an IMSplex with Resource Manager and a resource structure, if MULTSIGN conflicts with the single user signon definition for the IMSplex, a warning message will be issued.

**NOBMP**

Specifies no backout of BMP updates occurs and all affected databases and programs are stopped.

If NOBMP is not specified, all updates made subsequent to the last commit point invoked by the active BMP programs are backed out of the database as part of the restart process.

NOBMP is ignored if no BMP programs were active at the time of the system failure.

**NOCMDAUTH**

Resets command authorization on static and ETO terminals.

**NOCMDAUTHE**

Resets command authorization for static and ETO terminals. The command authorization is reset for static terminals because the command authorization for static terminals cannot exist without the command authorization for ETO terminals.

**NOTERMINAL**

Specifies that the terminal security specifications established by the Security Maintenance utility are not in effect at completion of this emergency restart.

IMS system definition might have precluded the authority of the master terminal operator to negate terminal security, in which case, if NOTERMINAL is specified, an error message is received.

**NOTRANAUTH**

Turns off transaction authorization. NOTRANAUTH is not the opposite of TRANAUTH. TRANAUTH sets transaction authorization and also turns on signon (user identification verification).

If you specify NOTRANAUTH, it will be rejected with an error message if either:

- SECLEVEL=FORCTRAN was specified on the system definition SECURITY macro.
/ERESTART

- TRN=F was specified as a JCL EXEC parameter.

NOUSER
Specifies that none of the following is in effect at the end of the emergency restart:
- Transaction authorization
- User identification verification
- Command authorization

OVERRIDE
Is required only to restart the system after failure of power, machine, MVS/ESA, or DBRC where IMS abnormal termination was unable to mark the DBRC subsystem record in RECON as abnormally terminated. IMS emergency restart will abort with message DFS0618A when DBRC indicates that the subsystem is currently active and that neither the OVERRIDE keyword nor the BACKUP keyword is present on the /ERESTART command. If there is any doubt about the status of an IMS system at restart time, the OVERRIDE keyword should not be used.

Attention: Use of the OVERRIDE keyword on a currently running IMS system can lead to database and system integrity problems.

PASSWORD or NOPASSWORD
Specifies whether (PASSWORD) or not (NOPASSWORD) the password security specifications established by the Security Maintenance utility will be in effect at completion of this emergency restart.

IMS system definition might have precluded the authority of the master terminal operator to negate password security, in which case, if NOPASSWORD is specified, an error message is received.

SNGLSIGN
Permits a single signon for each user ID.

In an IMSplex with Resource Manager and a resource structure, if SNGLSIGN conflicts with the single user signon definition for the IMSplex, a warning message is issued.

TERMINAL
Specifies that the terminal security specifications established by the Security Maintenance utility are in effect at completion of this emergency restart. However, TERMINAL can only be used for transaction authorization if RCF=S is specified. SMU is not used for command terminal security if RACF is used.

TRANAUTH
Specifies both transaction authorization and user identification verification, with or without RACF.

To specify TRANAUTH either:
SECURITY macro TYPE=RACFTERM|RACFCOM|SIGNEXIT|TRANEXIT

must be specified in the IMS system definition, or

EXEC parameters RCF=A|Y|T|C|S

must be specified on an EXEC parameter.

TRANCMDS or NOTRANCMDS
Specifies whether (TRANCMDS) or not (NOTRANCMDS) the transaction command security established by the Security Maintenance utility is in effect at completion of this emergency restart.
TRANCMDS
Specifies that transaction command security established by the Security Maintenance utility is in effect at completion of this emergency restart.

NOTRANCMDS
Specifies that transaction-entered commands cannot be entered. IMS system definition might have precluded the authority of the master terminal operator to not allow transaction-entered commands, in which case, if the NOTRANCMDS keyword is used, an error message is returned.

USER
Specifies user identification verification. User identification verification means that signon is required by the static terminals that are defined to SMU for signon verification. This keyword has no effect on ETO terminals because they are always required to sign on. User identification verification can be forced on by TRANAUTH or CMDAUTH.

To specify USER, either:
SECURITY macro TYPE=RACFTERM|RACFCOM|SIGNEXIT|TRANEXIT

must be specified in the IMS system definition, or
EXEC parameters RCF=A|Y|T|C|S

must be specified on an EXEC parameter.

Examples

Example 1 for /ERESTART Command
All system data sets are intact.

Entry ET:
/ERESTART.

Response ET:
DFS058I (time stamp) ERESTART COMMAND IN PROGRESS
DFS680I USING CHKPT 85200/123456
DFS994I *CHKPT 85201/110117**SIMPLE*

Explanation: The restart is being performed from checkpoint 85200/123456, which was selected by IMS. If IMS contained active BMPs when the system failed, checkpoint 85200/123456 is the checkpoint that allows backout of all updates made by each active BMP since its latest system checkpoint. A simple checkpoint is written on the system log. The checkpoint number is 85201/110117.

Example 2 for /ERESTART Command
Message queues are in error.

Entry ET:
/ERESTART BUILDQ.

Response ET:
DFS058I (time stamp) ERESTART COMMAND IN PROGRESS
DFS680I USING CHKPT 85119/074811
DFS994I *CHKPT 85120/192021**SIMPLE*
/ERESTART

Explanation: IMS is restarted at 192021 (time) on 85120 (* * date) from the most recent DUMPQ or SNAPQ checkpoint, 85119/074811. A simple checkpoint is written on the system log. The checkpoint number is 85120/192021.

The message queues from checkpoint 85119/074811 are loaded.

If BMP programs were active when the system failed, all updates invoked by the BMP programs are backed out.

Example 3 for /ERESTART Command

Small and large message queues were reallocated. The message queues have been dumped at least once since the most recent cold start.

Entry ET:

/ERESTART BUILDQ FORMAT SM LM.

Response ET:

DFS058I (time stamp) ERESTART COMMAND IN PROGRESS
DFS680I USING CHKPT 85201/070348
DFS994I *CHKPT *85204/010203**SIMPLE*

Explanation: IMS is restarted at 010203 (time) on 85204 (Julian date). A simple checkpoint was written on the system log. The checkpoint number is 85204/010203.

The large and small message queue data sets are reformatted.

The message queues are loaded from checkpoint 85201/070348.

If BMP programs were active when the system failed, all updates invoked by the BMP programs are backed out.

Example 4 for /ERESTART Command

Message queues in error or data sets reallocated and the message queues have not been dumped since the most recent cold start.

Entry ET:

/ERESTART BUILDQ FORMAT ALL NOBMP.

Response ET:

DFS058I (time stamp) ERESTART COMMAND IN PROGRESS
DFS680I USING CHKPT 85045/112140
DFS994I *CHKPT 85121/235959**SIMPLE*

Explanation: IMS is restarted at 235959 (time) on 85121 (Julian date) from the checkpoint taken during cold start 85045/112140. A simple checkpoint is written on the system log. The checkpoint number is 85121/235959.

All message queues and data sets are reformatted.

The message queues from the system log were loaded.

BMP programs that were active when the system failed are stopped, as are the databases updated by them.
Example 5 for /ERESTART Command

Figure 4 and Figure 5 show formatted master screens for active and backup IMS master terminals in an XRF environment.

The /ERESTART BACKUP command was entered on the master terminal of the XRF IMS system IMSB. During the synchronization phase, the alternate system requested a SNAPQ checkpoint from the active system. The /ERESTART BACKUP is currently complete and alternate system IMSB is now tracking active system IMSA.
Chapter 23.  /EXCLUSIVE

Format

/exclusive
/exc

Table 60

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/EXCLUSIVE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LINE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NODE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PTERM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>USER</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Environments and Keywords

Table 60 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 60. Valid Environments for the /EXCLUSIVE Command and Keywords

Usage

/EXCLUSIVE puts a terminal into exclusive mode. This command, without keywords, is valid from a terminal with a signed on user. The LINE PTERM and NODE keywords are only valid for output-only terminals. For a dynamically created user, the exclusive mode status is remembered across signons.

Exclusive mode restricts the output received by the terminal affected:

- A regular input/output terminal in exclusive mode only receives messages transmitted in response to transactions entered from that physical terminal.
- An output-only terminal in exclusive mode receives messages transmitted in response to transactions entered into its associated input logical terminals.

Except for an IMS system message responding to an error condition, all other output for a terminal in exclusive mode remains queued for later transmission. The queued output is transmitted after exclusive mode is reset with the /END command or a /START command.

In an IMSplex, if global resource information is kept in Resource Manager, the /EXCLUSIVE command sets a global exclusive status for the resource. If global resource information is not kept in Resource Manager, the /EXCLUSIVE command sets the status.

/END is used to get a terminal out of exclusive mode.

LINE PTERM

Specifies the communication line to be put into exclusive mode. The /DISPLAY LINE line# PTERM pterm# command identifies a terminal in exclusive mode.
/EXCLUSIVE

**NODE**
Specifies that the static VTAM node be put into exclusive mode. This command is not valid for nodes that were dynamically created.

**USER**
Specifies that the dynamic user be put into exclusive mode. If the user does not exist in IMS, it and its associated LTERMs will be created to remember the exclusive status. If /EXCLUSIVE USER is issued against an existing user, the user must be dynamic.

---

**Examples**

**Example 1 for /EXCLUSIVE Command**

Entry ET:

```
/EXCLUSIVE
```

Response ET:

```
DFS058I EXCLUSIVE COMMAND COMPLETED
```

Explanation: No messages are sent to this terminal other than application program output resulting directly from transaction input.

**Example 2 for /EXCLUSIVE Command**

Entry ET:

```
/EXCLUSIVE USER alpha
```

Response ET:

```
DFS058I EXCLUSIVE COMMAND COMPLETED
```
Chapter 24. /EXIT

Format

```
/EXIT
/EXI
CONVERSATION—conv#

-LINE—line#
-PTERM—pterm#
-LUNAME—luname
-NODE—nodename
-USER—username
-TMEMBER—TPIPE—tmembername
-USER—username
```

Environments and Keywords

Table 61 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 61. Valid Environments for the /EXIT Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/EXIT</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>CONVERSATION</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>LINE</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>LUNAME</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>NODE</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>PTERM</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TMEMBER TPIPE</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>USER</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Usage

The /EXIT command ends conversations between users and application programs. The conversation can be either active or in hold status at the time /EXIT is entered. Depending upon the conversational processing options selected for the IMS system, the application program might or might not be notified of the conversation termination.

Transactions that are queued for processing when the /EXIT command is issued are discarded. If a transaction is being processed or was sent to a remote system for processing when /EXIT is issued, the command is still processed; however, the conversation will be terminated, but the conversational transaction will still be issued. When the conversational response is received, the Conversational Abnormal Termination exit (DFSCONE0) is called and the response message is queued to the response terminal.

The /EXIT command with no keywords can only be used if the conversation is active.

If global resource information is kept in Resource Manager (RM), /EXIT NODE or /EXIT USER terminates the conversation in RM. If global resource information is not
/EXIT

kept in RM, /EXIT NODE or /EXIT USER terminates a conversation on the IMS where
the /EXIT command is entered or routed to by the OM SPOC.

/EXIT is not valid from an LU 6.2 device or OTMA device. DEALLOCATE the APPC
conversation after receiving all output from an iteration. When the /EXIT command
specifies only the CONVERSATION keyword, the command can be entered only
from the terminal that owns the conversation.

CONVERSATION
Terminates the specified conversation. The conversation is terminated whether
it was active or held. The conversation identifier (conv#) must be specified as a
4-digit number, including leading zeros.

LINE PTERM
Terminates the conversation on the physical terminal specified, regardless of
whether the conversation was active or held. The line specified must be in
stopped and idle status.

LUNAME
Terminates the IMS conversation and the APPC conversation on the specified
luname. In an IMSplex environment, /EXIT LUNAME needs to be issued on the
IMS that owns the conversation. Within an IMS system, the conversation ID is
unique.

NODE
Terminates the conversation on the node specified, regardless of whether the
conversation was active or held. The node specified must be stopped or idle. This
form of the command does not support dynamic nodes or LU 6.2 nodes
defined with users.

The NODE USER combination applies only to the specified half-session of the
ISC parallel session node allocated to USER The half-session must have been
stopped and idled. The command must be issued from a terminal or node other
than the one in the conversation.

TMEMBER TPIPE
Terminates the IMS conversation on the specified tmemname tpipe. In
an IMSplex environment, /EXIT TMEMBER TPIPE must be issued on the IMS that
owns the conversation. Within an IMS system, the conversation ID is unique.

USER
Terminates the conversation associated with the specified user. The user must
not be signed on to a node. The user must be dynamic.

Examples

Example 1 for /EXIT Command

Entry ET:
/EXIT

Response ET:
DFS058I EXIT COMMAND COMPLETED

Explanation: The active and not held conversation associated with the entering
terminal is terminated.
Example 2 for /EXIT Command

Entry ET:

/EXIT

Response ET:

DFS576I  EXIT COMPLETED, TRANSACTION DISCARDED

Explanation: /EXIT processing found the conversational transaction enqueued for an application or transmission across an MSC link, but it has not yet been scheduled for processing. The transaction has been discarded.

Example 3 for /EXIT Command

Entry ET:

/EXIT

Response ET:

DFS577I  EXIT COMPLETED, TRANSACTION STILL ACTIVE

Explanation: /EXIT processing found the conversational transaction had been or is in the process of being transmitted across an MSC link.

Example 4 for /EXIT Command

Entry ET:

/EXIT CONVERSATION 0001

Response ET:

DFS058I  EXIT COMMAND COMPLETED

Explanation: The active or held conversation (0001) is terminated if the terminal is in conversation.

Example 5 for /EXIT Command

Entry ET:

/EXIT CONVERSATION 0001 LINE 10 PTERM 2

Response ET:

DFS058I  EXIT COMMAND COMPLETED

Explanation: Used from another PTERM or master terminal when a PTERM in conversation is “locked,” waiting for a response. /EXIT CONVERSATION should be used before a /START LINE command that resets all conversations active on the line.
Chapter 25. /FORMAT

Format

```
 FORMAT modname
 FOR ltermname data
```

Environments and Keywords

Table 62 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keyword can be issued.

Table 62. Valid Environments for the /FORMAT Command and Keyword

<table>
<thead>
<tr>
<th>Command / Keyword</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/FORMAT</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LTERM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/FORMAT causes a specific format to be displayed on a physical terminal using the IMS Message Format Service (MFS). The displayed format is used by IMS in processing the next input from the formatted terminal.

Using a password with /FORMAT is not valid.

/FORMAT, where an IMS-supplied default modname is used, is not effective for a 3270 master terminal that uses the MFS master terminal formatting option.

**Recommendation:** If a format is lost during a conversation, do not use the /FORMAT command to restore the format. Instead, enter a /HOLD command followed by a /RELEASE command to display the first physical page of the current message and restore the format.

**modname**

- Specifies the name of the message output descriptor (MOD) to be used to format the terminal.

**LTERM**

- Specifies the name of the logical terminal to be formatted. LTERM is required when a terminal other than the input terminal is to be formatted. If LTERM is not specified, the input physical terminal must have at least one LTERM assigned.

- If the ltermname does not exist, an attempt is made to create the lterm and associated user structure. The command creates this structure by queueing the format and data, if any exists, to the terminal as if it were a message. This process is similar to a message switch, a message insert, or a /BROADCAST LTERM, all of which queue a message to an LTERM.

The format request is rejected if the specified LTERM is:

- Assigned to a physical terminal that is not supported by MFS
- In line-response mode or exclusive mode
- Involved in an active conversation
- An input-only terminal
/FORMAT

- Not the alternate master in an XRF system
- A remote LTERM

In an IMSplex, /FORMAT LTERM can be used to queue a format to an LTERM that is not active or that is active on any IMS in the IMSplex.

data
Is a string consisting of 1 to 8 characters to be inserted into the output message created for the terminal being formatted. Since MFS treats the data as application program output data, the data string can be used to select a logical page (LPAGE) within the requested MOD. The way the selection is performed is determined by the requested MOD’s LPAGE definitions.

Example for /FORMAT Command

Remote Terminal entry:
/FORMAT DFSMO4
/BROADCAST LTERM WTOR (eos)
this is segment 1 (eos)
this is segment 2 (eos)
this is segment 3 (eom)

Response ET:
  DFS058I  BROADCAST COMMAND COMPLETED

Response RT:
  THIS IS SEGMENT 1
  THIS IS SEGMENT 2
  THIS IS SEGMENT 3

Explanation: The remote terminal is first formatted via the /FORMAT command, where default format DFSMO4 supports the input of 4 segments. This is followed by /BROADCAST with four segments.
Chapter 26. /HOLD

Format

```
/HOLD
```

Environments

Table 63 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command can be issued.

Table 63. Valid Environments for the /HOLD Command

<table>
<thead>
<tr>
<th>Command</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/HOLD</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

The /HOLD command suspends and saves a currently active conversation.

The IMS response to /HOLD provides a conversation identification that must be used later when the held conversation is resumed (/RELEASE command) or terminated (/EXIT).

In an IMSplex, if global resource information is kept in Resource Manager, /HOLD suspends and saves the active conversation globally in Resource Manager. If global resource information is not kept in Resource Manager, /HOLD suspends and saves the active conversation locally.

Example for /HOLD Command

Entry ET:

```
/HOLD
```

Response ET:

```
DFS999I HELD CONVERSATION ID IS 0001
```

Explanation: The active conversation is saved and is assigned an identification of 0001.
Chapter 27. /IAM

Format

/enIAM

DONE

LTTERM ltermname

(password)

PTERM

(password)

Environments and Keywords

Table 64 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 64. Valid Environments for the /IAM Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/IAM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>DONE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LTERM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PTERM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/IAM is used to sign on to IMS from a terminal that is on a non-VTAM attached switched communication line. This command (without the DONE keyword) must be entered before any input transaction codes or terminal commands are accepted.

The terminal operator has five chances to sign on. If signon is not accomplished after five tries, IMS sends the operator a message indicating that the line is being disconnected. IMS disconnects the line and restores the line to answering status.

/IAM is not supported for Network Terminal Option devices.

DONE

Requests that IMS disconnect your terminal.

LTERM

Indicates this command automatically accomplishes the attachment of a user logical terminal named ltermname to the switched (dialup) communication line over which the call was received from the remote terminal.

If the first four characters of the ltermname parameter are INQU, the connection is completed with the inquiry logical terminal associated with the line/pterm that received the call.

PTERM [password] LTERM ltermname [password]

All logical terminals associated with the user in which logical terminal ltermname exists are signed on to the terminal entering the command. This form of /IAM is required if conversational transactions are to be entered.
Examples

Example 1 for /IAM Command
Entry ET:
/IAM LTERM SMITH

Response ET:
DFS058I IAM COMMAND COMPLETED

Explanation: Logical terminal SMITH is signed on to IMS.

Example 2 for /IAM Command
Entry ET:
/IAM LTERM INQU

Response ET:
DFS058I IAM COMMAND COMPLETED

Explanation: The inquiry logical terminal associated with the line/pterm that received the call is signed on to IMS.

Example 3 for /IAM Command
Entry ET:
/IAM PTERM (DOLLY) LTERM SUE (GIRL)

Response ET:
DFS058I IAM COMMAND COMPLETED

Explanation: All logical terminals associated with the user to which LTERM SUE belongs are signed on to IMS.
Chapter 28. /IDLE

Format

Table 65 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 65. Valid Environments for the /IDLE Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/IDLE</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>LINE</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LINK</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NODE</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOSHUT</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/IDLE is used to immediately terminate input from, or output to, physical terminals assigned to the lines, logical links, or nodes specified in the command. Partially processed input messages on the lines specified in the command are discarded. Output messages being sent are returned to the message queues for later transmission.

LINE

Specifies the communication line to be immediately terminated.

/IDLE does not apply to the system console line, the master terminal line, or the secondary master terminal line. If these lines are specified, a DFS058 COMMAND COMPLETED EXCEPT LINE X message is returned. If the master terminal is assigned to a line that must be idle, the master terminal must be reassigned to a different line before /IDLE is specified.

NOSHUT

Immediately terminates input to and output from 3270 remote BTAM lines without a checkpoint shutdown. /IDLE cannot be entered before a checkpoint unless the NOSHUT keyword is included in the command. NOSHUT is only valid if IMS is not in the process of shutting down and is mutually exclusive with
the NODE parameter. When />IDLE LINE line# NOSHUT is entered, the 3270 remote BTAM lines must be stopped or process stopped. A DFS058 COMMAND COMPLETED EXCEPT LINE X message is returned if the command is entered and one of the following conditions exists:

- The line is the master terminal line or system console line, including the secondary master terminal line.
- The line is not stopped or process stopped.
- The line is not a 3270 remote BTAM line.
- The line is not open.
- The line is deactivated by IMS.

If the line specified with the NOSHUT keyword belongs to a line group, the input and output for all lines within the group are immediately terminated. If the line belonging to the line group has the master terminal assigned to it, the /IDLE LINE line# NOSHUT command is rejected.

To restart the lines idled by the /IDLE LINE line# NOSHUT command, either the /START LINE or /RSTART LINE command must be entered.

**LINK**

Specifies the logical link from which input, or to which output, is to be terminated. (No input messages are lost with /IDLE LINK.)

If a checkpoint shutdown is not in progress, only MSC VTAM links are valid. All non-MSC VTAM links require a shutdown checkpoint in progress. IMS returns a DFS058 IDLE COMMAND COMPLETED EXCEPT LINK X message if one of the following conditions exists:

- The link is idled already.
- The link is not connected.
- The link cannot be opened.
- A shutdown checkpoint is not in progress (for non-MSC VTAM links).

An /IDLE LINK link# command internally causes issuing of the VTAM command:

`VARY NET,TERM,TYPE=FORCE,NOTIFY=NO,SCOPE=ALL,LU1=xxxxxxxx,LU2=yyyyyyyy`  

All logical links, assigned to the same physical link, associated with the named logical link (link#) will be stopped. That is, all parallel sessions on the same physical link will be stopped. The /RSTART LINK command is used to reactivate links or sessions.

The /IDLE LINK link# command should not be used as the first attempt to stop the link. If the MSC link appears to be hung, the IMS operator should:

1. First attempt to stop the link with the IMS /PSTOP command.
2. If this fails, display the link session status via VTAM, using the VTAM command:
   `D NET,ID=xxxxxxxx`
   or the VTAM command:
   `D NET,SESSIONS,LIST=ALL`
3. If the link session is still active (STATUS=ACTIV), terminate it with the /IDLE LINK command or the VTAM command:
   `VARY NET,TERM,TYPE=FORCE,LU1=xxxxxxxx`
**Note:** All parallel sessions associated with the link will be terminated.

**NODE**
Specifies the VTAM node to which output is to be terminated, or from which input is to be terminated. The master terminal only can be idled when specifically named.

If an /IDLE NODE nodename command is entered for an ISC node defined with users, all half-sessions of the specified node are affected.

An /IDLE NODE ALL command causes the VTAM command VARY NET,INACT, to be issued to all nodes still connected to IMS, except the master terminal.

If the /IDLE NODE command is entered prior to IMS entering shutdown, the /ACT command can be entered to reactivate the node in VTAM. If the /IDLE NODE command is entered while in IMS shutdown, a VARY NET,ACT command might have to be entered directly to VTAM. However, before using the /IDLE command, a /CLSDST and then a /CLSDST FORCE command should be tried.

The node parameter can be generic. The generic parameter specifies nodes that already exist.

---

**Examples**

**Example 1 for /IDLE Command**

Entry ET:
```
/IDLE LINE 14 24
```

Response ET:
```
DFS058I   IDLE COMMAND COMPLETED
```

Explanation: The I/O on lines 14 and 24 is forced to terminate.

**Example 2 for /IDLE Command**

Entry ET:
```
/IDLE LINE 4 NOSHUT
```

Response ET:
```
DFS058I   IDLE COMMAND COMPLETED
```

Explanation: The I/O on line 4, which is a 3270 remote BTAM line, is forced to terminate.

**Example 3 for /IDLE Command**

Entry ET:
```
/IDLE LINK 2
```

Response ET:
```
DFS058I   IDLE COMMAND COMPLETED
```

Explanation: The input/output on logical link 2 is forced to terminate.

**Example 4 for /IDLE Command**

Entry ET:
```
/IDLE NODE ABC
```
Response ET:
  DFS058I  IDLE COMMAND COMPLETED

Explanation: A VARY NET, INACT command is executed that will cause the IMS VTAM LOSTERM exit to be entered with an indication that the session has been terminated.
Chapter 29. INITIATE

Format

Environments, Keywords, and Parameters

Table 66 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 66. Valid Environments for the INITIATE OLC Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>INITIATE OLC</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>ACBLIB</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>BDL</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>FMTLIB</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>FRCABND</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>FRCNRML</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>MODBLKS</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>OPTION</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PHASE</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PSWD</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
## Table 66. Valid Environments for the INITIATE OLC Command and Keywords (continued)

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>TERMINAL</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TRANCMDS</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TYPE</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

### Usage

The INITIATE OLC (initiate online change) initiates a phase of global online change of resources and coordinates the phase with all of the IMSs in the IMSplex. INITIATE OLC is similar to /MODIFY PREPARE and /MODIFY COMMIT, except that it applies to an IMSplex-wide global online change. OM sends the INITIATE OLC command to one IMS in the IMSplex.

INITIATE OLC is not supported if local online change is enabled. The INITIATE OLC PHASE(PREPARE) command is rejected if the IMS to which the command is routed does not support global online change. If this occurs and there is an IMS that supports global online change, the user must route the command to a specific IMS that supports global online change.

The correct online change command sequence is INITIATE OLC PHASE(PREPARE) followed by INITIATE OLC PHASE(COMMIT). Use the /DISPLAY MODIFY command to display the work in progress for resources to be changed or deleted, before attempting the COMMIT phase. When COMMIT is successful, the modifications persist across all IMS restarts, unless global online change occurs while this IMS is down.

If the INITIATE OLC PHASE(PREPARE) is specified without a FRCABND or FRCNRML keyword and the command fails as one or more IMSs are down or go down before the online change is committed, the online change must be aborted and started over. Issue the TERMINATE OLC command to abort the online change.

If the INITIATE OLC PHASE(PREPARE) is specified with the FRCNRML keyword and the command fails for any IMS, you can proceed with an INITIATE OLC PHASE(COMMIT) command, if desired, after shutting down those IMSs where prepare failed. Otherwise, you must abort the online change and start over.

If the INITIATE OLC PHASE(PREPARE) is specified with the FRCABND keyword and the command fails for any IMS, you can proceed with an INITIATE OLC PHASE(COMMIT) command, if desired, after cancelling those IMSs where prepare failed. Otherwise, you must abort the online change and start over.

The INITIATE OLC command master usually performs the online change phase locally first. If the online change phase fails locally, the command master usually skips sending the online change phase to the other IMSs, sets a completion code for each other IMS indicating that the online change phase was not attempted, and terminates command processing. However, if the INITIATE OLC PHASE(COMMIT) command fails on the local IMS because of work in progress, the command master still sends the commit phase 1 to the other IMSs. The purpose is to report work in progress for all the IMSs in the IMSplex, to facilitate completion of work in progress.

In a mixed IMSplex, you might have some variations of IMSs that support a particular type of online change and some that do not. At least one IMS in the IMSplex must successfully perform the online change phase for the command to be
considered successful. If no IMS in the IMSplex supports the type of online change that the command is attempting, the command reason code indicates that none of the IMSs performed the online change phase. If you enter an INITIATE OLC PHASE(PREPARE) command that does not apply to any IMS in the IMSplex, you must terminate the online change with a TERMINATE OLC command.

If the INITIATE OLC PHASE(COMMIT) command fails for any IMS before the OLCSTAT data set is updated, you may either correct the errors and try the commit again or abort the online change with a TERMINATE OLC command.

If the INITIATE OLC PHASE(COMMIT) command fails for any IMS after the OLCSTAT data set has been updated, you may correct the errors and try the commit again. The online change cannot be aborted.

If an IMS abends during online change and the INITIATE OLC PHASE(PREPARE) command was not specified with FRCABND, then issue the TERMINATE OLC command to abort the online change. The INITIATE OLC PHASE(COMMIT) command is not permitted in this case. If an IMS abends during online change and the INITIATE OLC PHASE(PREPARE) command was specified with FRCABND, then the INITIATE OLC PHASE(COMMIT) command is permitted.

IMSplex commands and classic commands that come from the OM interface are rejected during the commit phase, if the command changes resources. Commands that change resources could interfere with the online change of the resources. IMSplex commands and classic commands that come from the OM interface are permitted during the commit phase, if the command displays resources, such as QUERY or /DISPLAY. Classic commands that are entered from the system console or an IMS terminal are queued during the online change commit phase. These commands run after the online change is committed or aborted.

The resources that may be changed online are areas, databases, DMBs, Fast Path DEDB databases, MFS formats, programs, routing codes, SMU security definitions, and transactions.

If IMS is in an IMSplex and Resource Manager (RM) is using a resource structure, the transactions being added by the online change are registered to RM if they are not already registered to RM. If any error occurs during the CSLRMUPD request to register the transactions, the /MODIFY or INITIATE OLC command will fail and IMS will be in a COMMIT2F state.

If an INITIATE OLC PHASE(COMMIT) command results in the IMS remaining in a COMMIT2F state, a completion code of the error that caused it is returned to OM. If the error can be fixed, the INITIATE OLC PHASE(COMMIT) can be re-issued and CSLRMUPD retried and the online change completed. If the error cannot be fixed, the IMS has to be cancelled and warm started as the online change is not complete.

This command is invalid on an XRF alternate, RSR tracker, and FDR system.

Each IMS participating in the global online change does not issue the same synchronous online change messages to the master terminal or system console that it does for a local online change. The OM command response contains information equivalent to the online change messages that appear for the local online change, such as the DFS3499 message contents. See "INITIATE Return and Reason Codes" on page 381 for more information about what is returned from an INITIATE OLC command.
Each IMS participating in the global online change may issue asynchronous online change messages to the system console, such as DFS3400, DFS3445, and DFS3498.

The OM command time-out default of 300 seconds (5 minutes) may not be enough time for the online change phase to complete. It may be required to specify a time-out value on the command based on the needs of the installation.

**OPTION()**

Specifies an additional function to be performed during an online change. Following is a list of additional functions:

- **BLDL** Sends asynchronous information message DFS3498I to the system console for each PSB or DMB not found in ACBLIB. This message does not affect the success of the command.

- **FRCABND** Forces the online change prepare phase even if one or more required IMSs in the IMSplex have abended. An IMS is required to participate in the global online change if it is listed in the OLCSTAT data set as being current with the online change libraries. An IMS is listed in the OLCSTAT data set because it either participated in the last global online change or coldstarted since the last global online change. A successful global online change specified with the FRCABND keyword removes an abended IMS from the list of required IMSs in the OLCSTAT data set.

- **FRCNRML** Forces the online change prepare phase even if one or more required IMSs in the IMSplex have terminated normally. An IMS is required to participate in the global online change if it is listed in the OLCSTAT data set as being current with the online change libraries. An IMS is listed in the OLCSTAT data set because it either participated in the last global online change or coldstarted since the last global online change. A successful global online change specified with the FRCNRML keyword removes an IMS that shut down normally from the list of required IMSs in the OLCSTAT data set.

- **PSWD** Specifies specific types of SMU password security definitions to add, if they had not existed before. The application of new security definitions are always attempted based upon the prevailing security options in effect from the last IMS initialization.

- **TERMINAL** Specifies specific types of SMU terminal security definitions to add, if they had not existed before. The application of new security definitions are always attempted based upon the prevailing security options in effect from the last IMS initialization.

- **TRANCMDS** Specifies specific types of SMU transaction command security definitions to add, if they had not existed before. The application of new security definitions are always attempted based upon the prevailing security options in effect from the last IMS initialization.

**PHASE()**

Refers to the online change phase to start. The PREPARE phase must be performed first, followed by the COMMIT phase:
**PREPARE**

Performs the online change prepare phase on each IMS system listed in the OLCSTAT data set by specifying which resources are to be added, changed, and deleted. PREPARE is not recovered across an emergency restart and must be reentered after restart if the COMMIT phase did not complete prior to IMS failure.

The prepare phase is rejected if any IMSs in the IMSplex current with the online change libraries are down, unless the FRCABND and/or the FRCNRML option is used. The OLCSTAT data set lists the IMSs that are current with the online change libraries. These IMSs either participated in the last global online change or coldstarted after the last global online change. To force a global online change in spite of abended IMSs, use the FRCABND option. To force a global online change in spite of IMSs that are shut down normally, use the FRCNRML option. The prepare phase fails if any IMS participating in the global online change prepare phase fails, detects an error, or fails to respond in time. Zero, one, or more of the IMSs remain in an online change prepare complete state. Issue the `QUERY MEMBER TYPE(IMS) SHOW STATUS` command to display the online change state of all the IMSs in the IMSplex. Evaluate the `QUERY MEMBER TYPE(IMS)` output to help you decide whether to issue the `INITIATE OLC PHASE(PREPARE)` command to try the prepare again, or to issue the `TERMINATE OLC` command to abort the online change. The IMSs that are in an online change state remain in an online change state until you abort or commit the online change. IMS does not automatically abort online change because of a failure. IMS leaves the IMSs in their online change states. You must issue the `QUERY MEMBER TYPE(IMS) SHOW STATUS` command and evaluate the output to decide whether to abort the online change or attempt the online change phase again.

**COMMIT**

Performs the online change commit phase on each IMS listed in the OLCSTAT data set, which commits the online changes by bringing all the newly defined resources online, updating changed resources, and removing deleted resources. The commit phase consists of commit phase 1, the OLCSTAT data set update, commit phase 2, and commit phase 3. The OLCSTAT data set is updated with the new current online change libraries and the list of IMSs that are current with the current online change libraries. The commit phase 2 switches the online environment from the active ACBLIB, FORMAT, MATRIX, or MODBLKS libraries to the inactive libraries containing the new or changed resource descriptions.

The commit phase fails if any IMS participating in the global online change commit phase fails, detects an error, or fails to respond in time. Zero, one, or more of the IMSs might be in an online change prepare complete state, a commit phase 1 complete state, or no longer in an online change state because commit phase 2 succeeded. Issue the `QUERY MEMBER TYPE(IMS) SHOW STATUS` command to display the online change state of all the IMSs in the IMSplex. Evaluate the `QUERY MEMBER TYPE(IMS)` output to help you decide whether to issue the `INITIATE OLC PHASE(COMMIT)` command to try the commit again, or issue the `TERMINATE OLC` command to
abort the online change. The IMSs that are in an online change state remain in an online change state until you abort or commit the online change.

IMS doesn’t automatically abort online change because of a failure. IMS leaves the IMSs in their online change states. You must issue the QUERY MEMBER TYPE(IMS) SHOW STATUS command and evaluate the output to decide whether to abort the online change or attempt the online change phase again.

If a database is deleted, IMS closes the database and makes it unavailable to programs. Also, if the database is authorized for DBRC, COMMIT unauthorizes it.

If FMTLIB is being changed, most new and in-progress requests are queued for processing after the INITIATE OLC PHASE(COMMIT) command is completed.

Most new and in-progress requests are queued for processing.

An INITIATE OLC PHASE(COMMIT) is rejected if:

- An INITIATE OLC PHASE(PREPARE) command was not previously entered.
- Commit phase 1 fails on one or more IMSs in the IMSplex.
- Transactions to be deleted have messages queued.
- Transactions to be changed by the following system definition keywords have messages queued:
  - MSGTYPE
  - INQUIRY
  - FPATH
  - EDIT
  - SPA
- Transactions to be changed by keywords not shown in the previous bullet have messages queues and the transactions have not been the object of a /STOP or /PSTOP command.
- Transactions with access to programs and/or databases to be changed or deleted are prevented from updating and the transactions have not been the object of a /STOP or /PSTOP command. When a transaction shows a status of USTOP during a /DISPLAY TRAN command, the /ST0 command might need to be entered because the /PSTOP command might not allow the INITIATE OLC command to complete the transaction.
- Programs or databases to be changed or deleted are scheduled.
- Any program (PSB) that is currently scheduled has a program, database, or transaction change or deletion. This includes Wait for Input (WFI) and Fast Path transactions. All WFI and Fast Path regions that reference changed or deleted routing codes, programs, and/or databases must be stopped before entering the INITIATE OLC PHASE(COMMIT).
- An I/O error occurs while reading the inactive MFS FORMAT library directory or the resident index ($$IMSDIR) member.
- A /START DATABASE command is in progress for any database that is changed or deleted.
• A /DBDUMP or /DBRECOVERY command is in progress for any database that is changed or deleted.

• An IMS that participated in the prepare phase shut down normally or abended. The online change must be aborted and started over.

• OM routed the command to an IMS where local online change is enabled.

• The OLCSTAT data set is not locked for global online change. The INITIATE OLC PHASE(PREPARE) commands locks the OLCSTAT data set, so that no IMSs can initialize during the global online change. The commit command is rejected if the lock is not set. The INITIATE OLC PHASE(PREPARE) command might not have completed successfully or the OLCSTAT data set contents might be invalid.

• An IFP region is running. INITIATE OLC PHASE(COMMIT) is rejected because active route code exists. All IFP regions must be terminated before issuing a COMMIT.

Operator action might be required to prevent the preceding conditions. For example, if a program or database is scheduled, the operator should either wait until the program or database is finished before the INITIATE OLC PHASE(COMMIT) command is entered or the operator should issue /STOP, /PSTOP, or UPDATE TRAN for the associated transaction.

TYPE()

Specifies the types of resources that are changed online. The resources are as follows:

ACBLIB

Causes IMS to prepare to add, change, or delete database descriptors (DMB) and program descriptors (PSB) to ACBLIB. The online environment is switched from the active ACBLIB to the inactive ACBLIB containing new or changed DMB and PSBs. ACBLIB members that are not found are displayed as CHANGED because a DDIR or PDIR exists in MODBLKS. Additions or deletions to ACBLIB require the MODBLKS parameter. Quiesces transactions to be changed or deleted and transactions that access databases or programs to be changed or deleted. Fast Path DEDBs are supported but Fast Path MSDBs are not supported.

ALL

Prepares to add, change, and delete resources for the ACBLIB, FMTLIB, or MODBLKS libraries. The BLDL function is performed for ACBLIB.

FMTLIB

Causes IMS to prepare to add, change, or delete MFS maps in the FMTLIB library that are produced by the MFS Language utility and Service utility. The online environment is switched from the active FMTLIB to the inactive FMTLIB containing new MFS maps produced by the MFS Language utility and Service utility. The FMTLIB parameter is ignored with DBCTL. There are no restrictions on the use of MFS format blocks until the INITIATE OLC PHASE(COMMIT) command is entered.

MODBLKS

Causes IMS to prepare to add, change, or delete database,
transaction, program, or RRTCDE resources in the MODBLKS library or SMU security definitions in the MATRIX library. The online environment is switched from the active MODBLKS and MATRIX libraries to the inactive MODBLKS and MATRIX libraries. The MODBLKS library contains a subset of control blocks produced by IMS system definition and SMU security definitions. The MATRIX library contains SMU security definitions for resources defined in the MODBLKS library. Transactions to be changed or deleted and transactions that access databases or programs to be changed or deleted are quiesced. For information about refreshing RACF profiles, see [IMS Version 8: Operations Guide](#).

**INITIATE OLC Output Fields**

Table 67 contains information about the INITIATE OLC output fields, such as the short label of the output field, the INITIATE keyword to specify to produce the output field, and the meaning of the output field. The keyword N/A (not applicable) appears for output fields that are always returned.

<table>
<thead>
<tr>
<th>SHORT LABEL</th>
<th>KEYWORD</th>
<th>MEANING</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBR</td>
<td>N/A</td>
<td>IMSplex member that built the line of output. IMS identifier of the IMS that is the master of this online change phase. IMS identifier is always returned.</td>
</tr>
<tr>
<td>IMSMBR</td>
<td>N/A</td>
<td>IMS member that performed the global online change phase. The IMS member name is always returned.</td>
</tr>
<tr>
<td>CC</td>
<td>N/A</td>
<td>Completion code returned by IMS member that performed the global online change phase. Completion code is always returned.</td>
</tr>
<tr>
<td>ERRT</td>
<td>N/A</td>
<td>Error text returned by IMS member that failed performing the global online change phase. Error text may be returned if the completion code is nonzero.</td>
</tr>
<tr>
<td>ACBL</td>
<td>N/A</td>
<td>Current ACBLIB library suffix (if prepare succeeded or commit succeeded that did not include ACBLIB), or new ACBLIB library suffix (if commit succeeded for ACBLIB). The ACBLIB suffix is returned if the online change prepare phase or commit phase is successful. Suffix A means that ACBLIBA is current. Suffix B means that ACBLIBB is current.</td>
</tr>
<tr>
<td>FMTL</td>
<td>N/A</td>
<td>Current FMTLIB library suffix (if prepare succeeded or commit succeeded that did not include FMTLIB), or new FMTLIB library suffix (if commit succeeded for FMTLIB). The FMTLIB suffix is returned if the online change prepare phase or commit phase is successful. Suffix A means that FMTLIBA is current. Suffix B means that FMTLIBB is current.</td>
</tr>
<tr>
<td>MODB</td>
<td>N/A</td>
<td>Current MODBLKS library suffix (if prepare succeeded or commit succeeded that did not include MODBLKS), or new MODBLKS library (if commit succeeded for MODBLKS). The MODBLKS suffix is returned if the online change prepare phase or commit phase is successful. Suffix A means that MODBLKSA and MATRIXA are current. Suffix B means that MODBLKSB and MATRIXB are current.</td>
</tr>
<tr>
<td>MODI</td>
<td>N/A</td>
<td>Current modify id (if prepare succeeded), or new modify id (if commit succeeded). The modify id - 1 indicates the number of global online changes that have been performed. The modify id is returned if the online change prepare phase or commit phase is successful.</td>
</tr>
</tbody>
</table>
INITIATE Return and Reason Codes

Two sets of return and reason codes are returned when a command is issued though the OM API. One set of codes is for the OM request and the other set of codes is for the command itself. The OM request return and reason codes that can be returned as a result of the INITIATE OLC command are standard for all commands entered through the OM API. For further explanation about OM API return and reason codes, see “CSLOMCMD Return and Reason Codes in IMS Version 8: Common Service Layer Guide and Reference.”

The return and reason codes returned by the INITIATE OLC command are passed from the OM API on to the SPOC application. These codes are encapsulated in XML tags similar to how the response to the command is encapsulated in XML tags. The IBM-supplied TSO SPOC displays these codes, whereas a user-written SPOC application might choose not to display these codes.

Some reason codes are accompanied by a complete list of IMSs and return codes. The reason code meaning indicates whether a list is returned. A partial list of IMSs and return codes might be returned with any INITIATE OLC error reason code, if any output was built before the error was detected.

Table 68 shows the return and reason codes that might be returned by the INITIATE OLC command as well as the meaning of the codes.

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Reason Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>X'00000000'</td>
<td>X'00000000'</td>
<td>The INITIATE OLC command completed successfully. The INITIATE OLC command applies to all of the IMSs listed in the OLCSTAT data set. Each IMS listed in the OLCSTAT data set is current with the online change libraries and required to participate in the online change. Neither FRCABND nor FRCNRML was specified. If the INITIATE OLC PHASE(PREPARE) command was specified, all of the IMSs listed in the OLCSTAT data set are now in an online change prepare state. If the INITIATE OLC PHASE(COMMIT) command was specified, all of the IMSs listed in the OLCSTAT data set successfully committed the online change. An output line is built for each IMS listed in the OLCSTAT data set. Each output line contains the IMS member name and a completion code of zero.</td>
</tr>
<tr>
<td>X'00000004'</td>
<td>X'0000100C'</td>
<td>The command completed successfully, but was not applicable to one or more IMSs for acceptable reasons. The INITIATE OLC command applies to all of the IMSs listed in the OLCSTAT data set. Each IMS listed in the OLCSTAT data set is current with the online change libraries and required to participate in the online change (unless FRCABND and/or FRCNRML is specified). An output line is built for each IMS listed in the OLCSTAT data set. Each output line contains the IMS member name and a completion code. A nonzero completion code may be accompanied by error text. One or more of the IMSs contain a completion code indicating the online change phase did not apply to this IMS, such as the IMS state is shutdown and FRCSHUT was specified, the IMS state is abended and FRCABND was specified, the online change type does not apply to this IMS, or this IMS is already in the correct online change state. The INITIATE OLC completion code table contains the list of completion codes and error text that can be returned by the INITIATE OLC command.</td>
</tr>
</tbody>
</table>
### Table 68. Return and Reason Codes for INITIATE OLC (continued)

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Reason Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>X'00000008'</td>
<td>X'00002040'</td>
<td>The INITIATE OLC command is rejected because of an invalid filter. The INITIATE OLC PHASE(PREPARE) OPTION(BDL) can only be specified with TYPE ACBLIB or ALL. The PSWD, TERM, and TRANCMDs options can only be specified with TYPE MODBLKS or ALL. The INITIATE OLC PHASE(COMMIT) command does not support TYPE or OPTION.</td>
</tr>
<tr>
<td>X'0000000C'</td>
<td>X'00003000'</td>
<td>The INITIATE OLC command is successful for at least one IMS but not all IMSs. The INITIATE OLC command applies to all of the IMSs listed in the OLCSTAT data set. Each IMS listed in the OLCSTAT data set is current with the online change libraries and required to participate in the online change (unless FRCABND and/or FRCNRML is specified). An output line is built for each IMS listed in the OLCSTAT data set. Each output line contains the IMS member name and a completion code. A nonzero completion code may be accompanied by error text. One or more of the IMSs returned an error completion code. The INITIATE OLC completion code table contains the list of completion codes and error text that can be returned by the INITIATE OLC command.</td>
</tr>
<tr>
<td>X'0000000C'</td>
<td>X'00003004'</td>
<td>The INITIATE OLC command failed for all of the IMSs. The INITIATE OLC command applies to all of the IMSs listed in the OLCSTAT data set. Each IMS listed in the OLCSTAT data set is current with the online change libraries and required to participate in the online change (unless FRCABND and/or FRCNRML is specified). An output line is built for each IMS listed in the OLCSTAT data set. Each output line contains the IMS member name and a completion code. A nonzero completion code may be accompanied by error text. The INITIATE OLC completion code table contains the list of completion codes and error text that can be returned by the INITIATE OLC command.</td>
</tr>
</tbody>
</table>

If INITIATE OLC PHASE(PREPARE) fails, the online change must be aborted and started over. If INITIATE OLC PHASE(COMMIT) fails and you want to retry the commit, correct the problem and issue the INITIATE OLC PHASE(COMMIT) command again. To abort the online change, issue the TERMINATE OLC command. If the INITIATE OLC PHASE(PREPARE) command failed or the INITIATE OLC PHASE(COMMIT) command failed before the commit master updated the OLCSTAT data set, the online change is aborted. See ‘INITIATE OLC error handling’ for more details.
Table 68. Return and Reason Codes for INITIATE OLC  (continued)

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Reason Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>X'00000010'</td>
<td>X'00004004'</td>
<td>The INITIATE OLC command failed because there is no CQS. RM attempted to access the process resource on the resource structure, but it failed because CQS is not available. The online change phase may have succeeded on one or more IMSs. See 'INITIATE OLC error handling’ for more details.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'0000400C'</td>
<td>The INITIATE OLC command failed because it is invalid for an XRF alternate.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004014'</td>
<td>The INITIATE OLC command failed because it is invalid for an RSR tracker.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'0000401C'</td>
<td>The INITIATE OLC command failed because it is invalid for an FDR region.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004018'</td>
<td>The INITIATE OLC command failed because the RM resource structure is not available. The online change phase may have succeeded on one or more IMSs. See 'INITIATE OLC error handling’ for more details.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004100'</td>
<td>The INITIATE OLC PHASE(PREPARE) command is rejected because the resource structure is full. RM failed trying to create the process resource on the resource structure.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004104'</td>
<td>The INITIATE OLC command failed because RM is not available. The online change phase may have succeeded on one or more IMSs. Either there is no RM address space, or RM is active but not registered to SCI because CQS or the resource structure is not available. See 'INITIATE OLC error handling’ for more details.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004108'</td>
<td>The INITIATE OLC command failed because SCI is not available. The online change phase may have succeeded on one or more IMSs. See 'INITIATE OLC error handling’ for more details.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'0000410C'</td>
<td>The INITIATE OLC command is rejected, because global online change is not enabled. Local online change is enabled. Use the /MODIFY command for local online change. If your IMSplex is made up of some IMSs that support global online change and some that support local online change, route the INITIATE OLC command to an IMS that is enabled for global online change.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004110'</td>
<td>The INITIATE OLC PHASE(PREPARE) command is rejected if the command master is not in an online change prepare state. INITIATE OLC PHASE(PREPARE) is rejected if routed to an IMS that already successfully completed commit phase 3. INITIATE OLC PHASE(PREPARE) is rejected if the command master is already in an online change prepare state. See 'INITIATE OLC error handling’ for more details.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004111'</td>
<td>The INITIATE OLC command failed because the command master is not in the OLCSTAT data set.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004114'</td>
<td>The INITIATE OLC command failed because of an error accessing the OLCSTAT data set. The online change phase may have succeeded on one or more IMSs. A DFS2843 message is sent to the OM output exit as unsolicited output. See 'INITIATE OLC error handling’ for more details.</td>
</tr>
</tbody>
</table>
Table 68. Return and Reason Codes for INITIATE OLC  (continued)

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Reason Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>X'00000010'</td>
<td>X'0000411B'</td>
<td>The INITIATE OLC command failed because of an error allocating the OLCSTAT data set. The online change phase may have succeeded on one or more IMSs. A DFS2848 message is sent to the OM output exit as unsolicited output. See 'INITIATE OLC error handling' for more details.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'0000411C'</td>
<td>The INITIATE OLC command failed because of an error in the OLCSTAT data set contents. One or more of the values is invalid. A DFS2844 message is sent to the OM output exit as unsolicited output.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004120'</td>
<td>The INITIATE OLC command is rejected because an online change command is already in progress on this IMS, which may be INITIATE OLC, TERMINATE OLC, or /DISPLAY MODIFY.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004124'</td>
<td>The INITIATE OLC PHASE(PREPARE) command is rejected because another process of the same type is already in progress. Wait until the other process has completed. If QUERY MEMBER TYPE(IMS) shows no IMS in an online change state, the process resource is residual after an online change error. Clean up the process resource with a TERMINATE OLC command.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'00005000'</td>
<td>The INITIATE OLC command is rejected because an IMODULE GETSTOR storage request failed.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'00005004'</td>
<td>The INITIATE OLC command failed because a DFSOCMD response buffer could not be obtained. The online change phase may have succeeded on one or more IMSs. See 'INITIATE OLC error handling' for more details.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'0000500C'</td>
<td>The INITIATE OLC command failed because an AWE could not be obtained.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'00005100'</td>
<td>The INITIATE OLC command failed because of an RM error. The online change phase may have succeeded on one or more IMSs. The RM error may be due to a resource structure failure that causes RM to lose knowledge of an IMSplex-wide process. See 'INITIATE OLC error handling' for more details.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'00005104'</td>
<td>The INITIATE OLC command failed because of a CQS error. The online change phase may have succeeded on one or more IMSs. See 'INITIATE OLC error handling' for more details.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'00005108'</td>
<td>The INITIATE OLC command failed because of an SCI error. The online change phase may have succeeded on one or more IMSs. See 'INITIATE OLC error handling' for more details.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'00005FFF'</td>
<td>The INITIATE OLC command failed because of an internal IMS error. The online change phase may have succeeded on one or more IMSs. See 'INITIATE OLC error handling' for more details.</td>
</tr>
</tbody>
</table>

**INITIATE Completion Codes**

The INITIATE command (with the OLC keyword) can result in errors that leave one or more of the IMSs in the IMSplex in various online change states. Table 69 on page 385 contains the possible completion codes that can be returned as a result...
of issuing an INITIATE OLC command. The table also includes a brief explanation of the code and provides the error text if applicable.

Table 69. Completion Codes for the INITIATE OLC Command

<table>
<thead>
<tr>
<th>Completion Code</th>
<th>Meaning</th>
<th>ERROR TEXT (upper case)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The online change prepare phase or commit phase completed successfully.</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>The online change type does not apply to this IMS. For example, an FMTLIB online change does not apply to a DBCTL IMS. This IMS keeps status indicating that it is participating in the online change. This IMS is included in the OLCSTAT data set IMS list after a successful commit phase 1.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>The online change phase was not attempted by this IMS for one of the following reasons:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• The online change phase master encountered an error and did not direct this IMS to perform the online change phase.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• The online change phase master rejected the online change because one or more IMSs are down and the FRCNRML or FRCABND keyword was not specified on the INITIATE OLC PHASE(PREPARE) command. The online change phase master did not direct this IMS to perform the online change phase.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>This IMS is already in the correct online change state. The INITIATE OLC command must have been retried after a previous INITIATE OLC command resulted in a mix of successes and failures. This IMS keeps status indicating that it is participating in the online change. This IMS is included in the OLCSTAT data set IMS list after a successful commit phase 1.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>The online change commit phase is incomplete on this IMS. One or more online change commit phases have been completed on this IMS. All online change commit phases were not sent to this IMS due to errors.</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>The queue structure is unavailable. IMS is unable to check if there is a global queue count for transactions to be added, changed, or deleted. Commit is not permitted to proceed. The structure may be unavailable for one of the following reasons:</td>
<td>THE QUEUE STRUCTURE IS UNAVAILABLE.</td>
</tr>
<tr>
<td></td>
<td>• CQS is unavailable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• The MSGQ structure failed and it hasn’t been rebuilt yet</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• CQS lost connectivity to the MSGQ structure</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>IMODULE GETMAIN storage error.</td>
<td></td>
</tr>
<tr>
<td>Completion Code</td>
<td>Meaning</td>
<td>ERROR TEXT (upper case)</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>61</td>
<td>BCB storage error.</td>
<td></td>
</tr>
<tr>
<td>62</td>
<td>HIOP storage error.</td>
<td></td>
</tr>
<tr>
<td>63</td>
<td>WKAP storage error.</td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>Module load error.</td>
<td>Module name (8 char), module type (8 char). The module type can be 'SECURITY'.</td>
</tr>
<tr>
<td>71</td>
<td>Module locate error.</td>
<td>Module name (8 char), module type (8 char). The module type can be 'SECURITY'.</td>
</tr>
<tr>
<td>72</td>
<td>Randomizer load error.</td>
<td>FP area randomizer name (8 char).</td>
</tr>
</tbody>
</table>
| 80              | Data set error.                     | Function (8 char), ddname (8 char), return code (8 bytes), and error detail (8 char). Function can be one of the following:  
  - BLDL  
    Data set BLDL error.  
  - BUSY  
    The data set is busy. The detail contains the jobname that has the data set.  
  - DIR  
    Data set directory error.  
  - EMPTY  
    Library is empty.  
  - ENQUEUE  
    Data set enqueue error.  
  - EOF  
    Data set end-of-file (EOF) error.  
  - OPEN  
    Data set open error. Error detail can be 'DLS REG'.  
  - READ  
    Data set read error.  
  - WRITE  
    Data set write error.  
  DDname can be ACBLIBA, ACBLIBB, FMTLIBA, FMTLIBB, MATRIXA, MATRIXB, MODBLKSA, MODBLKSB, or MODSTAT.  
  Return code is the data set service return code.  
  Reason code is the data set service reason code. |
| 90              | Internal error                      | Module name that detected internal error (8 char), unused (8 char), return code or function code (8 bytes), and error detail (8 char). |
### Table 69. Completion Codes for the INITIATE OLC Command (continued)

<table>
<thead>
<tr>
<th>Completion Code</th>
<th>Meaning</th>
<th>ERROR TEXT (upper case)</th>
</tr>
</thead>
<tbody>
<tr>
<td>91</td>
<td>The online change prepare phase, commit phase, or abort phase timed out before this IMS responded to the online change prepare or commit phase. The online change prepare phase or commit phase may have succeeded on this IMS. Issue QUERY MEMBER TYPE(IMS) to determine the online change state of this IMS.</td>
<td></td>
</tr>
<tr>
<td>Completion Code</td>
<td>Meaning</td>
<td>ERROR TEXT (upper case)</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------</td>
<td>------------------------</td>
</tr>
</tbody>
</table>
| B0              | Resource definition error. | Resource type (8 char), resource name (8 char), error detail (16 char). The resource type can be AREA, DATABASE, DMB, PROGRAM, SECURITY, or TRAN. The resource name can be a resource name, ACBLIB or MODBLKS. The error detail can be one of the following:  
  - CISIZE GT BSIZE  
    An attempt to add the areaname to the DEDB failed. The area’s CI size exceeds the Fast Path buffer size (BSIZ=) of the IMS online control region.  
  - CPCTRN CONFLICT  
    The online change command attempted to add a transaction name that conflicts with a CPIC transaction name. Tranname specifies the transaction that already exists as a CPIC transaction.  
  - DESC CONFLICT  
    The online change command attempted to add a transaction name that conflicts with a descriptor name. Tranname specifies the transaction that already exists as a descriptor name.  
  - DUPLICATE  
    A duplicate area name was found in the named DEDB DBD defined in the IMS system. The area name, that was defined in the DD1 operand on one of the AREA statements in the DBDGEN, is defined in another DEDB DBDGEN or is defined within the DEDB DBDGEN.  
  - INCOMPATIBLE  
    The DMB in the inactive ACBLIB is not compatible with IMS. The level of the inactive library is not compatible with the current IMS release.  
  - INCONSISTENT  
    IMS detected an inconsistency between the indicated security module and the definition of the new blocks in the inactive MODBLKS data set. Either the security option was requested on the online change command or the prevailing security option is YES or FORCE. In the module name, nnnns is the specific table name, where s is the suffix.  
  - LTERM CONFLICT  
    The online change command attempted to add a transaction name that conflicts with a dynamic lterm name. |
### Table 69. Completion Codes for the INITIATE OLC Command (continued)

<table>
<thead>
<tr>
<th>Completion Code</th>
<th>Meaning</th>
<th>ERROR TEXT (upper case)</th>
</tr>
</thead>
</table>
| B0              | Resource definition error (continued). | Tranname specifies the transaction that already exists as a dynamically created LTERM. The error detail can be one of the following (continued):  
  - **MSNAME CONFLICT**  
    The online change command attempted to add a transaction name that conflicts with an MSNAME. Tranname specifies the transaction that already exists as an MSNAME.  
  - **NOT DEFINED**  
    Control block was not defined in the active library during the online prepare phase. This is an internal error that should not occur.  
  - **NO BLOCKS**  
    Control blocks were missing from the inactive library during the online prepare phase.  
  - **NO FP INSTALLED**  
    An attempt was made to add a data entry database (DEDB) to an IMS system that does not have Fast Path installed.  
  - **NO OTHREADS**  
    An attempt was made to add a data entry database (DEDB) to an IMS system that was not initialized with DEDBs. No output threads (OTHREADS) were initialized and no I/O will be possible to the added DEDB.  
  - **PARTITION EXISTS**  
    A database partition by that name already exists.  
  - **RSRC CONFLICT**  
    The online change command is attempting to add a transaction name that conflicts with another message destination resource in the Resource Manager (RM). The resource can be a LTERM, CPIC transaction, MSNAME, or descriptor. Tranname specifies the transaction that already exists as another resource type.  
  - **UNSUPPORTED MSDB**  
    The online change attempted to add an MSDB or change a DEDB to an MSDB, which is not permitted. |
### Table 69. Completion Codes for the INITIATE OLC Command (continued)

<table>
<thead>
<tr>
<th>Completion Code</th>
<th>Meaning</th>
<th>ERROR TEXT (upper case)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>Resource state error. The online change phase failed on this IMS because of the state of the specified resource. Many of the resource states indicate work is in progress for resources to be changed or deleted by online change. Online change commit detected a resource in a state that results in commit failure. This is the first resource for which an error is detected. IMS is returned to an online change prepare state. Issue a <code>/DISPLAY MODIFY</code> command to display the work in progress for resources to be changed or deleted by online change. Resolve the work in progress, then attempt the <code>INITIATE OLC PHASE(COMMIT)</code> command again.</td>
<td>Resource type (8 char), resource name (8 char), error detail (16 char). The resource name is the name of the resource as it is defined to IMS, such as the database name, the program name, or the transaction name. The resource type can be DATABASE, DMB, FORMAT, PROGRAM, PSB, RTCODE, or TRAN.</td>
</tr>
</tbody>
</table>
| B1              | Resource state error | The error detail can be one of the following:  
  - ACTIVE  
    The routing code rtcode is active.  
  - AREA OPEN  
    An area associated with the FP DEDB is open.  
  - AREA STARTED  
    An area associated with the FP DEDB is started.  
  - CONVERSATION  
    The transaction to be changed or deleted or the transaction referencing a program or database to be changed or deleted is in conversation.  
  - DBD ACTIVE  
    A `/DBDUMP` command is active for the database.  
  - DBR ACTIVE  
    A `/DBRECOVERY` command is active for the database.  
  - DBR NEEDED  
    A `/DBRECOVERY` command is needed for the database resource. Online change was initiated to either change or delete one or more HALDBs which have not been taken off-line with a `/DBR` command.  
  - DEP REGS ACTIVE  
    Dependent regions using the FP DEDB are active. |
Table 69. Completion Codes for the INITIATE OLC Command (continued)

<table>
<thead>
<tr>
<th>Completion Code</th>
<th>Meaning</th>
<th>ERROR TEXT (upper case)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>Resource state error (continued)</td>
<td></td>
</tr>
</tbody>
</table>

Error detail (continued):
- **DYNAMIC OR CPIC**
  The transaction being added already exists and is not dynamic or CPIC. This is an internal error that should not occur.
- **INTERNAL ERROR**
  The resource control block is not found in the active IMS, or the resource control block already exists. These are internal errors that should not occur.
- **IN USE**
  The resource is in use.
  A transaction has queueing in progress (either terminal input program-to-program switch).
  A database is in use.
- **PSB SCHEDULED**
  A program referencing a database to be changed or deleted is scheduled.
- **QUEUEING**
  Messages are queued to the transaction or program.
- **SCHEDULED**
  The named resource (a transaction or program to be changed or deleted, or a program referencing a database to be changed or deleted) is scheduled.
- **SUSPENDED**
  The transaction to be changed or deleted is on the suspend queue.
Table 69. Completion Codes for the INITIATE OLC Command (continued)

<table>
<thead>
<tr>
<th>Completion Code</th>
<th>Meaning</th>
<th>ERROR TEXT (upper case)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2</td>
<td>IMS state error.</td>
<td>IMS state error (32 char). The IMS state can be one of the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• ABENDED</td>
</tr>
<tr>
<td></td>
<td></td>
<td>This IMS abended since the last successful online change. Online change is not permitted if any IMS abended since the last online change, unless the FRCABND option is specified on prepare. If the online change phase was rejected, issue TERMINATE OLC to abort the online change, correct the problem, and try the online change again. If an online change specified with the FRCABND option succeeds, this IMS may have to coldstart.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CHECKPOINT IN PROGRESS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>This IMS has checkpoint in progress.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• NOT-REACHABLE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The online change phase is rejected because this IMS is NOT-REACHABLE. The SCI on the OS image where this IMS is active is down. Restart the SCI and re-issue the INITIATE OLC or TERMINATE OLC command.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• OLC ALREADY COMMITTED</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The online change phase is rejected because online change is already committed. All IMSs have completed commit phase 1 and the OLCSTAT data set was updated.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• OLC NOT IN PROGRESS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The online change phase is rejected because this IMS is not in an online change state.</td>
</tr>
</tbody>
</table>
### Completion Codes for the INITIATE OLC Command (continued)

<table>
<thead>
<tr>
<th>Completion Code</th>
<th>Meaning</th>
<th>ERROR TEXT (upper case)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2</td>
<td>IMS state error (continued).</td>
<td>IMS state error (32 char). The IMS state can be one of the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• OLC PHASE IN PROGRESS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The online change phase is rejected because this IMS has an online change phase already in progress.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• ORS IN PROGRESS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Online change command is rejected because the online recovery service is already in progress.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• RESOLVE DB INDOUBTS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>This IMS has DB indoubts. You must resolve the DB indoubts either by reconnecting the coordinator controller and IMS or by using an operator command.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• RESTART IN PROGRESS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>This IMS has restart in progress.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• RESTART NOT COMPLETE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>This IMS initialized before the online change was initiated, but has not completed restart. The online prepare or abort phase is rejected as long as this IMS is in this state. Cancel this IMS, then abort the online change before attempting the online change prepare phase again.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• SHUTDOWN</td>
</tr>
<tr>
<td></td>
<td></td>
<td>This IMS shut down normally since the last successful online change. Online change is not permitted if any IMS shut down normally since the last online change, unless the FRCNRML option is specified on prepare. If the online change phase was rejected, issue TERMINATE OLC to abort the online change, correct the problem, and try the online change again. If an online change specified with the FRCNRML option succeeds, this IMS may have to cold start.</td>
</tr>
</tbody>
</table>

### INITIATE OLC Error Handling

The INITIATE OLC command can result in errors that leave one or more of the IMSs in the IMSplex in various online change states. Issue the QUERY MEMBER command and the QUERY OLC command to help you determine whether to terminate the online change or try the INITIATE OLC command again.

Before attempting online change, issue the QUERY OLC LIBRARY(OLCSTAT) SHOW(MODID) command to get the current modify id. If the INITIATE OLC command fails, issue the QUERY OLC LIBRARY(OLCSTAT) SHOW(MODID) command again, to see if the modify id is the same. If the modify id increased by 1, the online change is considered to be successfully completed.
If the INITIATE OLC command fails, issue the QUERY MEMBER TYPE(IMS) SHOWSTATUS command to display the online change state of all the IMSs in the IMSplex. Evaluate the QUERY MEMBER TYPE(IMS) SHOWSTATUS output to help you to determine what to do:

- None of the IMSs in an online change state
  If the INITIATE OLC PHASE(PREPARE) command failed on all of the IMSs in the IMSplex, none of them are in an online change state. This QUERY OLC LIBRARY(OLCSTAT) SHOW(MODID) command output shows the same modify id as the QUERY OLC LIBRARY(OLCSTAT) SHOW(MODID) command issued before the INITIATE OLC PHASE(PREPARE) command. If you want to attempt online change again, issue another INITIATE OLC PHASE(PREPARE) command.

If an INITIATE OLC PHASE(COMMIT) command successfully completes commit phase 3 on all the IMSs but fails due to an error such as a command timeout, then no IMS will remain in an online change state. The QUERY MEMBER TYPE(IMS) SHOWSTATUS command output shows no IMS in an online change state, so no further action is needed. The online change successfully completed.

If an INITIATE OLC PHASE(PREPARE) command failed for all the IMSs in the IMSplex, but RM still has information about the process, then the online change needs to be terminated. This is a very rare case where the command master initiates the online change process with RM, an error occurs, or the online change prepare phase fails on all the IMSs, and the command master in unable to terminate the online change process with RM. RM issues a CSLR2200 message but no CSLR2201 message. The QUERY MEMBER TYPE(IMS) SHOWSTATUS command output shows no IMS in an online change state. If you try to initiate an online change again with another INITIATE OLC PHASE(PREPARE) command, it is rejected. You must terminate the online change with a TERMINATE OLC command.

- Some of the IMSs in a prepare complete state
  If the INITIATE OLC PHASE(PREPARE) command fails and some of the IMSs show a status of online change prepare complete (OLCPREPC), then the prepare phase succeeded on some of the IMSs. You must terminate the online change with the TERMINATE OLC command. The IMSs that have a status of OLCPREPC remain in an online change prepare complete state until you abort the online change.

- All IMSs in a prepare complete state
  If the INITIATE OLC PHASE(PREPARE) or INITIATE OLC PHASE(COMMIT) command fails and all of the IMSs are in a prepare complete state (OLCPREPC) and the master shows a global status of online change prepare complete (OLCPREPC), then the prepare succeeded. You can issue INITIATE OLC PHASE(COMMIT) if you want to proceed with the online change. You can issue TERMINATE OLC if you want to abort the online change.

If the INITIATE OLC PHASE(PREPARE) command flavor did not apply to any IMS in the IMSplex, the command is rejected, but all of the IMSs show a status of OLCPREPC. For example, if the IMSplex consists of only DBCTL subsystems, then the INITIATE OLC PHASE(PREPARE) TYPE(FMTLIB) command does not apply to any of the IMSs and is rejected. However, all of the IMSs will show a status of OLCPREPC, indicating they are participating in the online change. If this situation occurs, you must terminate the online change. INITIATE OLC PHASE(COMMIT) will be rejected, since the online change applies to no IMS in the IMSplex.

- Some IMSs in prepare complete and commit phase 1 complete state
  If an INITIATE OLC PHASE(COMMIT) command fails during commit phase 1, some of the IMSs may be in a prepare complete state (OLCPREPC) and some of the IMSs may be in a commit phase 1 complete state (OLCCMTC1C). The commit
phase failed before the master updated the OLCSTAT data set, so the online change is not committed. You may correct the problem and try the commit again with the INITIATE OLC PHASE(COMMIT) command. Or, you may decide to abort the online change with the TERMINATE OLC command.

The IMSs that are in an online change state remain in an online change state until you abort the online change or commit the online change.

- All IMSs in a commit phase 1 complete state
  If an INITIATE OLC PHASE(COMMIT) command fails after commit phase 1 is completed, all of the IMSs are in a commit phase 1 complete state (OLCCMT1C).

  If the error occurs before the master updates the OLCSTAT data set, then the online change is not yet successful. You may abort the online change with the TERMINATE OLC command or attempt the commit again with another INITIATE OLC PHASE(COMMIT) command.

  If the error occurs after the master updates the OLCSTAT data set, then the online change is successful. You may not abort the online change. You must attempt the commit again with another INITIATE OLC PHASE(COMMIT) command to finish up the online change. The INITIATE OLC PHASE(COMMIT) command finishes the online change by completing commit phase 2.

  The IMSs that are in an online change state remain in an online change state until you abort the online change or commit the online change.

  You can determine if the OLCSTAT data set has been updated by checking the modify id. Issue the QUERY OLC LIBRARY(OLCSTAT) SHOW(MODID) command. Check if the modify id returned is different from the modify id returned by the INITIATE OLC PHASE(PREPARE) command, or the modify id returned by a QUERY OLC LIBRARY(OLCSTAT) SHOW(MODID) command issued before the INITIATE OLC PHASE(COMMIT) command.

- Some IMSs in commit phase 1 complete state and some in commit phase 2 complete state
  If an INITIATE OLC PHASE(COMMIT) command fails during commit phase 2, some of the IMSs may be in a commit phase 1 complete state (OLCCMT1C) and some may have completed commit phase 2 and be in a commit phase 2 complete state (OLCCMT2C). The INITIATE OLC PHASE(COMMIT) command failed after commit phase 1 completed on all of the IMSs and the master updated the OLCSTAT data set. Once the OLCSTAT data set is updated, the online change is considered to be successful and cannot be aborted. You must finish the online change commit phase 2 by issuing the INITIATE OLC PHASE(COMMIT) command again. The INITIATE OLC PHASE(COMMIT) command finishes the online change by completing commit phase 2.

  The IMSs that are in an online change state remain in an online change state until you finish the online change with an INITIATE OLC PHASE(COMMIT) command.

- All IMSs in commit phase 2 complete state
  If an INITIATE OLC PHASE(COMMIT) command fails during commit phase 2 or commit phase 3, all of the IMSs may end up in a commit phase 2 complete state (OLCCMT2C). The INITIATE OLC PHASE(COMMIT) command failed after commit phase 1 completed on all of the IMSs and the master updated the OLCSTAT data set. Once the OLCSTAT data set is updated, the online change is considered to be successful and cannot be aborted. You must finish the online change commit phase 2 and commit phase 3 by issuing the INITIATE OLC PHASE(COMMIT) command again.
The IMSs that are in an online change state remain in an online change state until you finish the online change with an INITIATE OLC PHASE(COMMIT) command.

- Some IMSs in commit phase 2 complete state and some not in online change state

If an INITIATE OLC PHASE(COMMIT) command fails during commit phase 3, some of the IMSs may be in a commit phase 2 complete state (OLCCMT2C) and some may have completed commit phase 3 and no longer be in an online change state. The INITIATE OLC PHASE(COMMIT) command failed after commit phase 1 completed on all of the IMSs and master updated the OLCSTAT data set. Once the OLCSTAT data set is updated, the online change is considered to be successful and can not be aborted. You must finish the online change commit phase 3 by issuing the INITIATE OLC PHASE(COMMIT) command again, routing it to an IMS that is still in a commit phase 2 complete state. The INITIATE OLC PHASE(COMMIT) command finishes the online change by completing commit phase 3.

The IMSs that are in an online change state remain in an online change state until you finish the online change with an INITIATE OLC PHASE(COMMIT) command.

Errors unique to the processing of this command are returned as a completion code. A completion code is returned for an IMS participating in the online change phase. See Table 69 on page 385 for a listing of the completion codes that may be returned on an INITIATE OLC command.

Examples

Example 1 for INITIATE OLC Command

First Paragraph

TSO SPOC input:
INITIATE OLC PHASE(PREPARE) TYPE(MODBLKS,ACBLIB)

TSO SPOC output:

<table>
<thead>
<tr>
<th>MbrName</th>
<th>Member</th>
<th>CC</th>
<th>ACBLIB</th>
<th>FMTLIB</th>
<th>MODBLKS</th>
<th>ModId</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMS3</td>
<td>IMS2</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMS3</td>
<td>IMS3</td>
<td>0</td>
<td>B</td>
<td>A</td>
<td>B</td>
<td>1</td>
</tr>
<tr>
<td>IMS3</td>
<td>SYS3</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OM API input:
CMD (INITIATE OLC PHASE(PREPARE) TYPE(MODBLKS,ACBLIB))

OM API output:

```xml
<?xml version="1.0"?>
<!DOCTYPE imsout SYSTEM "imsout.dtd">
<imsout>
<ctl>
<omname>OM1OM</omname>
<omvsn>1.1.0</omvsn>
<xmlvsn>1</xmlvsn>
<statime>2002.163 15:40:53.336327</statime>
<stotime>2002.16315:40:53.336327</stotime>
<rqsttkn1>USRT011 10084053</rqsttkn1>
<rc>0200000C</rc>
</ctl>
<cmderr>
```
<mbr name="IMS2 ">
<typ>IMS</typ>
<styp>DBDC</styp>
<rc>02000004</rc>
<rsn>00001008</rsn>
</mbr>

<mbr name="SYS3 ">
<typ>IMS</typ>
<styp>DBDC</styp>
<rc>02000004</rc>
<rsn>00001008</rsn>
</mbr>
</cmderr>

<cmd>
<master>IMS3</master>
<userid>USRT011</userid>
<verb>INIT</verb>
<kwd>OLC</kwd>
<input>INITIATE OLC PHASE(PREPARE) TYPE(MODBLKS,ACBLIB)</input>
</cmd>

<cmdrsphdr>
<hdr slbl="MBR" llbl="MbrName" scope="LCL" sort="n" key="0" scroll="yes" len="8" dtype="CHAR" align="left" />
<hdr slbl="IMSMBR" llbl="Member" scope="LCL" sort="a" key="1" scroll="no" len="8" dtype="CHAR" align="left" />
<hdr slbl="CC" llbl="CC" scope="LCL" sort="n" key="0" scroll="yes" len="4" dtype="INT" align="right" />
<hdr slbl="ACBL" llbl="ACBLIB" scope="GBL" sort="n" key="0" scroll="yes" len="1" dtype="CHAR" align="right" />
<hdr slbl="FMTL" llbl="FMTLIB" scope="GBL" sort="n" key="0" scroll="yes" len="1" dtype="CHAR" align="right" />
<hdr slbl="MODB" llbl="MODBLKS" scope="GBL" sort="n" key="0" scroll="yes" len="1" dtype="CHAR" align="right" />
<hdr slbl="MODI" llbl="ModId" scope="GBL" sort="n" key="0" scroll="yes" len="8" dtype="CHAR" align="right" />
</cmdrsphdr>

<cmdrspdata>
<rsp>MBR(IMS3 ) IMSMBR(SYS3 ) CC(0)</rsp>
<rsp>MBR(IMS3 ) IMSMBR(IMS2 ) CC(0)</rsp>
<rsp>MBR(IMS3 ) IMSMBR(IMS3 ) CC(0) ACBL(B) FMTL(A) MODB(B) MODI(1)</rsp>
</cmdrspdata>
</imsout>

Explanation: The IMSplex consists of three IMSs -- SYS3, IMS2, and IMS3. All three of the IMSs complete the online change prepare phase successfully for the MODBLKS library. IMS3 is the master of the prepare phase. The current online change libraries are ACBLIBB, FMTLIBA, and MODBLKSB. The current modify id is 1.

**Example 2 for INITIATE OLC Command**

**TSO SPOC input:**

INITIATE OLC PHASE(COMMIT)

**TSO SPOC output:**

<table>
<thead>
<tr>
<th>MbrName</th>
<th>Member</th>
<th>CC</th>
<th>ACBLIB</th>
<th>FMTLIB</th>
<th>MODBLKS</th>
<th>ModId</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMS3</td>
<td>IMS2</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMS3</td>
<td>IMS3</td>
<td>0</td>
<td>B</td>
<td>A</td>
<td>A</td>
<td>2</td>
</tr>
<tr>
<td>IMS3</td>
<td>SYS3</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**OM API input:**

CMD (INITIATE OLC PHASE(COMMIT))
OM API output:

Explanation: A global online change commit is initiated and completes successfully.
Chapter 30. /LOCK

Format

Environments and Keywords

Table 70 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 70. Valid Environments for the /LOCK Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/LOCK</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>DATABASE</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>LTERM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NODE</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROGRAM</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PTERM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TRANSACTION</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/LOCK stops the sending and receiving of messages to and from a terminal, stops the scheduling of messages containing a specific transaction code, stops the scheduling of a specific program, and stops the use of a database. Queuing of output messages for a particular communication line, terminal, or transaction code is not affected.

The /LOCK command can be used on HALDBs. For more information see Appendix H, “High Availability Large Database Commands,” on page 805.
The output of the /LOCK DB command is changed when the command is entered through the OM API. In this case, the DFS058I message is not returned to OM. The command response returned to OM contains one or more of the following messages: DFS0488I, DFS3466I, or DFS132. The OM API does not support the /LOCK command without any keywords.

DATABASE
LOCK prevents subsequently scheduled programs from accessing the database. /LOCK DATABASE does not close the database or affect currently scheduled programs.

If the database is a DEDB or MSDB, programs using the database will not be scheduled. For other databases, the programs will still be scheduled. If the INIT call was issued, however, a call against the database will result in either a 3303 pseudo abend or a BA status code.

For DBCTL, CCTL can specify LONG or SHORT when it schedules a PSB. If the database is currently scheduled to a LONG thread, the command is rejected. If not, the thread completes before the database is acted upon. If the thread completes, a commit point or transaction termination is the result.

For the results of issuing this command on a shared secondary index, see Appendix D, “Shared Secondary Index Database Commands,” on page 787.

LTERM
Specifies the logical terminal for which sending and receiving of messages is to be stopped. /LOCK LTERM applies only to logical terminals associated with the entering physical terminal.

The password specified with /LOCK LTERM is ignored for dynamic LTERMs because the Security Maintenance Utility is used for password support and is not supported for dynamic terminals. The /LOCK command itself is not ignored.

The /LOCK LTERM ALL command can only be used when none of the logical terminals associated with the entering physical terminal have passwords.

NODE
Specifies that the sending and receiving of messages for the VTAM node associated with the entering physical terminal is to be stopped.

The password specified with /LOCK NODE is ignored for dynamic ACF/VTAM nodes because the Security Maintenance Utility is used for password support and is not supported for dynamic terminals. The /LOCK command itself is not ignored.

PROGRAM
Specifies the program for which scheduling is to be stopped.

PTERM
Specifies that the sending and receiving of messages for the entering physical terminal is to be stopped.

TRANSACTION
Specifies that scheduling of messages containing this transaction code is to be stopped. The /LOCK TRANSACTION command cannot be used with Fast Path exclusive transactions but can be used with Fast Path potential transactions.

/LOCK TRANSACTION cannot be used for CPI Communications driven programs.

/LOCK LTERM, NODE, and PTERM apply only to the entering physical terminal. /LOCK DATABASE | PROGRAM | TRANSACTION is only valid if entered from the master terminal, the system console, a TCO script, or an AOI application program.
Issuing `/LOCK` for a physical terminal, logical terminals, or nodes prevents application program output from being sent (assuming nonresponse mode transactions) and message switches from any other terminals. Output message queuing continues for the locked physical terminal. `/STOP LTERM` can be used instead of `/LOCK LTERM`, because both stop the sending and receiving of messages to the physical terminal.

If the terminals are on a switched communication network and a physical or logical terminal disconnection occurs, an implied `/UNLOCK` is processed against the physical terminal and inquiry logical terminal.

The `/LOCK` command cannot be used with logical terminals assigned to deallocated users.

### Examples

**Example 1 for `/LOCK` Command**

Entry ET:
```
/LOCK DATABASE TREEFARM
```

Response ET:
```
DFS058I LOCK COMMAND COMPLETED
```

Explanation: Application programs that use the MSDB database named TREEFARM are no longer scheduled. Transaction input can continue.

**Example 2 for `/LOCK` Command**

Entry ET:
```
/LOCK LTERM ALL
```

Response ET:
```
DFS058I LOCK COMMAND COMPLETED
```

Explanation: Output is queued but not sent to the logical terminals associated with the physical terminal from which `/LOCK` was entered.

**Example 3 for `/LOCK` Command**

Entry ET:
```
/LOCK PROGRAM APPLETRE
```

Response ET:
```
DFS058I LOCK COMMAND COMPLETED
```

Explanation: Program APPLETRE can no longer be scheduled.

**Example 4 for `/LOCK` Command**

Entry ET:
```
/LOCK PTERM
```

Response ET:
```
DFS058I LOCK COMMAND COMPLETED
```
Explanations: Application program output (if nonresponse mode transaction) and message switches from other terminals are not sent to the entering physical terminal. Output is queued for later transmission when the terminal is unlocked.

Example 5 for /LOCK Command

Entry ET:
/LOCK TRANSACTION SEED

Response ET:
DFS058I LOCK COMMAND COMPLETED

Explanation: The application program for transaction code SEED can no longer be scheduled. Transaction input can continue.

Entry ET:
/LOCK TRANSACTION TXCDLM06

Response ET:
DFS058I LOCK COMMAND COMPLETED EXCEPT TRANSACTION TXCDLM06

Explanation: TXCDLM06 is a Fast Path exclusive transaction. /LOCK cannot stop the scheduling of Fast Path exclusive transactions.
Table 71. Valid Environments for the /LOG Command

<table>
<thead>
<tr>
<th>Command</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/LOG</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/LOG writes a single-segment message to the IMS system log. Any text can be logged, including transaction codes or command streams. An X'02' log record is produced and contains the text. This command applies only to the currently entered message segment and does not establish a continuing operational mode.

text is the alphanumeric character message to be logged.

Example for /LOG Command

Entry ET:

/LOG TODAY IS MONDAY

Response ET:

DFS058I LOG COMMAND COMPLETED

Explanation: An X'02' log record containing the text
TODAY IS MONDAY

is written to the IMS system log.
Chapter 32. /LOOPTEST

Format

```
/LOOPTEST LINE line# PTERM pterm#
```

Environments and Keywords

Table 72 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 72. Valid Environments for the /LOOPTEST Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/LOOPTEST</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>LINE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PTERM</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/LOOPTEST is a multisegment command that creates an output write loop that tests for output errors. It causes a single-segment message to be repeatedly transmitted to the terminal being tested.

Multisegment input is combined into a single segment for output transmission. For the terminal in looptest mode to receive the complete message, the cumulative output segment must not exceed the terminal’s output size restrictions.

/LOOPTEST requires an EOM indication to denote end-of-message; an EOS indication must be included for all segments that precede the last segment. See “Multisegment Command Input” on page 7 for more detail on using EOS and EOM.

/LOOPTEST causes all I/O error detection and notification procedures within IMS to be bypassed. Depending on the types of errors involved, some write loops might result in high processor utilization.

The /END command terminates looptest mode.

LINE, PTERM

Specifies the communication line or physical terminal to be placed into looptest mode. If the terminal in looptest mode is attached to a multipoine line, the entire line must be stopped and idle before the /LOOPTEST command is allowed.

/LOOPTEST is not allowed on VTAM-attached terminals, switched lines, or lines for System/3 and System/7.

If the device specified is not powered on and ready, intervention-required messages will be sent to the master terminal.

The /DISPLAY LINE PTERM command identifies a terminal in looptest mode.

Example for /LOOPTEST Command

Entry ET:
/LOOPTEST

/LOOPTEST LINE 5 PTERM 1 (EOS)
DATA TEST (EOS)
12345 (EOM)

Response ET:
DFS058I  LOOPTEST COMMAND COMPLETED

Response RT:
DATA TEST 12345
DATA TEST 12345
and so forth.

Explanation: DATA TEST 12345 is repetitively sent to PTERM 1 on LINE 5.
Chapter 33. /MODIFY

Format

```
/MODIFY
  ABORT
  COMMIT
  PREPARE A
  LTERM [ltermname]
```

A:

```
  ALL
  PASSWORD
  TERMINAL
  TRANCMDS
```

Environments and Keywords

Table 73 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 73. Valid Environments for the /MODIFY Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/MODIFY</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>ABORT</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>COMMIT</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>LTERM</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>PASSWORD</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PREPARE</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>TERMINAL</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TRANCMDS</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/MODIFY controls the modification of IMS resources online. It switches the online environment from the active ACBLIB, FORMAT, MATRIX, and MODBLKS libraries to the inactive libraries containing the new or changed resource descriptions. See [IMS Version 8: Administration Guide: System] and [IMS Version 8: Installation Volume 1: Installation Verification] on how to create the inactive libraries before using this command. See [IMS Version 8: Utilities Reference: System] for information on using the Online Change utility. The descriptions of the resources and parameters for the /MODIFY command are shown in Table 74 on page 408.
## Table 74. Resources and Parameters Available to the /MODIFY Command

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Library</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACBLIB</td>
<td>IMS.ACBLIBx</td>
<td>Contains database and program descriptors such as DMBs and PSBs.</td>
</tr>
<tr>
<td>FMTLIB</td>
<td>IMS.FORMATx</td>
<td>Contains MFS maps produced by the MFS language utility and service utility. The FMTLIB parameter is not valid with DBCTL.</td>
</tr>
<tr>
<td>MODBLKS</td>
<td>IMS.MODBLKSx, IMS.MATRIXx</td>
<td>Contains a subset of control blocks produced by IMS system definition and security definitions.</td>
</tr>
<tr>
<td>RACF</td>
<td></td>
<td>RACF in-storage profiles. The RACF parameter is not valid with DBCTL.</td>
</tr>
</tbody>
</table>

**Note:**
1. \( \times = A \text{ or } B \)
2. Use the SETROPTS RACLIST(CIMS) REFRESH command to refresh RACF updates.

The correct sequence for /MODIFY commands is PREPARE followed by COMMIT. If the online change is not to be completed, the /MODIFY ABORT command is used. The /MODIFY PREPARE command specifies which resources are to be changed or deleted. Depending on the parameters entered, the system will initiate quiescing of appropriate resources. COMMIT initiates the changes entered in a preceding PREPARE. If a previously entered /MODIFY PREPARE command is to be canceled, ABORT must be entered.

An IMS automated operator program can issue the /MODIFY PREPARE and /MODIFY ABORT commands, but it cannot issue the /MODIFY COMMIT command. Thus, you can automatically prepare or abort online change.

If this command is used to delete a database, IMS closes the database and makes it unavailable to programs. Also, if the database is authorized for DBRC, /MODIFY unauthorizes it.

Fast Path DEDBs are supported by the /MODIFY command, but Fast Path MSDBs are not supported.

In an IMSplex, /MODIFY is not supported if coordinated online change is enabled.

### ABORT
Resets the status that was set by the /MODIFY PREPARE command after a /MODIFY PREPARE, or can be used if the /MODIFY COMMIT was not successful and the operator chooses not to attempt the online change at that time.

### COMMIT
Brings all the newly defined resources online, updates the changed resources, and invalidates the deleted resources.

If ALL was specified on the /MODIFY PREPARE command, the ACBLIB, FMTLIB, and MODBLKS changes must be successful or the /MODIFY COMMIT will be rejected. When COMMIT is successful, the modifications will persist across all IMS restarts. If FMTLIB is entered, most new and in-progress requests will be queued for processing after the /MODIFY COMMIT command is completed.

If MODBLKS or ACBLIB is specified, work in progress in the system for changed or deleted ACBLIB and MODBLKS resources must be completed, or the /MODIFY command is rejected.
/DISPLAY MODIFY is used to display the work that was in progress prior to the entering of /MODIFY COMMIT.

IMS will prevent messages entered from terminals from being queued to transactions, but program-to-program switches from applications can still occur. Therefore, a /DISPLAY MODIFY command can indicate that no work is pending for the resources to be modified or deleted, but the /MODIFY COMMIT might be rejected. If this occurs, the new work must be allowed to complete and then the /MODIFY COMMIT command must be reentered.

/MODIFY COMMIT is rejected if:

• A /MODIFY PREPARE command was not previously entered.
• Transactions to be deleted have messages queued.
• Transactions to be changed by the following system definition keywords have messages queued:
  – MSGTYPE
  – INQUIRY
  – FPATH
  – EDIT
  – SPA
• Transactions to be changed by keywords not shown in the previous bullet have messages queued, and the transactions have not been the object of a /STOP or /PSTOP command.
• Transactions with access to programs and/or databases to be changed or deleted are prevented from updating, and the transactions have not been the object of a /STOP or /PSTOP command. When a transaction shows a status of USTOP during a /DISPLAY TRANSACTION, the /STOP command might need to be entered, because the /PSTOP command might not allow the /MODIFY command to complete the transaction.
• Programs or databases to be changed or deleted are scheduled.
• Any program (PSB) that is currently scheduled has a program, database, or transaction change or deletion. This includes Wait for Input (WFI) and Fast Path transactions. All WFI and Fast Path regions that reference changed or deleted routing codes, programs, and/or databases must be stopped before entering the /MODIFY COMMIT.
• An I/O error occurs while reading the inactive MFS FORMAT library directory or the resident index ($$IMSDIR) member.
• A /START DATABASE command is in progress for any database that is changed or deleted.
• A /DBDUMP or /DBRECOVERY command is in progress for any database that is changed or deleted.

Operator action might be required to prevent the preceding conditions. For example, if a program or database is scheduled, the operator should either wait until the program or database is finished before the /MODIFY COMMIT command is entered, or the operator should issue /STOP or /PSTOP for the associated transaction.

If IMS is in an IMSplex and Resource Manager (RM) is using a resource structure, the transactions being added by the online change are registered to RM if they are not already registered to RM. If any error occurs during the CSLRMUPD request to register the transactions, the /MODIFY or INITIATE OLC command will fail and IMS will be in a COMMIT2F state.
If a /MODIFY COMMIT command results in the COMMIT2F state, the command is rejected with a DFS178 message. A DFS3308 message is sent to the system console with the CSLRMUPD return/reason code. The IMS remains in a COMMIT2F state and the /MODIFY cannot be committed or aborted. The IMS must be cancelled and warm started as the online change is not complete.

PREPARE

/MODIFY PREPARE is not recovered across an emergency restart and must be reentered after restart if the /MODIFY COMMIT did not complete prior to an IMS failure.

The parameters in Table 75 are valid with /MODIFY PREPARE. The environments in which the parameters are valid are also shown in the table.

Table 75. /MODIFY PREPARE Parameters Environments

<table>
<thead>
<tr>
<th>Parameter</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACBLIB</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>ALL</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>BLDL</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>FMTLIB</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LTERM</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>MODBLKS</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PASSWORD</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>TERMINAL</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRANCMDS</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RACF</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Note:

1. Only applies to ACBLIB, MODBLKS, and BLDL.

ACBLIB

Quiesces the transactions to be changed or deleted and transactions that access databases or programs to be changed or deleted. ACBLIB members that are not found are displayed as CHANGED because a DDIR or PDIR exists in MODBLKS. Additions or deletions to ACBLIB require the MODBLKS parameter.

ALL

Indicates that /MODIFY PREPARE is to be performed for ACBLIB, FMTLIB, RACF, MODBLKS and BLDL.

BLDL

Causes information message DFS3498I to be issued for each PSB or DMB not found in ACBLIB. This message does not affect the success of the command.

FMTLIB

Indicates that there will be no restrictions on the use of MFS format blocks until the /MODIFY COMMIT command is entered.

LTERM ltermname

Specifies a logical terminal to receive lists of added, changed, or deleted resources.

MODBLKS

Causes IMS to prepare to bring the changes or deletions defined by the
new system definition to IMS. Using MODBLKS also quiesces the transactions to be changed or deleted and transactions that access databases or programs to be changed or deleted.

**PASSWORD**
Is an optional keyword that can be specified in any combination with ALL or MODBLKS to add, but not delete, specific types of security definitions if they had not existed before. If ALL or MODBLKS is specified, the application of new security definitions will always be attempted based upon the prevailing security options in effect from the last IMS initialization.

**Related Reading:** See [IMS Version 8: Administration Guide: System](#) for more information on security definition.

**RACF**
Use of the RACF data space invalidates the IMS online change support for RACF with the /MODIFY command. The IMS online change support is still valid, though, when the RACF data space is not being used.

The message DFS3432 RACF PARAMETER INVALID IF RACF DATA SPACE IS USED is issued if the RACF parameter is used on the /MODIFY PREPARE command when the RACF data space is being used. You can use the RACF command SETROPTS RACLIST (classname) REFRESH to refresh the RACF resource profiles in the RACF data space without requiring the IMS applications to suspend work.

**TERMINAL**
Is an optional keyword that can be specified in any combination with ALL or MODBLKS to add, but not delete, specific types of security definitions if they had not existed before. If ALL or MODBLKS is specified, the application of new security definitions will always be attempted based upon the prevailing security options in effect from the last IMS initialization.

**Related Reading:** See [IMS Version 8: Administration Guide: System](#) for more information on security definition.

**TRANCMDS**
Is an optional keyword that can be specified in any combination with ALL or MODBLKS to add, but not delete, specific types of security definitions if they had not existed before. If ALL or MODBLKS is specified, the application of new security definitions will always be attempted based upon the prevailing security options in effect from the last IMS initialization.

**Related Reading:** See [IMS Version 8: Administration Guide: System](#) for more information on security definition.

---

### Examples

#### Example 1 for /MODIFY Command

This is an example of a successful PREPARE, COMMIT sequence. First, the command /MODIFY PREPARE ALL is issued, as shown below:

**Entry ET:**

```
/MODIFY PREPARE ALL
```

**Response ET:**

```
DFS3499I ACTIVE DDNAMES MODBLKSA IMSACBA FORMATA MODSTAT ID: 103
```
Example 2 for /MODIFY Command

This is an example of a prepare/commit/abort sequence.

Entry ET:
/MODIFY COMMIT

Response ET:
DFS3499I ACTIVE DDNAMES: MODBLKSB IMSACBB FORMATB MODSTAT ID: 104

Explanation: Successful COMMIT. ID is incremented and DDNAMES changed. This message is the normal response.

After the response is received from the second part of the successful PREPARE, COMMIT sequence, the command shown in the example below is issued to conclude the PREPARE, COMMIT sequence:

Entry ET:
/MODIFY PREPARE ACBLIB MODBLKS TERMINAL

Response ET:
DFS3499I ACTIVE DDNAMES MODBLKSB IMSACBB FORMATB MODSTAT ID: 104

Explanation: The modifications will be brought online to IMS during a subsequent successful /MODIFY COMMIT command. This message is the normal response.

Entry ET:
/MODIFY COMMIT

Response ET:
DFS3452I WORK IN PROGRESS FOR RESOURCES TO BE CHANGED/DELETED

Explanation: The /MODIFY COMMIT was rejected because changed/deleted resources have not been quiesced.

Entry ET:
/MODIFY ABORT

Response ET:
DFS058I MODIFY ABORT COMMAND COMPLETED

Explanation: Status set by the /MODIFY PREPARE command is reset and the online change does not occur.

Example 3 for /MODIFY Command

This example shows the use of the LTERM keyword when adding, changing, or deleting Fast Path DEDBs or areas.

Entry ET:
/MODIFY PREPARE ALL LTERM WTOR
Response ET:

DFS3499I ACTIVE DNNAMES: MODBLKSA IMSACBA FORMATA MODSTAT ID: 1
DFS3430I THE FOLLOWING MODIFICATIONS WILL OCCUR DURING /MODIFY ...

COMMIT:
DFS3430I DATABASE CALENDER ADDED
DFS3430I DATABASE NEWDD01 ADDED
DFS3430I DMB CALENDER ADDED
DFS3430I DMB NEWDD01 ADDED
DFS3430I DMB DEDBJN23 CHANGED
DFS3430I AREA DB23AR4 DELETED
DFS3430I AREA DB23AR5 DELETED
DFS3430I AREA DB23AR6 DELETED
DFS3430I AREA DB23AR7 DELETED
DFS3430I DMB DEDBJN24 CHANGED
DFS3430I AREA DB24ANU1 ADDED
DFS3430I AREA DB24ANU2 ADDED
DFS3430I AREA DB24ANU3 ADDED
DFS3430I PSB BMP255 CHANGED
DFS3430I PSB DDLTFPE4 CHANGED
DFS3430I PSB DDLTNJN21 CHANGED
DFS3430I PSB DDLTRN20 CHANGED
DFS3430I TRAN TRAN255 CHANGED
DFS3430I TRAN TXCDRN20 CHANGED
DFS3430I TRAN TXCD255 CHANGED
DFS3430I TRAN TXCD255W CHANGED
DFS3430I SECURITY PASSWORD NONE
DFS3430I SECURITY TERMINAL NONE
DFS3430I SECURITY TRANCMDS NONE
DFS3430I SECURITY SIGNON NONE
DFS3430I SECURITY AGT NONE
DFS3430I END OF MODIFICATIONS

Explanation: The modifications will be brought online to IMS during a subsequent successful /MODIFY COMMIT command. These messages are the normal response.
IMS Commands
Chapter 34. /MONITOR

Format

```
/MONITOR  LINE line#  PTERM pterm#
```

Environments and Keywords

Table 76 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/MONITOR</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LINE</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTERM</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Usage

/MONITOR stops output from being sent to programmable remote stations (System/3 or System/7). Input and output message queuing are allowed to continue.

/MONITOR can be used to reset conditions previously established by the /START, /RSTART, /STOP, /PSTOP, or /PURGE command.

LINE, PTERM

Specifies the communication line or physical terminal for which output is being stopped.

Example for /MONITOR Command

Entry ET:

```
/MONITOR LINE 4 PTERM 3
```

Response ET:

```
DFS058I  MONITOR COMMAND COMPLETED
```

Response RT:

```
DFS059I  TERMINAL MONITORED
```

Explanation: No further output is allowed to PTERM 3 on LINE 4.
Chapter 35. /MSASSIGN

Format

Environments and Keywords

Table 77 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 77. Valid Environments for the /MSASSIGN Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/MSASSIGN</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>LINK</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>LOCAL</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>MSNAME</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>MSPLINK</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>SYSID</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TRANSACTION</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Usage

The /MSASSIGN command alters the assignments of the following multisystem resources: LINK, MSPLINK, MSNAME, and SYSID. These assignments include logical link to physical link, remote system identification (SYSID) to logical link, logical link path (MSNAME) to logical link, and transaction to a local or remote system.

All changes made by an /MSASSIGN command remain until changed with another /MSASSIGN command or an IMS cold start is performed. After the /MSASSIGN command is used, /MSVERIFY should be used to ensure that the assignment produced a valid configuration.

LINK

Specifies the logical link in a multiple system configuration.

Logical links can be assigned to physical links for input/output purposes. Only one logical link at a time can be assigned to a physical link (except for VTAM MSPLINKs, which can have multiple logical links assigned to them). The logical link must be stopped and idle for this assignment. Systems can only
/MSASSIGN

communicate with each other across a logical link established through specification of the same partner ID in both systems.

This type of assignment must be synchronized between the master terminal operators of the two systems. If a connection becomes inoperable while a transmission is in progress, this type of assignment allows switching to an alternate connection and proceeding with the unfinished transmission.

LOCAL
Specifies the local system, that is the subsystem in which the command is issued. The command /MSASSIGN TRANSACTION p1 TO LOCAL assigns transaction p1 to the local system.

MSNAME
Specifies the logical link path in a multiple systems configuration.

MSPLINK
Specifies the physical link in a multiple subsystem configuration.

The command /MSASSIGN LINK p1 MSPLINK p2 assigns the logical link p1 to the physical link p2 for input and output purposes.

SYSID
Specifies the system identification of a remote system in a multiple system configuration. Remote SYSIDs can be assigned to logical links for output purposes. More than one SYSID (=MSNAME) can be assigned to one logical link. A remote SYSID (=MSNAME) cannot be assigned to another logical link if a message is currently transmitting on the connection corresponding to this SYSID. Therefore, the logical link must be stopped and idle for this assignment.

TRANSACTION
Specifies the transaction to be assigned to either the local or the remote system.

For successful completion of the command:
• The transactions must be stopped.
• When assigning a remote transaction to local, a local APPLCTN macro (no SYSID parameter) for the corresponding program (PSB) must have been included in the system definition. There must be a local as well as a remote PSB of the same name defined during system definition.

/MSASSIGN TRANSACTION cannot be used for the CPI Communications driven transaction program.

Examples

Example 1 for /MSASSIGN Command

Entry ET:
/MSASSIGN LINK 2 TO MSPLINK BBB

Response ET:
DFS058I  MSASSIGN COMMAND COMPLETED

Explanation: The input system now has a logical connection to physical link BBB for all the SYSIDs assigned to link 2.
Example 2 for /MSASSIGN Command

Entry ET:
/MSASSIGN MSNAME BOSTON TO LINK 3

Response ET:

DFS058I MSASSIGN COMMAND COMPLETED

Explanation: The MSNAME BOSTON and its associated SYSID (19) have been reassigned to link 3. Link 3 can be used to associate all its SYSIDs with a main storage-to-main storage connection as opposed to a channel-to-channel or a bisynchronous connection.

Example 3 for /MSASSIGN Command

Entry ET:
/MSASSIGN SYSID 19 TO LINK 2

Response ET:

DFS058I MSASSIGN COMMAND COMPLETED

Explanation: SYSID 19 might have been originally assigned to link 1 in the remote system and known by the MSNAME of CHICAGO. The example above reassigns SYSID 19 (CHICAGO) to link 2. This assignment can be made when both link 1 and link 2 are connected to the same two IMS systems and link 1 is inoperable.

Example 4 for /MSASSIGN Command

Entry ET:
/MSASSIGN TRANSACTION XYZ TO MSNAME LNKY

Response ET:

DFS058I MSASSIGN COMMAND COMPLETED

Explanation: Local and remote SYSIDs of transaction XYZ are assigned to the link associated with MSNAME LNKY.
Chapter 36. /MSVERIFY

Format

```
/MSVERIFY MSNAME msnamed
/MSV SYSID sysid#
```

Environments and Keywords

Table 78 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 78. Valid Environments for the /MSVERIFY Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/MSVERIFY</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>MSNAME</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYSID</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/MSVERIFY verifies local transactions and local LTERMs for corresponding remote transactions and remote LTERMs. It also verifies the consistency of the attributes of corresponding transactions. For instance, Fast Path exclusive transactions cause an error message to be returned because the transactions can only be processed as local transactions. Defined paths that are usable between the two systems can also be verified with this command.

The IMS multiple systems verification utility is run offline following system definition. /MSVERIFY is used during online execution when verification of two systems is desired, such as after an /MSASSIGN command has been entered.

**MSNAME**

Specifies the logical link path in a multiple systems configuration.

**SYSID**

Specifies the remote system identification of a system in a multiple systems configuration.

**Restrictions:** The /MSVERIFY command has the following restrictions:

- Only one remote system can be specified for each /MSVERIFY command.
- The /MSVERIFY command does not apply to ISC or directed routing.
- If an IMS Version 4 system is connected to a shared-queues environment, the /MSVERIFY command will only work if it is entered from the IMS system that is directly connected to the IMS Version 4 system.

Examples

Example 1 for /MSVERIFY Command

Entry ET:

```
/MSVERIFY MSNAME ABC
```
/MSVERIFY

Response ET:

DFS2234I MSVERIFY COMMAND IN PROGRESS FOR LOCAL SYSIDS 001,002,003,004 dddddd

Explanation: Assume SYSID numbers 001 through 004 are defined as local in the input system. dddddd is the time stamp.

Response ET:

DFS2243 TA11A IS NOT DEFINED AS TRANSACTION IN BOTH SYSTEMS.

Explanation: TA11A is defined as a remote transaction in one system but is not defined as a transaction in the partner system.

Response ET:

DFS2237I MSVERIFY COMPLETED FOR LOCAL SYSID 001 dddddd

Explanation: Verification of local SYSID 001 is completed. The response message is repeated for local SYSIDs 002, 003, and 004 if all verify. dddddd is the time stamp.

Response ET:

DFS2235I SYSID 004 IS DEFINED AS LOCAL IN BOTH SYSTEMS. dddddd

Explanation: SYSID 004 has no corresponding remote SYSID. dddddd is the time stamp.

Remote SYSIDs are processed next.

Response ET:

DFS2236I MSVERIFY COMMAND IN PROGRESS FOR REMOTE SYSIDS 005,006,007,008 dddddd

Response ET:

DFS2237I MSVERIFY COMPLETED FOR SYSID 005 dddddd

Explanation: The verification of one remote SYSID is completed. The response above is repeated for remote SYSIDs 006, 007, and 008 if all verify. dddddd is the time stamp.

Example 2 for /MSVERIFY Command

Entry ET:

/MSVERIFY SYSID 8

Explanation: The input system sends a list of its local SYSIDs to the remote system and then displays the following message on the input terminal.

Response ET:

DFS2234I MSVERIFY COMMAND IN PROGRESS FOR LOCAL SYSIDS 001, 002, 003, 004 dddddd
Explanation: Assume SYSID numbers 001 through 004 are defined as local in the input system.

As the input system completes processing of the information returned for each of the input system's local SYSIDs, the following message is displayed on the input terminal:

Response RT:

DFS2237I MSVERIFY COMPLETED FOR SYSID 001  
dddddd

Explanation: The verification of local SYSID 001 is completed. The response message is repeated for local SYSIDs 002, 003, 004 if all verify. Verification is complete only if a DFS2237I message is received for every SYSID identified in the DFS2234I message. Definition and assignment errors can cause conditions that prevent these messages from being returned. Stopped or unassigned links can also prevent the return of the message. dddddd is the time stamp.

Remote SYSIDs are processed next. The input system sends all its pertinent information related to the remote system's local SYSIDs and displays the following message:

Response ET:

DFS2236I MSVERIFY COMMAND IN PROGRESS FOR REMOTE  
SYSIDs 005, 006, 007, and 008 dddddd

As the remote system completes processing of the information it received for each of its local SYSIDs, the following message is displayed on the input terminal. dddddd is the time stamp.

Response ET:

DFS2237I MSVERIFY COMPLETED FOR SYSID 005  
dddddd

Explanation: The verification of one remote SYSID is complete. The last response message is repeated for remote SYSIDs 006, 007, 008 if all verify. dddddd is the time stamp.
Chapter 37. /NRESTART

Format

Cold Start With No Previous Shutdown

```
/NRESTART CHECKPOINT 0
/NRE
```

```
(1)
FORMAT ALL
SM LM QC RS WA
```

```
PASSWORD NOPASSWORD
TRANCMDS NOTRANCMDS
TRANAUTH NOTRANAUTH
CMDAUTH CMDAUTH
NOCMDAUTH NOCMDAUTH
USER NOUSER
```

```
MULTSIGN SNGLSIGN
```

Notes:
1. The FORMAT keyword must be followed by at least one of the SM, LM, QC, RS, WA, or ALL parameters.

Warm Start After a /CHECKPOINT FREEZE Command

```
/NRESTART /NRE
```

```
(1)
FORMAT RS WA ALL MSDBLOAD
```

```
TERMINAL NOTERMINAL
PASSWORD NOPASSWORD
TRANCMDS NOTRANCMDS
```

```
TRANAUTH NOTRANAUTH
CMDAUTH CMDAUTH
NOCMDAUTH NOCMDAUTH
USER NOUSER
```

```
MULTSIGN SNGLSIGN
```

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Notes:
1. The FORMAT keyword must be followed by at least one of the SM, LM, QC, RS, WA, or ALL parameters.

Warm Start After a /CHECKPOINT PURGE or /CHECKPOINT DUMPQ Command

Notes:
1. The FORMAT keyword must be followed by at least one of the SM, LM, QC, RS, WA, or ALL parameters.
Environments and Keywords

Table 79 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 79. Valid Environments for the /NRESTART Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/NRESTART</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>BUILDQ</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>CHECKPOINT</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>CMDAUTH</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>CMDAUTHE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>FORMAT</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>MSDBLOAD</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>MULTSIGN</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NOBUILDQ</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NOCMDAUTH</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NOCMDAUTHE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NOPASSWORD</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NOTERMINAL</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NOTRANAUTH</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NOTRANCMDS</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NOUSER</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PASSWORD</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SNGLSIGN</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TERMINAL</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TRANAUTH</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TRANCMDS</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>USER</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

The /NRESTART command has three forms. The form depends on:
• Whether a cold start or warm start is required
• In the case of warm starts, whether the previous orderly shutdown was accomplished with:
  – /CHECKPOINT FREEZE
  – /CHECKPOINT PURGE or DUMPQ

/NRESTART is used to cold start IMS or warm start IMS following an orderly termination accomplished with a /CHECKPOINT shutdown command.

Attention: A cold start performed after a processing failure could cause processing against uncommitted data. To ensure data integrity, be sure necessary backout or recovery operations have been performed before restarting.
When IMS initializes, the system parameters used for this initialization can come from the IMS system generation, from a PROCLIB member, or from EXEC statements that can override both the defaults and the PROCLIB members. Therefore, message DFS1929I is displayed showing the system parameters used for this particular initialization. The system parameters are also written to the job log.

For an IMS cold start, the base security definition is created from the IMS system definition and EXEC parameter specifications. For an /NRESTART warm restart, the base security definition is created from the IMS checkpoint data.

To override the base security definitions on a cold start, the security keywords of the /NRESTART command must be used.

The SGN=, TRN=, and RCF= startup parameters can be overridden by the /NRESTART command using the security keywords shown in Table 80. A brief description of the keywords is also included.

Table 80. Security Keywords and Their Startup Parameter Equivalents

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Description</th>
<th>Startup Parameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMDAUTH</td>
<td>RACF command authorization on static and ETO terminals only.</td>
<td>RCF=S</td>
</tr>
<tr>
<td>CMDAUTHE</td>
<td>RACF command authorization on ETO terminals only.</td>
<td>RCF=C</td>
</tr>
<tr>
<td>MULTSIGN</td>
<td>Permits multiple signons for each user ID.</td>
<td>SGN=M</td>
</tr>
<tr>
<td>NOCMDAUTH</td>
<td>Resets the command authorization on static and ETO terminals.</td>
<td>Not RCF=S</td>
</tr>
<tr>
<td>NOCMDAUTHE</td>
<td>Resets the command authorization on ETO terminals only.</td>
<td>Not RCF=C</td>
</tr>
<tr>
<td>NOTRANAUTH</td>
<td>Resets the transaction authorization.</td>
<td>Not TRN=F or Y</td>
</tr>
<tr>
<td>NOUSER</td>
<td>Resets user identification verification, transaction authorization, and command authorization.</td>
<td>Not SGN=F or Y (G or Z becomes M) Not TRN=F or Y Not RCF=C or S</td>
</tr>
<tr>
<td>SGNLSIGN</td>
<td>Permits a single signon for each user ID.</td>
<td>SGN=F and Y Not SGN=M (G or Z becomes F or Y)</td>
</tr>
<tr>
<td>TRANAUTH</td>
<td>Transaction authorization.</td>
<td>TRN=F or Y</td>
</tr>
<tr>
<td>USER</td>
<td>Sets user identification verification.</td>
<td>SGN=Y</td>
</tr>
</tbody>
</table>

**BUILDQ or NOBUILDQ**

BUILDQ requests that the message queues dumped on the log be loaded into the message queue data sets. BUILDQ is optional for a warm start after a /CHECKPOINT PURGE or /CHECKPOINT DUMPQ.

The BUILDQ keyword must be included if the message queues are to be restored after being formatted. If the BUILDQ keyword is specified, the log from the last /CHECKPOINT DUMPQ or /CHECKPOINT PURGE is required, slowing down the restart process.

If /NRESTART FORMAT is specified without the BUILDQ keyword, the NOBUILDQ keyword must be specified. specifying NOBUILDQ reformats the queues in question and all messages are lost.

If an /NRESTART BUILDQ command fails, and then the /ERESTART CHECKPOINT 0, /ERESTART COLDCOMM, or /ERESTART COLDSYS command is performed, the
messages are lost, program product (5655-038) can be used to recover the local message queues. For more information about MRQ, refer to the IMS/ESA Message Requeuer Program Description/Operations Manual.

In a shared-queues environment, the BUILDQ keyword is ignored because the message queue data sets are not used.

CHECKPOINT
Identifies the shutdown/restart sequence. /CHECKPOINT 0 must be specified for a cold start.

CMDAUTH
Specifies that both signon (user identification verification) and command authorization for static and ETO terminals are in effect at the end of the emergency restart. (Command authorization is same as specifying RCF=S on the startup parameter.)

To specify CMDAUTH, either:
SECURITY macro TYPE=RACFTERM|RACFCOM|SIGNEXIT|TRANEXIT

must be specified in the IMS system definition, or
EXEC parameters RCF=A|Y|T|C|S

must be specified on an EXEC parameter.

CMDAUTHE
Specifies that command authorization for ETO terminals (same as RCF=S on the startup parameter) is in effect at the end of the emergency restart. CMDAUTHE also resets command authorization for static terminals, if it was set.

To specify CMDAUTHE, either:
SECURITY macro TYPE=RACFTERM|RACFCOM|SIGNEXIT|TRANEXIT

must be specified in the IMS system definition, or
EXEC parameters RCF=A|Y|T|C|S

must be specified on an EXEC parameter.

FORMAT
Specifies which queues or data sets should be formatted as part of the restart process when:
• A message queue or data set I/O error occurs.
• The size of a message queue or data set is to be changed.
• A message queue or data set is to be reallocated.

Specify one or more of the following or ALL:
SM Short-message queue
LM Long-message queue
QC Control record data set
RS Restart data set
WA Write-ahead data set
ALL All message queues (SM and LM) and data sets (QC, WA, and RS)
When FORMAT ALL is specified, do not also specify SM, LM, QC, WA, or RS. FORMAT ALL is only required at IMS initialization (first time use of the system).

You can specify any combination of SM, LM, QC, WA, and RS; for example, FORMAT LM RS.

In a shared-queues environment, the LM, SM, and QC parameters are ignored because the message queue data sets are not used. If you specify ALL, IMS does not attempt to format the message queue data sets.

Table 81 shows the environments in which the parameters are valid.

Table 81. /NRESTART FORMAT Command Parameter Environments

<table>
<thead>
<tr>
<th>Parameter</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>QC</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>RS</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>WA</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>ALL</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Note:
1. Supports only RS and WA parameters.

MSDBLOAD
Requests that the MSDBs be loaded from the MVS/ESA sequential data set MSDBINIT instead of the MSDB checkpoint data set. Use the MSDBLOAD keyword only when an MSDB initial load is required; otherwise, omit it from the /NRESTART command. After you modify an MSDB DBD, you must specify MSDBLOAD on the next warm start of IMS in order for the changes to be effective.

MSDBLOAD is not required:
- For warm starts when the MSDB checkpoint data set is used.
- For a cold start because the MSDBs are loaded from the MVS/ESA sequential data set MSDBINIT and the MSDB checkpoint data sets are formatted.

MULTSIGN
Permits multiple signons for each user ID.

In an IMSplex with Resource Manager and a resource structure, if MULTSIGN conflicts with the single user signon definition for the IMSplex, a warning message will be issued.

NOCMDAUTH
Resets command authorization on static and ETO terminals.

NOCMDAUTHED
Resets command authorization for static and ETO terminals. The command authorization for static terminals cannot exist without the command authorization for ETO terminals.
NOTERMINAL
Specifies that the terminal security specifications established by the Security Maintenance utility are not in effect at completion of this emergency restart.

IMS system definition might have precluded the authority of the master terminal operator to negate terminal security, in which case, if NOTERMINAL is specified, an error message is received.

NOTRANAUTH
Turns off transaction authorization. NOTRANAUTH is not the opposite of TRANAUTH. TRANAUTH sets transaction authorization and also turns on signon (user identification verification).

If you specify NOTRANAUTH, it will be rejected with an error message if either:
- SECLEVEL=FORCTRAN was specified on the system definition SECURITY macro.
- TRN=F was specified as a JCL EXEC parameter.

NOUSER
Specifies that none of the following is in effect at the end of the emergency restart:
- Transaction authorization
- User identification verification
- Command authorization

You can use /NRESTART NOUSER for a warm start, but if transaction authorization or command authorization are set from the checkpoint data, NOUSER is ignored, and signon (user identification verification) is set on.

PASSWORD or NOPASSWORD
Specifies whether (PASSWORD) or not (NOPASSWORD) the password security specifications established by the Security Maintenance utility will be in effect at completion of this normal restart.

IMS system definition might preclude the authority of the master terminal operator to negate password security. If this is the case, and you specify NOPASSWORD, you receive an error message.

SNGLSIGN
Permits a single signon for each user ID.

In an IMSplex with Resource Manager and a resource structure, if SNGLSIGN conflicts with the single user signon definition for the IMSplex, a warning message will be issued.

TERMINAL
Specifies that the terminal security specifications established by the Security Maintenance utility are in effect at completion of this emergency restart. If RCF=S is specified. SMU is not used for command terminal security if RACF is used.

TRANAUTH
Specifies both transaction authorization and user identification verification, with or without RACF.

To specify TRANAUTH either:
- SECURITY macro TYPE=RACFTERM|RACFCOM|SIGNEXIT|TRANEXIT
- EXEC parameters RCF=A|Y|T|C|S

must be specified in the IMS system definition, or
/NRESTART

must be specified on an EXEC parameter.

**TRANCMDS or NOTRANCMDS**
Specifies whether (TRANCMDS) or not (NOTRANCMDS) the transaction command security established by the Security Maintenance utility is in effect at completion of this normal restart. NOTRANCMDS specifies that transaction-entered commands cannot be entered.

**USER**
Specifies user identification verification. User identification verification means that signon is required by the static terminals that are defined to SMU for signon verification. This keyword has no effect on ETO terminals because they are always required to sign on. User identification verification can be forced on by the TRANAUTH or CMDAUTH keyword.

To specify USER either:

- SECURITY macro TYPE=RACFTERM|RACFCOM|SIGNEXIT|TRANEXIT

must be specified in the IMS system definition, or

- EXEC parameters RCF=A|Y|T|C|S

must be specified on an EXEC parameter.

---

**Examples**

**Example 1 for /NRESTART Command**
This is an example of a cold start with new message queue data sets.

Entry ET:
/NRESTART CHECKPOINT 0 FORMAT ALL

Response ET:
DFS058I (time stamp) NRESTART COMMAND IN PROGRESS
DFS994I *CHKPT 82274/114447**SIMPLE*

Explanation: IMS is started at 114447 (time) on 82274 (Julian date). A simple checkpoint is written on the system log. All message queue data sets are formatted. 82274/114447 is the checkpoint number.

**Example 2 for /NRESTART Command**
This is an example of a warm start from a FREEZE checkpoint.

Entry ET:
/NRESTART

Response ET:
DFS058I (time stamp) NRESTART COMMAND IN PROGRESS
DFS680I USING CHKPT 82273/180000
DFS994I *CHKPT 82274/082217**SIMPLE*

Explanation: The restart is being performed from checkpoint 82273/180000, which was written at the most recent IMS shutdown. IMS is restarted at 082217 (time) on 82274 (Julian date). A simple checkpoint is written on this system log. 82274/082217 is the checkpoint number.
Example 3 for /NRESTART Command

This is an example of a warm start to format WADS.

Entry ET:
/NRESTART FORMAT WA

Response ET:
DFS058I (time stamp) NRESTART COMMAND IN PROGRESS
DFS680I USING CHKPT 82119/230000
DFS994I *CHKPT 82120/101318**SIMPLE*

Explanation: The restart is being performed from checkpoint 82119/230000, which was written at the most recent IMS shutdown. IMS is restarted at 101318 (time) on 82120 (Julian date). A simple checkpoint is written on the system log. 82120/101318 is the checkpoint number.

Example 4 for /NRESTART Command

This is an example of a warm start from a PURGE or DUMPQ checkpoint.

Entry ET:
/NRESTART BUILDQ

Response ET:
DFS058I (time stamp) NRESTART COMMAND IN PROGRESS
DFS680I USING CHKPT 82080/214240
DFS994I *CHKPT 82081/060000**SIMPLE*

Explanation: IMS is restarted at 060000 (time) on 82081 (Julian date) from checkpoint 82080/214240, which was written at the most recent IMS shutdown. 82081/060000 is the checkpoint number.

Example 5 for /NRESTART Command

This is an example of a warm start from a PURGE or DUMPQ checkpoint. The large and small message queue data sets have been reallocated.

Entry ET:
/NRESTART BUILDQ FORMAT SM LM

Response ET:
DFS058I (time stamp) NRESTART COMMAND IN PROGRESS
DFS680I USING CHKPT 82170/085236
DFS994I *CHKPT 82170/085820**SIMPLE*

Explanation: IMS is restarted at 085820 (time) on 82170 (Julian date) from checkpoint 82170/085236, which was written at the most recent IMS shutdown. The large and small message queue data sets are reformatted. 82170/085820 is the checkpoint number.

Example 6 for /NRESTART Command

This is an example of a warm start from a PURGE or DUMPQ checkpoint. An initial set of MSDBs is needed.

Entry ET:
/NRESTART BUILDQ MSDBLOAD
/NRESTART

Response ET:

DFS058I  (time stamp) NRESTART COMMAND IN PROGRESS
DFS680I  USING CHKPT 82068/180000
DFS2554  MSDB MSDBHJ01 LOADED
DFS2554  MSDB MSDBHJ02 LOADED
DFS2554  MSDB MSDBAK01 LOADED
DFS2554  MSDB MSDBAK02 LOADED
DFS2554  MSDB MSDBPS01 LOADED
DFS994I  *CHKPT 82069/080000**SIMPLE*

Explanation: IMS is restarted at 080000 (time) on 82069 (Julian date) from checkpoint 82068/180000, which was written at the most recent IMS shutdown. A simple checkpoint is written on the system log. 82069/080000 is the checkpoint number. An initial set of MSDBs is loaded from the MVS/ESA sequential data set MSDBINIT.

Example 7 for /NRESTART Command

This is an example of a warm start from a PURGE or DUMPQ checkpoint with a request for transaction command security.

Entry ET:

/NRESTART TRANCMDS

Response ET:

DFS058I  (time stamp) NRESTART COMMAND IN PROGRESS
DFS680I  USING CHKPT 82080/214240
DFS994I  *CHKPT 82274/114447**SIMPLE*

Explanation: The master terminal operator is warm starting IMS and requesting that transaction command security be in effect at the completion of the normal restart.

Example 8 for /NRESTART Command

This is an example of a warm start from a PURGE or DUMPQ checkpoint with a request to negate transaction command security.

Entry ET:

/NRESTART NOTRANCMDS

Response ET:

DFS2181I  CANNOT OVERRIDE FORCED COMMAND SECURITY

Explanation: The master terminal operator is warm starting IMS with a request to negate transaction command security. IMS system definition precludes the authority of the master terminal operator to enter the NOTRANCMDS keyword. IMS returns the DFS2181 message.

Example 9 for /NRESTART Command

This is an example of a warm start from a PURGE or DUMPQ checkpoint. The data sets are formatted without rebuilding the message queues.

Entry ET:

/NRESTART FORMAT SM LM NOBUILDQ

Response ET:

DFS058I  NRESTART COMMAND IN PROGRESS
Explanation: The master terminal operator is warm starting IMS with a request to reformat the data sets without rebuilding the message queues. IMS comes up, but all messages are lost.
Chapter 38. /OPNDST

Format

The /OPNDST Command Without the USER Keyword. Use this form of the command for all static and ETO terminals except ETO SLU P and Finance terminals, ETO output-only devices, and all ISC parallel sessions.

```
/OPNDST NODE nodename
/GPN nodename ALL

LOGOND logondname
```

The /OPNDST Command With the USER Keyword for Non-ISC. Use this form of the command for:

- ETO SLU P and Finance terminals
- ETO output-only devices, for example, 3284, 3286, and SLU P1 with a single component of PRINTER1

```
/OPNDST NODE nodename USER username
/GPN idname

MODE modename Q

LOGOND logondname USERD userdname

UDATA userdata
```

The /OPNDST Command With the USER Keyword for ISC. Use this form of the command for all ISC parallel sessions, both static and ETO.

```
/OPNDST NODE nodename USER username
/GPN idname

MODE modename Q
```

Environments and Keywords

Table 82 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 82. Valid Environments for the /OPNDST Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/OPNDST</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>ID</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LOGOND</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Table 82. Valid Environments for the /OPNDST Command and Keywords (continued)

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODE</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NODE</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>UDATA</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>USER</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>USERD</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/OPNDST is a multisegment command that causes IMS to initiate a session with a VTAM terminal and, if the USER keyword is specified, the user is signed on automatically to the VTAM terminal after successful session initiation. All forms of logging-on a remote VTAM terminal to IMS, including the use of /OPNDST, do not work until the /START DC command has been entered and accepted by IMS.

All /OPNDST formats require an EOM indication to denote end-of-message. An EOS indication must be included for all segments that precede the last segment. See “Multisegment Command Input” on page 7 for more detail on using EOM and EOS.

You can issue /OPNDST on the XRF alternate to restart a failed backup session for a class 1 ETO terminal. To do this, the node and the user structure must still exist and be coupled together, and an active session must exist on the active system. If the node and the user are not coupled, or an active session does not exist on the active system, the command is rejected.

ID Is applicable only if the USER keyword is specified and the node is a parallel session ISC node. ID identifies the other system half-session qualifier. ID must not be specified for a single session ISC node. ID idname must be specified to open ISC nodes defined with users. The ID idname is passed to the other half-session with the session initiation request. If the other system is another IMS system, idname is the name of an ISC user in that system.

LOGOND Indicates the logon descriptor used for session establishment. LOGOND is supported only for dynamic non-ISC nodes. The logon descriptor can also be provided through the logon exit.

MODE Identifies the LOGON MODE table entry that VTAM must use and can determine operating characteristics for certain VTAM terminals. If a list of node names is given, the MODE keyword is applied to each of them. The command checks whether each node has been defined to accept IMS initiated connections. If the node was defined as NOPNDST, the /OPNDST command accepts all the nodes except the node defined as NOPNDST.

NODE Specifies the VTAM node with which IMS will initiate a session.

/OPNDST NODE ALL opens sessions for all static terminals except ISC parallel sessions. The command has considerable concurrent activity, both for IMS and for VTAM. Ensure that the system has sufficient pool sizes, buffer sizes, and number of concurrent IMS tasks defined.
If the USER keyword is not specified in the command, the NODE parameter can be generic or ALL, or a range of static nodes, or there can be multiple NODE parameters. If a generic, ALL, or range of node names is specified, any nodes defined with users are ignored and flagged with an error message.

The /OPNDST NODE USER command signs on and logs on a user at the same time, except for ISC terminals. On ISC terminals, the session is allocated. Sample /OPNDST NODE USER commands are listed below:

- To sign on and log on to a static non-ISC terminal:
  
  /OPNDST NODE nodename USER username UDATA userdata

  This command marks a statically defined terminal as signed on by the user.

- To sign on and log on to an ETO non-ISC terminal:

  /OPNDST NODE nodename USER username MODE modename LOGOND logondname USERD userdname UDATA userdata

  This command creates the terminal and user structures, and allocates the newly created user structure to the terminal structure created to indicate signed on status.

- To sign on and log on to a static ISC terminal:

  /OPNDST NODE nodename USER username ID idname

  This command finds the subpool structure and allocates the subpool (user) structure the statically defined static ISC terminal. user issues the /SIGN command.

- To sign on and log on to an ETO ISC terminal:

  /OPNDST NODE nodename USER username ID idname MODE modename LOGOND logondname USERD userdname UDATA userdata

  This command creates the terminal and subpool (user) structure and allocates the newly created user structure to the terminal structure created, defined by the SUBPOOL name in RACF until the user issues a /SIGN command.

To restart failing ETO sessions (for example, ETO only or printer sessions), use the /OPNDST NODE USER command.

In an IMSplex, /OPNDST NODE specifies a VTAM node with which IMS initiates a session. Specify ROUTE(imsid), if you want to log the node onto a particular IMS. If ROUTE(imsid) is not specified, and /OPNDST is routed to all the IMS systems, IMS will process the command only on the IMS system designated as the command master. If the ROUTE keyword specifies multiple IMS systems so that the /OPNDST is routed to more than one IMS systems, IMS will process the command only on the IMS system designated as the command master. On the other IMSs, the /OPNDST command will be rejected.

Q Causes IMS to request VTAM to queue SIMLOGON requests for VTAM/SNA-supported terminals.

The /OPNDST NODE Q command also allows IMS to request another subsystem to share a node (usually printers) with IMS. If the other subsystem is using the printer, VTAM queues the SIMLOGON request for IMS for the printer, schedules the owning subsystem’s RELREQ VTAM exit, and acquires the printer for IMS after the current owning system releases the printer. Multiple requests for the same printer are queued by VTAM for processing.
The /DISPLAY NODE command is used to determine whether IMS has acquired the printer.

**UDATA**
Indicates the user data used with the signon.

The UDATA keyword is valid only if the USER keyword and parameter are also specified. The UDATA keyword is valid for static and dynamic users. It is not valid for ISC nodes. The user data can be up to 256 bytes long.

**USER**
Identifies the logical terminal user to be allocated to the half-session to be created for ISC node nodename. For dynamic non-ISC users, it specifies the user ID to be signed on to the dynamic node nodename.

The USER keyword applies to ISC sessions when allocating a user to an ISC node, to dynamic users when signing a dynamic user on to a dynamic node, and to static user IDs when signing a user on to a static node.

USER username must be specified to open parallel session ISC nodes with users. It must not be specified for a single session ISC node.

**USERD**
Specifies the user descriptor to be used with the signon. It is valid only if the USER keyword and parameter are specified. USERD is only supported for dynamic users and is only valid for dynamic non-ISC nodes. The user descriptor can also be provided through the logon or signon exits.

---

**Examples**

**Example 1 for /OPNDST Command**

**Entry ET:**

```
/OPNDST NODE L3270*
```

**Response ET:**

```
NODE-USR   TYPE   CID    RECD  ENQCT  DEQCT  QCT  SENT
L3270A  3277  00000000  0  0  0  0  0  IDLE  C1INOP  STATIC
L3270B  3277  00000000  0  0  0  0  0  IDLE  C1INOP  STATIC
L3270C  3277  08000002  44  45  45  0  80  CON  STATIC
L3270D  3277  00000000  2  0  0  0  1  IDLE  CON  STATIC
*94307/145048*
```

**Entry ET:**

```
/OPNDST NODE L3270*
```

**Response ET:**

```
DFS058I  OPNDST COMMAND COMPLETED
```

**Entry ET:**

```
/OPNDST NODE L3270*
```

**Response ET:**

```
NODE-USR   TYPE   CID    RECD  ENQCT  DEQCT  QCT  SENT
L3270A  3277  06000004  0  0  0  0  1  IDLE  CON  STATIC
L3270B  3277  04000005  0  0  0  0  1  IDLE  CON  STATIC
L3270C  3277  08000002  46  46  46  0  82  CON  STATIC
L3270D  3277  04000006  2  0  0  0  8  IDLE  CON  STATIC
```
Example 2 for /OPNDST Command

Entry ET:
/OPNDST NODE DT327002 USER IMSUS01 MODE LU032NT4 USERD DFSUSER
UDATA= IMSPW01.

Response ET:
DFS058I 11:07:48 OPNDST COMMAND COMPLETED

Explanation: A session with dynamic node DT327002 is established by using mode table LU032NT4. User IMS01 is signed on to the node using user descriptor DFSUSER, username IMSUS01, and password IMSPW01.

Example 3 for /OPNDST Command

Entry ET:
/OPNDST NODE DTSLU201 USER IMSUS01 MODE SLU2MOD1 USERD DFSUSER
LOGOND DFSSLU2 UDATA=IMSPW01.

Response ET:
DFS058I 11:07:48 OPNDST COMMAND COMPLETED

Explanation: DTSLU201 is logged on. A session with dynamic node DTSLU201 is established by using logon descriptor DFSSLU2 (type SLU2), and mode table SLU2MOD1. Dynamic user IMSUS01 is signed on to the node using user descriptor DFSUSER and password IMSPW01.

Example 4 for /OPNDST Command

Entry ET:
/OPNDST NODE WEST-EAST

Response ET:
DFS058I OPNDST COMMAND COMPLETED

Response RT:
DFS3650 TERMINAL CONNECTED TO IMS XXXXXXXX

Explanation: The nodes, WEST through EAST, are logged on to IMS.

Example 5 for /OPNDST Command

The following set of commands illustrate the use of the MODE keyword on the /OPNDST command.

Entry ET:
/DIS NODE LUTYPEP1 MODE

Response ET:
NODE-USR TYPE DEF MODETBL ACT MODETBL
LUTYPEP1 SLUP DEFRESP
+90179/100296*
Explanation: DEFRESP is the mode table name defined for node LUTYPEP1 at system definition. The session is not active so the ACT MODETBL field is blank.

Entry ET:
/OPN NODE LUTYPEP1.

Response ET:
DFS058I OPNDST COMMAND COMPLETED

Entry ET:
/DIS NODE LUTYPEP1 MODE

Response ET:
NODE-USR TYPE DEF MODETBL ACT MODETBL
LUTYPEP1 SLUP DEFRESP DEFRESP
*90179/100508*

Explanation: A mode table name was not specified with the /OPNDST command so the default value defined at system definition was used to initiate the session.

Entry ET:
/CLS NODE LUTYPEP1

Response ET:
DFS058I CLSDST COMMAND COMPLETED

Entry ET:
/DIS NODE LUTYPEP1 MODE

Response ET:
NODE-USR TYPE DEF MODETBL ACT MODETBL
LUTYPEP1 SLUP DEFRESP DEFRESP
*90179/100630*

Explanation: Active mode table name displays as blank at normal session termination.

Entry ET:
/OPN NODE LUTYPEP1 MODE ALPHA.

Response ET:
DFS058I OPNDST COMMAND COMPLETED

Entry ET:
/DIS NODE LUTYPEP1 MODE

Response ET:
NODE-USR TYPE DEF MODETBL ACT MODETBL
LUTYPEP1 SLUP DEFRESP ALPHA
*90179/100805*

Explanation: The mode table name specified with the /OPNDST command (ALPHA) is used to initiate the session. The default value specified at system definition (DEFRESP) is overridden by the /OPNDST command.
Chapter 39. /PSTOP

Format

Environments and Keywords

Table 83 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/PSTOP</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>AOITOKEN</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>CLASS</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>FORCE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>JOBNAME</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>LINE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LINK</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PURGE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Usage

/PSTOP accomplishes the following:

- Stops the sending and receiving of messages to a particular communication line, terminal, or logical link
- Stops the scheduling of messages containing specific transaction codes
- Allows the queuing of output messages and input messages to continue
- Validity checks all parameters entered by the terminal operator

If an error is detected on parameters that are independent of one another, only the invalid parameters are indicated as being in error and the /PSTOP command processes the rest of the parameters.

/PSTOP can be used to reset conditions previously established with the /START, /RSTART, /PURGE, or /MONITOR command.

In a single IMS system, or in the local system in a multiple system configuration, IMS system messages such as broadcast text and terminal status messages (DFS059 TERMINAL STARTED) are not affected by /PSTOP. In a multiple system configuration, broadcast messages are queued but not sent across process stopped links. potential transactions.

**LINE**

Specifies the communication line that IMS will stop sending messages to and receiving messages from.

**LINK**

Specifies the link to be stopped; the partner link in another IMS system stops itself and notifies that system's master terminal operator.

/PSTOP LINK resets continuous mode for a BISYNC link. See the /RSTART LINK CONTINUOUS command in [Chapter 50, “/RSTART,” on page 545](#) for an explanation of continuous mode.

**PURGE**

PURGE can only be used for one logical link whose physical link is channel-to-channel. PURGE must be used when the partner link is in a system that has failed and the link will not go idle although it has been stopped.

**FORCE**

The FORCE keyword is for VTAM links and is intended for use when an MSC VTAM link will not clean up and idle during normal PSTOP processing, even though VTAM has terminated the session. It can be used, in conjunction with some VTAM commands to idle and clean up the VTAM link within IMS, so that an /RSTART LINK can be issued to restart the link.
The operation of the command first determines if the link has begun PSTOP processing. (If so, the link will display as PSTOPPED NOTIDLE). Next it will test if the hang condition is due to an outstanding VTAM request that has not completed. If so, it will issue an inquire request to VTAM to determine if the session is inactive. In that case, IMS will simulate completion of the VTAM request and allow the link to complete PSTOP processing.

To determine if the session is still active to VTAM, issue a DISPLAY NET,SESSIONS,LU1=applid1,LU2=applid2,SCOPE=ALL,LIST=ALL, and note the SID of the session if it is active.

If the session is not active, and it has a PSTOPPED NOTIDLE status to IMS, then /PSTOP LINK \texttt{x} FORCE can be issued. If the session is still active to VTAM, then VARY NET,TERM,SID=x,NOTIFY=YES,SCOPE=ALL,TYPE=FORCE can be issued to VTAM to terminate the session.

Under normal conditions, the VTAM VARY NET,TERM command should terminate the session in VTAM and cause IMS to PSTOP and IDLE the link associated with the VTAM session. If the VTAM VARY command does terminate the VTAM session but does not PSTOP and IDLE the link, then the IMS /PSTOP LINK FORCE command can be used to complete the PSTOP and cleanup processing within IMS.

After PSTOP processing is completed on one side of the line, the other side should be displayed. If the other side is not in a PSTOP IDLE state, the operation should be repeated for the other IMS. When both sides are in the PSTOP IDLE state, the /RSTART LINK command can be issued.

IMS replies with DFS058 /PSTOP LINK COMPLETED EXCEPT LINK \texttt{x}, if the /PSTOP LINK \texttt{x} FORCE command cannot be executed because:

- The session is still active to VTAM.
- Normal PSTOP processing has not begun (issue /PSTOP without the FORCE keyword in this case).
- PSTOP processing is not completing due to some reason other than an incomplete VTAM request.

**LTERM**

Specifies the logical terminal that is to be stopped from sending and receiving messages.

The /PSTOP LTERM command has no effect on an LTERM that is in QLOCK state, or is a remote logical terminal. The LTERM parameter can be generic, where the generic parameter specifies LTERMs that already exist.

The /PSTOP LTERM command is valid only for LTERMs that belong to nodes that are logged on.

**MSPLINK**

Applies to MSC VTAM links only; it stops logons to the physical link and enables the operator to reassign (/MSASSIGN) logical links to the physical link. The /MSASSIGN command does not affect links in sessions that have not been stopped via the /PSTOP command. When logical link assignments are complete, the /RSTART command should be issued to permit logons to the physical link.

**REGION**

If the TRANSACTION keyword is specified, the message region is not stopped. A QC status (no more messages) is returned to the application program currently active in the specified region. The scheduler will continue to schedule available transactions in the referenced region.

The /PSTOP REGION command is ignored unless both of the following occur:
/PSTOP

- An active transaction type is specified.
- The referenced message region is processing transactions with the wait-for-input option, or the region is an MPP.

If the AOITOKEN keyword is specified, the AO application in wait AOI token state is posted and receives AIB return code `X'00000004'` and reason code `X'0000004C'`.

If JOBNAME keyword is specified, the job name for the dependent region must be 1-8 alphanumeric or national ($,#,@) characters. The first character of the job name must be either alphabetic or national.

**TRANSACTION**

Stops the scheduling of transactions; however, the transactions will continue to be processed until the limit count is reached. If the limit count is large, the processing interval will be long. The /DISPLAY command ascertains the status of the transaction; the /ASSIGN command alters the status of the transaction.

If a region is scheduled against a process stopped transaction and there are no more messages available for that transaction, the region does not wait for the next message (wait-for-input-mode). Instead, a QC status (no more messages) is returned to the application. If the region is scheduled and waiting for the next message when the command is entered, the region is notified and a QC status is returned to the application.

A batch message processing region (BMP) scheduled against wait-for-input (WFI) transactions returns a QC status code (no more messages) for /PSTOP REGION, /DBD, /DBR, or /STA commands only.

/PSTOP cannot stop the scheduling of Fast Path exclusive transactions but can be used to stop Fast Path potential transactions.

/PSTOP TRANSACTION cannot be used for Fast Path exclusive transactions or CPI Communications driven transaction programs.

The TRANSACTION parameter can be generic where the generic parameter specifies transactions that already exist.

---

**Examples**

**Example 1 for /PSTOP Command**

**Entry ET:**

```
/PSTOP LINE 4 PTERM 1
```

**Response ET:**

```
DFS058I  PSTOP COMMAND COMPLETED
```

**Response RT:**

```
DFS059I  TERMINAL PSTOPPED
```

**Explanation:** LINE 4 PTERM 1 is not sent application program or message switch output and is not allowed to send input. Output messages for the terminal continue to be queued.
Example 2 for /PSTOP Command

Entry ET:
/PSTOP LINE 4 6 200

Response ET:
DFS058I  PSTOP COMMAND COMPLETED EXCEPT LINE 200

Explanation: LINE 4 and LINE 6 are not allowed to send or receive messages. Message queuing continues. Line 200 is an invalid line number.

Example 3 for /PSTOP Command

Entry ET:
/PSTOP LINK 2 3 4

Response ET:
DFS058I  PSTOP COMMAND COMPLETED

Response ET:
DFS2169I  DISCONNECTION COMPLETED ON LINK 2

Explanation: Logical link 2 is disconnected. This message is received for each logical link that is disconnected.

Response Remote MT:
DFS2161I  LINK 2 STOPPED BY PARTNER
DFS2161I  LINK 3 STOPPED BY PARTNER
DFS2161I  LINK 4 STOPPED BY PARTNER

Explanation: Logical links 2, 3, and 4 stop processing messages. Output queuing continues.

Response ET:
DFS2169I  DISCONNECTION COMPLETED ON LINK 3

Explanation: Logical link 3 is disconnected. This message is also received when logical link 4 disconnects.

Example 4 for /PSTOP Command

Entry ET:
/PSTOP LINK ALL

Response ET:
DFS058I  PSTOP COMMAND COMPLETED

Response Remote MT:
A DFS2161 LINK n STOPPED BY PARTNER message is received for each logical link that was operational when /PSTOP was entered.

Explanation: Output to all logical links stops. Output queuing continues. Input is not allowed.

Response ET:
DFS2169I  DISCONNECTION COMPLETED ON LINK XXX

Explanation: As each logical link is disconnected, this message is received.

Example 5 for /PSTOP Command
Entry ET:
/PSTOP LINK 1 2 3 PURGE

Response ET:
DFS2272I  PURGE KEYWORD INVALID, ONLY ONE CTC LINK ALLOWED

Explanation: Only one link can be specified with the PURGE keyword.

Example 6 for /PSTOP Command
Entry ET:
/PSTOP LINK 2 PURGE

Response ET:
DFS2273I  PURGE KEYWORD REJECTED, CURRENT STATUS OF LINK IS NORMAL

Explanation: The partner system has not failed and the link appears to be working.

Example 7 for /PSTOP Command
Entry ET:
/PSTOP LTERM APPLE, TREE

Response ET:
DFS058I  PSTOP COMMAND COMPLETED

Response RT:
DFS059I  TERMINAL PSTOPPED

Explanation: The physical terminals associated with logical terminals APPLE and TREE are not sent output that is destined for logical terminals APPLE or TREE, or allowed to enter input. Output queuing continues.

Example 8 for /PSTOP Command
Entry ET:
/PSTOP MSPLINK ALL

Response ET:
DFS058I  COMMAND COMPLETED

Explanation: All the VTAM physical links are stopped from receiving logons. Any links in session are not affected.

Example 9 for /PSTOP Command
Entry ET:
/PSTOP TRANSACTION SEED
Response ET:

DFS058I PSTOP COMMAND COMPLETED

Explanation: Transaction code SEED can no longer be scheduled. Queuing of the transaction continues.

Example 10 for /PSTOP Command

Entry ET:

/PSTOP TRANSACTION ALL CLASS 3

Response ET:

DFS058I PSTOP COMMAND COMPLETED

Explanation: All transactions associated with class 3 can no longer be scheduled. Queuing of the transactions continues.

Example 11 for /PSTOP Command

Entry ET:

/PSTOP REGION 1 TRANSACTION XYZ

Response ET:

DFS058I PSTOP COMMAND IN PROGRESS

Response ET:

DFS0569I PSTOP COMPLETE FOR REGION 1 TRAN XYZ
DFS0566I PSTOP NOT VALID FOR TRAN XYZ

Explanation: If the DFS0569I message prints, processing of the transaction type, xyz, is stopped in message region 1. If the DFS0566I message prints, the command was ignored because the two required conditions were not satisfied.

Example 12 for /PSTOP Command

Entry ET:

/PSTOP REGION 2 AOITOKEN AOITOK2

Response ET:

DFS058I PSTOP COMMAND IN PROGRESS

Response MT:

DFS0569I PSTOP OR STOP COMPLETE FOR REGION 2 AOIT AOITOK2.

Explanation: If the DFS0569I message prints, the AO application in region 2 waiting for a message for AOI token AOITOK2 is posted; the application receives AIB return code X'00000004' and reason code X'0000004C'.

Example 13 for /PSTOP Command

Entry ET:

/PSTOP REGION 2 AOITOKEN AOITOK2

Response ET:

DFS058I PSTOP COMMAND IN PROGRESS
Response MTO:

DFS1190I REGION 2 NOT WAITING ON AOITOKEN AOITOK2

Explanation: If the DFS1190I message prints, the command is ignored because region 2 was not waiting on AOI token AOITOK2.

Example 14 for /PSTOP Command

Entry ET:

/PSTOP

Response ET:

<table>
<thead>
<tr>
<th>REGID</th>
<th>JOBNAME</th>
<th>TYPE</th>
<th>TRAN/STEP</th>
<th>PROGRAM</th>
<th>STATUS</th>
<th>CLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MPP610C</td>
<td>TP</td>
<td>NQF1</td>
<td>PMVAPZ12</td>
<td>ACTIVE</td>
<td>1, 2, 3, 4</td>
</tr>
<tr>
<td>BATCHREG</td>
<td>BMP</td>
<td>NONE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPRGN</td>
<td>FP</td>
<td>NONE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DBTRGN</td>
<td>DBT</td>
<td>NONE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DBRECTA9</td>
<td>DBRC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DLIECTA9</td>
<td>DLS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*96081/150611*

Explanation: Message processing program PMVAPZ12 is processing transaction NQF1. The job name of the region is MPP610C

Entry ET:

/PSTOP REGION JOBNAME MPP610C TRAN NQF1

Response ET:

DFS058I PSTOP COMMAND IN PROGRESS

DFS0569I PSTOP OR STOP COMPLETE FOR REGION 00001 TRAN NQF1

Response ET:

DFS058I PSTOP COMMAND IN PROGRESS

DFS0566I PSTOP NOT VALID FOR TRAN NQF1

Explanation: If the DFS0569I message is displayed, processing if the transaction type, NQF1, is stopped in message region 1. If the DFS0566I message is displayed, the command was ignored because the two required conditions were not satisfied.
Environments and Keywords

Table 84 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 84. Valid Environments for the /PURGE Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/PURGE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>APPC</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>CLASS</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>FPPROG</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>FPREGION</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LINE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

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/PURGE

Table 84. Valid Environments for the /PURGE Command and Keywords (continued)

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTERM</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>MSNAME</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PTERM</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>TRANSACTION</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/PURGE stops input for a particular communication line, terminal, or logical link path, or stops input messages destined for a particular transaction code. Messages can be sent to the specified communication line or terminal, and transactions can still be scheduled.

/PURGE validity checks all parameters entered by the terminal operator. If an error is detected on parameters that are independent of one another, only the invalid parameters are indicated as being in error and the /PURGE command processes the rest of the parameters.

/PURGE can be used to reset conditions previously set by the /START, /RSTART, /STOP, /PSTOP, or /MONITOR command.

APPC

Is used to purge incoming transactions. All new requests by APPC/MVS to schedule a transaction in IMS are rejected with TP_Not_Available_No_Retry. Transactions that IMS has already received are processed normally. Sending of output to LU 6.2 devices proceeds normally. Because /PURGE APPC does not call to APPC/MVS1, the rejection of transaction scheduling is done by IMS’s schedule exit only.

The /PURGE APPC command sets the PURGING status and resets conditions previously set by the /START APPC command. The command is rejected if the APPC is already in DISABLED, FAILED, STOPPED, or CANCEL state.

FPPROG

Specifies the PSB name of the message-driven program to be terminated.

/PURGE takes message-driven programs out of wait-for-input mode and terminates them as soon as their load balancing group message queue is empty.

Use the FPPROG keyword with caution, because all Fast Path message-driven programs that are using a PSB with the same name will be terminated.

FPREGION

Specifies the region identifier of the message-driven program to be terminated.

LINE

Specifies the communication line for which input is to be stopped.

LTERM

Specifies the logical terminal for which input is to be stopped.

---

1. The sense code returned to the LU 6.2 remote device for an incoming ATTACH to a purged APPC/IMS system is determined by APPC/MVS, and it might differ from release to release. In general, the remote LU 6.2 application should wait for a period of time after rejection before any attempts to reestablish a session with IMS.
The /PURGE LTERM command is rejected for LTERMs in QLOCK state. (QLOCK indicates that the LTERM is locked from sending any further output or from receiving input that can create additional output for the same LTERM until the state is reset by a specific request received on the session.) /PURGE LTERM is also rejected for remote logical terminals. The LTERM supports generic parameters where the generic parameter specifies LTERMs that already exist.

The /PURGE LTERM command is valid only for LTERMs that belong to nodes that are logged on.

**MSNAME**

Specifies the logical link path in a multiple systems configuration for which input is to be stopped. The MSNAME keyword supports generic parameters.

**TRANSACTION**

Specifies the transaction code for which input messages are to be stopped.

The TRANSACTION parameter can be generic where the generic parameter specifies transactions that already exist.

### Examples

**Example 1 for /PURGE Command**

Entry ET:

```
/PURGE FPPROG ALL
```

Response ET:

```
DFS058I PURGE COMMAND COMPLETED
```

Explanation: All message-driven programs are taken out of wait-for-input mode and terminated by PSB name as soon as their load balancing group message queue is empty.

**Example 2 for /PURGE Command**

Entry ET:

```
/PURGE FPREGION ALL
```

Response ET:

```
DFS058I PURGE COMMAND COMPLETED
```

Explanation: All message-driven programs are taken out of wait-for-input mode and terminated by region identifier as soon as their load balancing group message queue is empty.

**Example 3 for /PURGE Command**

Entry ET:

```
/PURGE LINE 4
```

Response ET:

```
DFS058I PURGE COMMAND COMPLETED
```

Response RT:

```
DFS059I TERMINAL PURGING
```
/PURGE

Explanation: All physical terminals associated with line 4 can receive output sent to them but are not allowed to enter input.

Example 4 for /PURGE Command

Entry ET:
/PURGE LINE 5 7 400

Response ET:
DFS058I  PURGE COMMAND COMPLETED EXCEPT LINE 400

Explanation: All physical terminals associated with line 5 and line 7 can receive output but are not allowed to enter input. Line 400 is an invalid line number.

Example 5 for /PURGE Command

Entry ET:
/PURGE MSNAME BOSTON

Response ET:
DFS058I  PURGE COMMAND COMPLETED

Explanation: All messages from a terminal (primary requests), except messages continuing a conversation, will not be queued for the destinations represented by MSNAME BOSTON. This includes all messages destined for remote transactions with the SYSID of the MSNAME, and for remote logical terminals associated with this MSNAME.

Example 6 for /PURGE Command

Entry ET:
/PURGE TRANSACTION PIT, SEED

Response ET:
DFS058I  PURGE COMMAND COMPLETED

Explanation: Transactions PIT and SEED can still be scheduled but input for these transactions cannot be queued unless the input originates as output from an application program.

Example 7 for /PURGE Command

Entry ET:
/PURGE TRANSACTION ALL CLASS 2

Response ET:
DFS058I  PURGE COMMAND COMPLETED

Explanation: All transactions associated with class 2 are marked as purged. No further transactions are queued from terminals.
Chapter 41. QUERY

Format

QUERY IMSPLEX Command

QUERY IMSPLEX
  QRY
  IMSPLEX
    NAME(*)
    NAME(imsplexname*)
    TYPE(AOP, BATCH, COS, DBRC, IMS, IMSCON, OM, OTHER, RM, SCI)
    STATUS(ABENDED, ACTIVE, NOTREACHABLE, OLD, READY)

QUERY LE Command

QUERY LE
  QRY
  TRAN(tranname)
  LTERM(ltermname)
  USERID(userid)
  PGM(programname)
  SHOW(ALL, LERUNOPTS, LTERM, PGM, TRAN, USERID)

QUERY MEMBER Command
Environments, Keywords, and Parameters

Table 85, Table 86, Table 87 on page 458, Table 88 on page 458, Table 89 on page 458, and Table 90 on page 458 list the environments (DB/DC, DBCTL, and DCCTL) from which the QUERY command and keywords can be issued.

Table 85. Valid Environments for QUERY IMSPLEX Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUERY IMSPLEX</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NAME</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SHOW</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STATUS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TYPE</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note:

1. There are no environment indicators for the QUERY IMSPLEX command itself because it does not run in any IMS control or dependent region's address space. QUERY IMSPLEX is processed in an OM command processing environment.

Table 86. Valid Environments for the QUERY LE Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUERY LE</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>LTERM</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
### Table 86. Valid Environments for the QUERY LE Command and Keywords (continued)

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGM</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>SHOW</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>TRAN</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>USERID</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

### Table 87. Valid Environments for the QUERY MEMBER Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUERY MEMBER</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>ALL</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>ATTRIB</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SHOW</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>STATUS</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>TYPE</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

### Table 88. Valid Environments for the QUERY OLC Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUERY OLC</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>LIBRARY</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SHOW</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

### Table 89. Valid Environments for the QUERY STRUCTURE Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUERY STRUCTURE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NAME</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SHOW</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STATISTICS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TYPE</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:**

1. There are no environment indicators for the QUERY STRUCTURE command itself because it does not run in any IMS control or dependent region's address space. QUERY STRUCTURE is processed in an RM command processing environment.

### Table 90. Valid Environments for the QUERY TRAN Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUERY TRAN</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>CLASS</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NAME</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>QCNT</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SHOW</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Table 90. Valid Environments for the QUERY TRAN Command and Keywords (continued)

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>STATUS</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**QUERY IMSPLEX**

QUERY IMSPLEX is an IMSplex command that displays information about one or more IMSplex members. If Version 7 IMSs are part of an IMSplex, the QUERY IMSPLEX command will not show those IMSs even though they are a part of the IMSplex.

This command can be issued only through the Operations Manager API.

**NAME()**

Specifies the name of the IMSplexes for which member information is to be returned. The IMSplex name may be a generic parameter, to allow easy specification of a group of IMSplexes whose names match a generic parameter mask.

**SHOW()**

Specifies the output fields to be returned. If SHOW is not specified, only the IMSplex names, IMSplex member names, IMSplex member that builds the output line, and completion codes are returned. This provides a method for a system management application to obtain a list of all IMSplex member names that are currently known in the IMSplexes.

- **ALL** Returns all output fields
- **JOB** Jobname of the IMSplex member
- **OS** Name of the OS image on which the IMSplex member is executing.
- **STATUS** IMSplex member status.
- **SUBTYPE** IMSplex member subtype.
- **TYPE** IMSplex member type.
- **VERSION** IMSplex member version.

**STATUS()**

Displays IMSplex members that display at least one of the specified status.

- **ABENDED** IMSplex member has abended
- **ACTIVE** IMSplex member is active
- **NOTREACHABLE** The local SCI responsible for the member is not currently active. The status displayed is the current status for the member.

**Note:** The status output is NOT-REACHABLE (with a hyphen).

- **OLD** The SCI responsible for the member is not currently active. The status displayed is the last known status for the member. The actual status may be different.
QUERY

READY
IMSplex member is ready to receive messages and requests that are routed by TYPE.

TYPE()
Displays IMSplex members that possess at least one of the specified member types.

AOP
Automated Operator Program. Examples of AOPs are a SPOC application that an operator uses to interact with an IMSplex or a program that is monitoring an IMSplex.

BATCH
IMS batch job.

CQS
Common Queue Server address space.

DBRC
DBRC address space.

IMS
IMS region.

IMSCON
An address space that serves as an interface between IMS and a protocol that is not directly supported by IMS (for example, TCP/IP).

OM
Operations Manager address space.

OTHER
Other non-IMS address space or job.

RM
Resource Manager address space.

SCI
Structured Call Interface address space.

QUERY IMSPLEX Output Fields
Table 91 shows the output fields for an QUERY IMSPLEX command. The table contains information about the output fields such as QUERY IMSPLEX SHOW keyword to specify to produce the output field, the short label of the output field, and the meaning of the output field. The SHOW keyword N/A (not applicable) appears for output fields that are always returned.

Table 91. Output Fields for QUERY IMSPLEX Command

<table>
<thead>
<tr>
<th>SHOW KEYWORD</th>
<th>SHORT LABEL</th>
<th>MEANING</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>IMSMBR</td>
<td>IMSplex member name. The IMSplex member name is always returned.</td>
</tr>
<tr>
<td>N/A</td>
<td>IMSPLX</td>
<td>IMSplex name. The IMSplex name is always returned.</td>
</tr>
<tr>
<td>N/A</td>
<td>MBR</td>
<td>IMSplex member that build the output line. The OM identifier of the OM that built the output line.</td>
</tr>
<tr>
<td>N/A</td>
<td>CC</td>
<td>Completion code for the line of output. The completion code is always returned.</td>
</tr>
<tr>
<td>STATUS</td>
<td>STT</td>
<td>IMSplex member status. See Table 92 on page 461 for more information.</td>
</tr>
<tr>
<td>JOB</td>
<td>JOB</td>
<td>Jobname of IMSplex member.</td>
</tr>
<tr>
<td>OS</td>
<td>OS</td>
<td>Name of OS image on which the IMSplex member is executing.</td>
</tr>
<tr>
<td>SUBTYPE</td>
<td>STYP</td>
<td>Subtype of IMSplex member. See Table 94 on page 462 for an explanation of the possible subtypes.</td>
</tr>
<tr>
<td>TYPE</td>
<td>TYP</td>
<td>IMSplex member type.</td>
</tr>
<tr>
<td>VERSION</td>
<td>VER</td>
<td>IMSplex member version.</td>
</tr>
</tbody>
</table>
QUERY IMSPLEX Status

Table 92 shows the possible IMSpex member status. The table contains information about status such as the STATUS keyword to specify to select members with the specified status, the status that is returned, and the meaning of the status.

**Table 92. QUERY IMSPLEX Status Table**

<table>
<thead>
<tr>
<th>STATUS KEYWORD</th>
<th>STATUS</th>
<th>MEANING</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABENDED</td>
<td>ABENDED</td>
<td>IMSplex member has abended.</td>
</tr>
<tr>
<td>ACTIVE</td>
<td>ACTIVE</td>
<td>IMSplex member is active.</td>
</tr>
<tr>
<td>NOTREACHABLE</td>
<td>NOT-REACHABLE</td>
<td>The local SCI responsible for the member is currently not active. The status displayed is the current status for the member.</td>
</tr>
<tr>
<td>OLD</td>
<td>OLD</td>
<td>The SCI responsible for the member is not currently active. The status displayed is the last known status for the member. The actual status may be different.</td>
</tr>
<tr>
<td>READY</td>
<td>READY</td>
<td>IMSplex member is ready to receive messages and requests that are routed by TYPE.</td>
</tr>
</tbody>
</table>

QUERY IMSPLEX Types

Table 93 shows the possible IMSpex member types. The table contains information about member types such as the TYPE keyword to specify to select members with the specified type, the type that is returned, and the meaning of the member type.

**Table 93. QUERY IMSPLEX Member Types**

<table>
<thead>
<tr>
<th>TYPE KEYWORD</th>
<th>MEMBER TYPE</th>
<th>MEANING</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOP</td>
<td>aop</td>
<td>Automated Operator Program. An example of an AOP is a SPOC (Single Point of Control) that an operator uses to interact with the IMSpex. Another example of an AOP is a program that is monitoring the IMSpex.</td>
</tr>
<tr>
<td>BATCH</td>
<td>batch</td>
<td>IMS batch job.</td>
</tr>
<tr>
<td>CQS</td>
<td>cqs</td>
<td>Common Queue Server address space. CQS manages shared queues and may also manage resources on a resource structure.</td>
</tr>
<tr>
<td>DBRC</td>
<td>dbrc</td>
<td>DBRC address space.</td>
</tr>
<tr>
<td>IMS</td>
<td>ims</td>
<td>IMS region.</td>
</tr>
<tr>
<td>IMSCON</td>
<td>imscp</td>
<td>IMS connect. An address space that serves as an interface between IMS and a protocol that is not directly supported by IMS.</td>
</tr>
<tr>
<td>OM</td>
<td>om</td>
<td>Operations Manager address space. Operations Manager supports IMS operations in an IMSpex.</td>
</tr>
<tr>
<td>OTHER</td>
<td>other</td>
<td>Other non-IMS address space or job.</td>
</tr>
<tr>
<td>RM</td>
<td>rm</td>
<td>Resource Manager address space. Resource manager supports global resources in an IMSpex.</td>
</tr>
<tr>
<td>SCI</td>
<td>sci</td>
<td>Structured Call Interface address space.</td>
</tr>
</tbody>
</table>
QUERY

QUERY IMSPLEX Subtypes

Table 94 shows the possible IMSplex member subtypes. The table contains information about member types, the member subtypes associated with them, and the meaning of the member subtype. Members omitted from this table do not define a member subtype.

Table 94. QUERY IMSPLEX Member Subtypes

<table>
<thead>
<tr>
<th>MEMBER TYPE</th>
<th>MEMBER SUBTYPE</th>
<th>MEANING</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMS</td>
<td>DBDC</td>
<td>IMS DB/DC address space.</td>
</tr>
<tr>
<td>IMS</td>
<td>DBCTL</td>
<td>IMS DBCTL address space. DBCTL supports database functions.</td>
</tr>
<tr>
<td>IMS</td>
<td>DCCTL</td>
<td>IMS DCCTL address space. DCCTL supports data communications functions.</td>
</tr>
<tr>
<td>IMS</td>
<td>FDBR</td>
<td>IMS Fast Database Recovery. An IMS control region that recovers database resources when an IMS database manager fails.</td>
</tr>
<tr>
<td>RM</td>
<td>SNGLRM</td>
<td>RM is defined without a resource structure, so only a single RM is allowed in the IMSplex.</td>
</tr>
<tr>
<td>RM</td>
<td>MULTRM</td>
<td>RM is defined with a resource structure, so multiple RMs are allowed in the IMSplex.</td>
</tr>
</tbody>
</table>
Return, Reason, and Completion Codes for QUERY IMSPLEX

The return and reason codes that can be returned as a result of the QUERY IMSPLEX command are standard for all commands entered through the OM API. Refer to the OM Return and Reason code section in the IMS Version 8: Common Service Layer Guide and Reference for the list of codes and their meanings.

Table 95 contains the return, reason, and completion codes for the QUERY IMSPLEX command. Included in the tables is a brief explanation of the codes.

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Reason Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>X’00000000’</td>
<td>X’00000000’</td>
<td>The QUERY IMSPLEX command completed successfully.</td>
</tr>
<tr>
<td>X’02000008’</td>
<td>X’00002048’</td>
<td>The QUERY IMSPLEX command has more than one filter value specified. Only one of the TYPE or STATUS filters can be specified.</td>
</tr>
<tr>
<td>X’02000008’</td>
<td>X’0000203C’</td>
<td>An invalid keyword parameter value was specified.</td>
</tr>
<tr>
<td>X’0200000C’</td>
<td>X’00003000’</td>
<td>The QUERY IMSPLEX command is successful for at least one resource name. The QUERY IMSPLEX command is not successful for one or more resource names. The completion code indicates the reason for the error with the resource name. The completion codes that can be returned by the QUERY IMSPLEX command are listed in the QUERY IMSPLEX completion code table.</td>
</tr>
<tr>
<td>X’0200000C’</td>
<td>X’00003004’</td>
<td>No resources were found to be returned. The resource name(s) specified may be invalid or there were no resources that match the filter specified.</td>
</tr>
<tr>
<td>X’02000014’</td>
<td>X’00005020’</td>
<td>The QUERY IMSPLEX command processing terminated. OM was unable to obtain storage for a system AWE while processing the command.</td>
</tr>
<tr>
<td>X’02000014’</td>
<td>X’0000502C’</td>
<td>The QUERY IMSPLEX command processing terminated. OM was unable to obtain storage for the command output header.</td>
</tr>
<tr>
<td>X’02000014’</td>
<td>X’00005030’</td>
<td>The QUERY IMSPLEX command processing terminated. OM was unable to obtain storage for the command output response.</td>
</tr>
<tr>
<td>X’02000014’</td>
<td>X’00005040’</td>
<td>The QUERY IMSPLEX command processing terminated due to an SCI error.</td>
</tr>
</tbody>
</table>

Errors unique to the processing of this command are returned as a completion codes. A completion code is returned for each action against an individual resource.

Table 96 contains completion codes can be returned on a QUERY IMSPLEX command.

<table>
<thead>
<tr>
<th>Completion Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The QUERY IMSPLEX command completed successfully for the resource.</td>
</tr>
<tr>
<td>4</td>
<td>The IMSplex name is unknown to the client that is processing the request. The imsplex name may have been typed in error or the imsplex may not be active at this time. If this is a wildcard request there were no matches for the name. Confirm the correct spelling of the resource name is specified on the command.</td>
</tr>
</tbody>
</table>

QUERY LE

The QUERY LE command allows the user to display Language Environment (LE) runtime parameter overrides defined by a previous UPDATE LE command. The query can use filters on transaction code, LTERM, userid, or program name. Any combination of parameters may be used to qualify the application instance. All entries found that match the criteria are returned to the user. The user specifies on the command which output fields should be returned in the command response.
The user can ask for all information that includes transaction code, LTERM name, userid, program name, and runtime parameters. See Chapter 64, “UPDATE,” on page 675 for more information about the UPDATE LE command.

This command may be specified only through the Operations Manager API.

The command syntax for this command is defined in XML and is available to automation programs that communicate with OM.

The following parameters support a generic or wildcard parameter. A generic parameter is a 1-8 character name that includes an asterisk or a percent sign. An asterisk can be replaced by a zero or more characters to create a valid resource name. A percent sign can be replaced by exactly one character to create a valid resource name.

- **LTERM()**
  Specifies the 1-8 character name of the LTERM or LTERMs matching the generic or wildcard parameter.

- **PGM()**
  Specifies the 1-8 character name of the program or programs matching the generic or wildcard parameter.

- **SHOW()**
  Specifies the output fields to be returned. At least one SHOW field is required on the command.
  - **ALL** Returns all the output fields. This is the same as if the following was specified: SHOW(TRAN,LTERM,USERID,PGM,LERUNOPTS).
  - **LERUNOPTS** Returns all of the LE override parameters associated with the transaction, LTERM, userid, or program name.
  - **LTERM** Returns the logical terminal name field.
  - **PGM** Returns the program name field.
  - **TRAN** Returns the transaction name field.
  - **USERID** Returns the user identifier field.

- **TRAN()**
  Specifies the 1-8 character name of the transaction or transactions matching the generic or wildcard parameter. If the TRAN, LTERM, USERID, or PGM resource filters are not specified, all parameter overrides are returned.

- **USERID()**
  Specifies the 1-8 character name of the userid or userids matching the generic or wildcard parameter. If the TRAN, LTERM, USERID, or PGM resource filters are not specified, all parameter overrides are returned.

---

**QUERY LE Output Fields**

Table 97 on page 465 shows the QUERY LE output fields. The columns are as follows:

- **Short Label** contains the short label generated in the XML output.
- **Keyword** is the keyword on the command that caused the field to be generated. N/A appears for output fields that are always returned.
Meaning describes the output field.

Table 97. Output Fields for QUERY LE Command

<table>
<thead>
<tr>
<th>Short Label</th>
<th>Keyword</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC</td>
<td>N/A</td>
<td>Completion code for the line of output. Completion code is always returned.</td>
</tr>
<tr>
<td>LTRM</td>
<td>LTERM</td>
<td>LTERM Name requested by the QUERY.</td>
</tr>
<tr>
<td>MBR</td>
<td>N/A</td>
<td>IMSPllex member (IMS identifier) that built the output line. Member name is always returned.</td>
</tr>
<tr>
<td>PGM</td>
<td>PGM</td>
<td>Program Name requested by the QUERY.</td>
</tr>
<tr>
<td>PRM</td>
<td>LERUNOPTS</td>
<td>The LE override parameters for the specified resource filters.</td>
</tr>
<tr>
<td>TRAN</td>
<td>TRAN</td>
<td>Transaction Name requested by the QUERY.</td>
</tr>
<tr>
<td>UID</td>
<td>USERID</td>
<td>Userid requested by the QUERY.</td>
</tr>
</tbody>
</table>

Return, Reason, and Completion Codes for QUERY LE

An IMS return and reason code is returned to OM by the QUERY LE command. The OM return and reason codes that may be returned as a result of the QUERY LE command are standard for all commands entered through the OM API. Table 98 includes the return and reason codes and a brief explanation of the codes. Table 99 includes an explanation of the completion code.

Table 98. Return and Reason Codes for the QUERY LE command

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Reason Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>X'00000000'</td>
<td>X'00000000'</td>
<td>The QUERY LE command completed successfully.</td>
</tr>
<tr>
<td>X'00000008'</td>
<td>X'0000200C'</td>
<td>No resources found to return. Either the entry was previously deleted or a keyword filter was typed incorrectly.</td>
</tr>
<tr>
<td>X'00000008'</td>
<td>X'00002014'</td>
<td>An invalid character was specified in the filter name.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004040'</td>
<td>The parameter override header has not been initialized. Retry the command after restart is complete.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'00005000'</td>
<td>Unable to get storage from IMODULE GETSTOR.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'00005010'</td>
<td>Unable to obtain latch.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'00005FFF'</td>
<td>Internal IMS Error - Should not occur.</td>
</tr>
</tbody>
</table>

Table 99. Completion code for the QUERY LE command

<table>
<thead>
<tr>
<th>Completion code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The QUERY LE command completed successfully for the specified resource.</td>
</tr>
</tbody>
</table>

QUERY MEMBER

The QUERY MEMBER command displays status or attribute information about one or more members of the IMSplex. For IMS Version 8, TYPE(IMS) is the only type supported. QUERY MEMBER can be specified only through the OM API.
SHOW()

Specifies the output fields to be returned.

**ALL**
- Returns all the output fields.

**ATTRIB**
- Displays the IMSplex member attributes. These are static definitions.

**MODID**
- Displays the online change modify id. The modify id is incremented by each successful online change. During a global online change, an IMS’s local modify id indicates whether the IMS has reached the online change commit phase 2 and is synchronized with the OLCSTAT data set. If the modify id is initialized to zero by the Global Online Change utility, the modify id represents the number of global online changes that have successfully completed.

The local modify id on an XRF alternate system indicates whether the XRF alternate has gotten the X’70’ log record, performed online change, and is synchronized with the OLCSTAT data set. If the XRF alternate’s modid matches the OLCSTAT data set modid as displayed by the `QUERY OLC LIBRARY (OLCSTAT)` command, the XRF alternate is synchronized with the OLCSTAT data set.

**STATUS**
- Displays the IMSplex member status. IMSplex member status can change dynamically.

**TYPE**
- Shows the IMSplex member type. The IMSplex member type can be IMS, for the IMS address space.

**TYPE()**
- Specifies the IMSplex member type for which information will be displayed.

### QUERY MEMBER Output Fields

Table 100 shows information about the `QUERY MEMBER TYPE(IMS)` output fields such as the `QUERY MEMBER TYPE(IMS)` SHOW keyword to specify to produce the output field, the short label of the output field, the scope of the output field, and the meaning. The keyword N/A (not applicable) appears for output fields that are always returned.

<table>
<thead>
<tr>
<th>SHOW KEYWORD</th>
<th>SHORT LABEL</th>
<th>SCOPE</th>
<th>MEANING</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>CC</td>
<td>N/A</td>
<td>Completion code for the line of output. The completion code is always returned.</td>
</tr>
<tr>
<td>N/A</td>
<td>MBR</td>
<td>N/A</td>
<td>IMSplex member that built the output line. IMS identifier of IMS that built the output. The IMS identifier is always returned.</td>
</tr>
<tr>
<td>ATTRIB</td>
<td>LATTR</td>
<td>LCL</td>
<td>Local IMS attributes. See “QUERY MEMBER Attributes” on page 468 for more information.</td>
</tr>
<tr>
<td>MODID</td>
<td>MODI</td>
<td>LCL</td>
<td>Online change modify id, which is incremented by 1 for each online change.</td>
</tr>
<tr>
<td>STATUS</td>
<td>LSTT</td>
<td>LCL</td>
<td>Local IMS status. See “QUERY MEMBER Status” on page 468 for more information.</td>
</tr>
<tr>
<td>STATUS</td>
<td>STT</td>
<td>GBL</td>
<td>Global IMS status. See “QUERY MEMBER Status” on page 468 for more information.</td>
</tr>
</tbody>
</table>
Table 100. Output Fields for QUERY MEMBER Command (continued)

<table>
<thead>
<tr>
<th>SHOW KEYWORD</th>
<th>SHORT LABEL</th>
<th>SCOPE</th>
<th>MEANING</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE</td>
<td>TYP</td>
<td>LCL</td>
<td>IMSplex member type. The IMSplex member type can be IMS, for the IMS address space.</td>
</tr>
</tbody>
</table>
QUERY

QUERY MEMBER Attributes
Table 101 shows the possible IMS attributes. The table contains information about attributes such as the attribute that is returned, the scope of the attribute, and the meaning of the attribute. Global attributes are returned with the ATTR short label. Local attributes are returned with the LATTR short label.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Scope</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>GBLOLC</td>
<td>LCL</td>
<td>Global online change is enabled.</td>
</tr>
<tr>
<td>RSRTRK</td>
<td>LCL</td>
<td>Remote Site Recovery tracker.</td>
</tr>
<tr>
<td>SHAREDQ</td>
<td>LCL</td>
<td>Shared queues are enabled.</td>
</tr>
</tbody>
</table>

QUERY MEMBER Status
Table 102 shows the possible member status. The table contains information about status such as the status that is returned, the scope of the status, and the meaning of the status. Global status is returned with the STT short label. Local status is returned with the LSTT short label. A scope of LCL means that the status is local to the IMS specified and is returned with the LSTT short label. A scope of GBL means that the status is global to all the IMSs and is returned with the STT short label.

<table>
<thead>
<tr>
<th>Status</th>
<th>Scope</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEOPT</td>
<td>LCL</td>
<td>Language Environment options are enabled for this IMS.</td>
</tr>
<tr>
<td>OLCABRTC</td>
<td>LCL</td>
<td>Online change abort completed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A TERMINATE OLC command or /MODIFY ABORT command is entered. Online change abort phase completed locally for this IMS. The IMS is taken out of the online change state.</td>
</tr>
<tr>
<td>OLCABRTI</td>
<td>LCL</td>
<td>Online change abort in progress.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A TERMINATE OLC command or /MODIFY ABORT command is entered. Online change abort phase is in progress locally for this IMS.</td>
</tr>
<tr>
<td>OLCCMT1C</td>
<td>LCL or GBL</td>
<td>Online change commit phase 1 completed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>An INITIATE OLC PHASE(COMMIT) command or /MODIFY COMMIT command is entered. Online change commit phase 1 completed either locally for the IMS, or globally for all of the IMSs in the IMSplex. After all of the IMSs have attempted commit phase 1, the online change master updates the OLCSTAT data set and the online change is considered to be complete. Classic commands from the system console, an IMS terminal, or the MTO are queued while the IMS is in this state. Queued commands are processed after the online change is committed or aborted. If the classic command is entered from the system console, the WTOR does not appear until this IMS is out of the online change state.</td>
</tr>
</tbody>
</table>
### Table 102. Status for QUERY MEMBER Command (continued)

<table>
<thead>
<tr>
<th>Status</th>
<th>Scope</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>OLCCMT1I</td>
<td>LCL or GBL</td>
<td>Online change commit phase 1 in progress.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>An INITIATE OLC PHASE(COMMIT) command or /MODIFY COMMIT command is entered. Online change commit phase 1 is in progress either locally for this IMS or globally for all the IMSs in the IMSplex.</td>
</tr>
<tr>
<td>OLCCMT2C</td>
<td>LCL or GBL</td>
<td>Online change commit phase 2 completed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>An INITIATE OLC PHASE(COMMIT) command or a /MODIFY COMMIT command is entered. Online change commit phase completed either locally for this IMS or globally for all the IMSs in the IMSplex. Classic commands from the system console, an IMS terminal, or the MTO are queued while the IMS is in this state. Queued commands are processed after the online change is committed or aborted. If the classic command is entered from the system console, the WTOR does not appear until this IMS is out of the online change state.</td>
</tr>
<tr>
<td>OLCCMT2F</td>
<td>LCL</td>
<td>Online change commit phase 2 failed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>An INITIATE OLC PHASE(COMMIT) command or a /MODIFY COMMIT command is entered. Online change commit phase 2 failed locally for this IMS. This IMS may be stuck in an online change state, where the TERMINATE OLC command or /MODIFY ABORT command does not work. If that is the case, cancel the IMS and warm start IMS. This IMS can warm start, since it successfully participated in the online change except for commit phase 2.</td>
</tr>
<tr>
<td>OLCCMT2I</td>
<td>LCL or GBL</td>
<td>Online change commit phase 2 in progress.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>An INITIATE OLC PHASE(COMMIT) command or a /MODIFY COMMIT command is entered. Online change commit phase 2 is in progress either locally for this IMS or globally for all the IMSs in the IMSplex.</td>
</tr>
<tr>
<td>OLCMSTR</td>
<td>GBL</td>
<td>Online change phase master.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>An INITIATE OLC PHASE(PREPARE), an INITIATE OLC PHASE(COMMIT), or a TERMINATE OLC command is entered. This IMS is the master of the online change phase currently in progress, either prepare, commit, or terminate. A different IMS may be master of each phase of online change.</td>
</tr>
<tr>
<td>OLCPREPC</td>
<td>LCL or GBL</td>
<td>Online change prepare phase completed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>An INITIATE OLC PHASE(PREPARE) command or a /MODIFY PREPARE command is entered. Online change prepare phase completed locally for this IMS or globally for all the IMSs in the IMSplex.</td>
</tr>
<tr>
<td>OLCPREPF</td>
<td>LCL</td>
<td>Online change prepare phase failed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>An INITIATE OLC PHASE(PREPARE) command is entered. Online change prepare phase failed locally for this IMS. A TERMINATE OLC is required to delete the MWA created for the online change and also to delete the online change process that was initiated with RM.</td>
</tr>
</tbody>
</table>
### Table 102. Status for QUERY MEMBER Command (continued)

<table>
<thead>
<tr>
<th>Status</th>
<th>Scope</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>OLCPREPI</td>
<td>LCL or GBL</td>
<td>Online change prepare phase in progress. An INITIATE OLC PHASE(PREPARE) command or a /MODIFY PREPARE command is entered. Online change prepare phase is in progress locally for this IMS or globally for all the IMSs in the IMSplex.</td>
</tr>
<tr>
<td>OLCTERMC</td>
<td>GBL</td>
<td>Online change terminate completed. A TERMINATE OLC command was entered. Online change termination is completed for the IMSs in the IMSplex.</td>
</tr>
<tr>
<td>OLCTERMF</td>
<td>LCL</td>
<td>TERMINATE FAILED: A TERMINATE OLC command is directed to the IMS that is not in an online change state. An MWA is created to coordinate the TERMINATE OLC command. The TERMINATE OLC command fails due to an RM, SCI, or CQS error and the MWA is set to a 'Terminate Failed' state. A subsequent TERMINATE OLC command is required to delete the MWA in this state.</td>
</tr>
<tr>
<td>OLCTERMI</td>
<td>GBL</td>
<td>Online change terminate in progress. A TERMINATE OLC command is entered. Online change termination is in progress for the IMSs in the IMSplex. Online change termination aborts the online change. If all of the IMSs are in an online change prepare state, TERMINATE OLC aborts the online change and removes all of the IMSs from the online change state. If an error occurs before the OLCSTAT data set is updated, then TERMINATE OLC aborts the online change. The online change abort phase is performed on the IMSs where abort is needed. All of the IMSs are removed from the online change state.</td>
</tr>
<tr>
<td>XRFALT</td>
<td>LCL</td>
<td>XRF alternate system.</td>
</tr>
</tbody>
</table>
Return, Reason, and Completion Codes for QUERY MEMBER

The return and reason codes that can be returned as a result of the QUERY MEMBER command are standard for all commands entered through the OM API. Refer to the OM Return and Reason code section in the IMS Version 8: Common Service Layer Guide and Reference for the list of codes and their meanings.

Table 103 contains the return and reason codes that can be returned to OM for a QUERY MEMBER command. It also includes a brief explanation of the codes.

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Reason Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>X'00000000'</td>
<td>X'00000000'</td>
<td>The QUERY MEMBER TYPE(IMS) command completed successfully.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'00005004'</td>
<td>The QUERY MEMBER command failed because a DFSOCMD response buffer could not be obtained.</td>
</tr>
</tbody>
</table>

Errors unique to the processing of this command are returned as a completion codes. A completion code is returned for each action against an individual member.

Table 104 contains the completion code that can be returned on a QUERY MEMBER command.

<table>
<thead>
<tr>
<th>Completion Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The QUERY MEMBER TYPE(IMS) command completed successfully for this IMS.</td>
</tr>
</tbody>
</table>

QUERY OLC

The QUERY OLC LIBRARY command displays information about global online change, such as the current online change libraries and the IMSs that are current with the online change libraries. QUERY OLC is valid for an IMS enabled for coordinated online change. QUERY OLC is not valid for an IMS enabled for local online change.

QUERY OLC LIBRARY(OLCSTAT) displays the contents of the global online change status data set, OLCSTAT. Specifying the SHOW keyword may optionally show the current active online change libraries, the list of IMSs that are current with the online change libraries, the modify id, and the last online change that was done.

QUERY OLC is not supported on an XRF alternate, an RSR tracker, or an FDR region.

QUERY OLC may only be specified through the OM API.

The command syntax for this command is defined in XML and is available to automation programs which communicate with OM.

LIBRARY

Online change library. The library can be the following:

OLCSTAT

OLCSTAT data set contents.

SHOW()

Specifies the library information returned.

ALL

Returns all the output fields.
QUERY

ACTVLIB
Displays the suffixed online change library names that are currently active. This includes ACBLIBA or ACBLIBB, FMTLIBA or FMTLIBB, and MODBLKSA or MODBLKSB. These are the online change libraries the IMS online system must use at IMS initialization time.

DSN
OLCSTAT data set name.

LASTOLC
Displays the last online change that was successfully performed. If an IMS was down during the last online change and its restart type does not conflict with the last online change that was performed, it will be permitted to warmstart. The last online change type is blank, if no online changes have been done. The last online change type is one or more of the following, if at least one online change has been done:
- ACBLIB
- FMTLIB
- MODBLKS

MBRLIST
Displays the list of IMSs that are current with the online change libraries. These are the IMSs that will be permitted to warmstart. The IMSs either participated in the last online change, or coldstarted since the last online change.

MODID
Modify id. The modify id -1 represents the number of coordinated online changes that have been performed.

QUERY OLC Output Fields
Table 105 shows the QUERY OLC output fields. The table contains information about the output fields such as the QUERY OLC keyword to specify to produce the output field, the short label of the output field, the scope of the output field, and the meaning of the output field. The keyword N/A (not applicable) appears for output fields that are always returned.

<table>
<thead>
<tr>
<th>SHOW KEYWORD</th>
<th>SHORT LABEL</th>
<th>SCOPE</th>
<th>MEANING</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>MBR</td>
<td>N/A</td>
<td>IMSplex member that built output line. IMS identifier of the IMS that build the output. IMS identifier is always returned.</td>
</tr>
<tr>
<td>N/A</td>
<td>CC</td>
<td>N/A</td>
<td>Completion code for the line of output. The completion code indicates whether or not IMS was able to process the command for the specified library. Refer to Table 107 on page 475 for more information. The completion code is always returned.</td>
</tr>
<tr>
<td>N/A</td>
<td>LIB</td>
<td>GBL</td>
<td>Library name. Can be OLCSTAT.</td>
</tr>
<tr>
<td>ACTVLIB</td>
<td>ACBL</td>
<td>GBL</td>
<td>Current ACBLIB library. A means the current ACBLIB library is ACBLIBA. B means the current ACBLIB library is ACBLIBB.</td>
</tr>
<tr>
<td>ACTVLIB</td>
<td>FMTL</td>
<td>GBL</td>
<td>Current FMTLIB library. A means the current FMTLIB library is FMTLIBA. B means the current FMTLIB library is FMTLIBB.</td>
</tr>
<tr>
<td>ACTVLIB</td>
<td>MODB</td>
<td>GBL</td>
<td>Current MODBLKS and MATRIX libraries. A means the current libraries are MODBLKSA and MATRIXA. B means the current libraries are MODBLKSB and MATRIXB.</td>
</tr>
<tr>
<td>DSN</td>
<td>DSN</td>
<td>GBL</td>
<td>OLCSTAT data set name.</td>
</tr>
</tbody>
</table>
Table 105. Output Fields for the QUERY OLC Command (continued)

<table>
<thead>
<tr>
<th>SHOW KEYWORD</th>
<th>SHORT LABEL</th>
<th>SCOPE</th>
<th>MEANING</th>
</tr>
</thead>
<tbody>
<tr>
<td>LASTOLC</td>
<td>LAST</td>
<td>GBL</td>
<td>The last successful online change that was successfully performed. If an IMS was down during the last online change and its restart type does not conflict with the last online change that was performed, it will be permitted to warmstart. The online change type may include one or more of the following: • ACBLIB • FMTLIB • MODBLKS</td>
</tr>
<tr>
<td>MBRLIST</td>
<td>MBRL</td>
<td>GBL</td>
<td>List of IMSplex members that are current with the online change libraries. These are the IMSs that will be permitted to warmstart. The IMSs either participated in the last online change, or coldstarted since the last online change.</td>
</tr>
<tr>
<td>MODID</td>
<td>MODI</td>
<td>GBL</td>
<td>Current modify id. The modify id - 1 is the number of successful coordinated online changes that have been performed.</td>
</tr>
</tbody>
</table>
Return, Reason, and Completion Codes for QUERY OLC

The return and reason codes that can be returned as a result of the QUERY OLC command are standard for all commands entered through the OM API. Refer to the OM Return and Reason code section in the IMS Version 8: Common Service Layer Guide and Reference for the list of codes and their meanings.

Table 106 on page 475 contains the return and reason codes that can be returned to OM from a QUERY OLC command.
Table 106. Return and Reason Codes for the QUERY OLC Command

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Reason Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>X'00000000'</td>
<td>X'00000000'</td>
<td>The QUERY OLC command completed successfully.</td>
</tr>
<tr>
<td>X'00000004'</td>
<td>X'00001000'</td>
<td>The QUERY OLC command was not processed on the IMS system as the IMS system is not the command master. No information is returned.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'0000400C'</td>
<td>The QUERY OLC command failed because it is invalid for an XRF alternate.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004014'</td>
<td>The QUERY OLC command failed because it is invalid for an RSR tracker.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'0000401C'</td>
<td>The QUERY OLC command failed because it is invalid for an FDR region.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'0000410C'</td>
<td>The QUERY OLC command is rejected, because global online change is not enabled. Use the /DISPLAY MODIFY command for local online change. If your IMSplex is made up of some IMSs that support global online change and some that support local online change, route the QUERY OLC command to an IMS that is enabled for global online change. Issue the QUERY MEMBER TYPE(IMS) SHOW(ATTRIB) command to choose an IMS that has global online change enabled.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004114'</td>
<td>The QUERY OLC command failed because of an error accessing the OLCSTAT data set. A DFS2843 message is sent to the OM output exit as unsolicited output.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004118'</td>
<td>The QUERY OLC command failed because of an error allocating the OLCSTAT data set. A DFS2848 message is sent to the OM output exit as unsolicited output.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'0000411C'</td>
<td>The QUERY OLC command failed because of an error in the OLCSTAT data set contents. One or more of the values is invalid. A DFS2844 message is sent to the OM output exit as unsolicited output.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'00005004'</td>
<td>The QUERY OLC command processing failed because a DFSOCMD response buffer could not be obtained.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'00005FFF'</td>
<td>The QUERY OLC command failed because of an internal IMS error.</td>
</tr>
</tbody>
</table>

Errors unique to the processing of this command are returned as a completion codes. A completion code is returned for each action against an individual library.

Table 107. Completion Codes for the QUERY OLC Command

<table>
<thead>
<tr>
<th>Completion Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The QUERY OLC command completed successfully for the library.</td>
</tr>
</tbody>
</table>

QUERY STRUCTURE

The QUERY STRUCTURE command displays information about IMS coupling facility structure(s) used by members of an IMSplex.

In IMS Version 8, this command is supported only by RM to return information about a resource structure.

The command syntax for this command is defined in XML and is available to automation programs which communicate with OM.
NAME()
Specifies the names of the structures for which information is to be returned. The structure name may be a generic parameter, to allow easy specification of a group of structures whose names match a generic parameter mask.

SHOW()
Specifies the output fields to be returned. If SHOW is not specified, only the structure names, IMSplex member that builds the output line, and completion codes are returned. This provides a method for a system management application to obtain a list of all structure names. This can be used to determine the resource structure that is managed by RM. The parameters supported with the SHOW keyword are as follows:

ALL Returns all the output fields.

STATISTICS Displays statistics information for the structures that match the specification in the NAME() parameter.

TYPE Returns the type of the specified structure. For example, the type may be RSRC, which identifies a resource structure.

QUERY STRUCTURE Output Fields
Table 108 contains information about the output fields such as QUERY STRUCTURE SHOW keyword to specify to produce the output field, the short label of the output field, and the meaning of the output field. The SHOW keyword N/A (not applicable) appears for output fields that are always returned.

<table>
<thead>
<tr>
<th>SHOW KEYWORD</th>
<th>SHORT LABEL</th>
<th>MEANING</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>STRNM</td>
<td>Resource structure name. The structure name is always returned.</td>
</tr>
<tr>
<td>N/A</td>
<td>MBR</td>
<td>IMSplex member that built the output line. The RM identifier of the RM that built the output line.</td>
</tr>
<tr>
<td>N/A</td>
<td>CC</td>
<td>Completion code for the line of output. The completion code is always returned.</td>
</tr>
<tr>
<td>TYPE</td>
<td>TYP</td>
<td>Structure type. In IMS Version 8, only resource type RSRC is supported.</td>
</tr>
<tr>
<td>STATISTICS</td>
<td>LEA</td>
<td>Number of list entries that are allocated in the structure.</td>
</tr>
<tr>
<td>STATISTICS</td>
<td>LEI</td>
<td>Number of list entries in use in the structure.</td>
</tr>
<tr>
<td>STATISTICS</td>
<td>ELMA</td>
<td>Number of data elements that are allocated in the structure.</td>
</tr>
<tr>
<td>STATISTICS</td>
<td>ELMI</td>
<td>Number of data elements in use in the structure.</td>
</tr>
<tr>
<td>STATISTICS</td>
<td>RATIO</td>
<td>Entry to element ratio. It is in the format of list entries/data elements.</td>
</tr>
</tbody>
</table>
Return, Reason, and Completion Codes for QUERY STRUCTURE

The return and reason codes that can be returned as a result of the QUERY STRUCTURE command are standard for all commands entered through the OM API. Refer to the OM Return and Reason code section in the [IMS Version 8: Common Service Layer Guide and Reference](#) for the list of codes and their meanings.

Table 109 on page 478 contains the return and reason codes that can be returned to OM from a QUERY STRUCTURE command.
Table 109. Return and Reason Codes for the QUERY STRUCTURE Command

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Reason Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>X’00000000’</td>
<td>X’00000000’</td>
<td>The QUERY STRUCTURE command completed successfully.</td>
</tr>
<tr>
<td>X’0300000C’</td>
<td>X’00003000’</td>
<td>The QUERY STRUCTURE command is successful for at least one resource name. The QUERY STRUCTURE command is not successful for one or more resource names. The Completion Code indicates the reason for the error with the resource name. The Completion Codes that can be returned by the QUERY STRUCTURE command are listed in the QUERY STRUCTURE completion code table.</td>
</tr>
<tr>
<td>X’0300000C’</td>
<td>X’00003004’</td>
<td>No requests were successful. The resource name(s) specified may be invalid or there were no resources that match the filter specified.</td>
</tr>
<tr>
<td>X’03000014’</td>
<td>X’0000502C’</td>
<td>The QUERY STRUCTURE command processing terminated. RM was unable to obtain storage for the command output header.</td>
</tr>
<tr>
<td>X’03000014’</td>
<td>X’00005030’</td>
<td>The QUERY STRUCTURE command processing terminated. RM was unable to obtain storage for the command output response.</td>
</tr>
<tr>
<td>X’03000014’</td>
<td>X’00005200’</td>
<td>The QUERY STRUCTURE command processing terminated due to an unexpected CQS error.</td>
</tr>
</tbody>
</table>

Errors unique to the processing of this command are returned as a completion codes. A completion code is returned for each action against an individual resource.

Table 110 contains the completion codes that can be returned on a QUERY STRUCTURE command.

Table 110. Completion Codes for the QUERY STRUCTURE Command

<table>
<thead>
<tr>
<th>Completion Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The QUERY STRUCTURE command completed successfully for the resource.</td>
</tr>
<tr>
<td>4</td>
<td>The structure name is unknown to the client that is processing the request. The structure name may have been typed in error or the structure may not be defined or allocated at this time. If this is a wildcard request there were no matches for the name. Confirm the correct spelling of the structure name is specified on the command.</td>
</tr>
</tbody>
</table>

QUERY TRAN

The QUERY TRAN command displays information about transactions (for example, class, status, queue count and others) across the IMSplex.

This command can be specified only through the OM API.

This command is valid on the XRF alternate and the RSR tracker.

CLASS()

Displays transactions that possess at least one of the specified classes. This allows for additional filtering by CLASS value. If a STATUS, CLASS, or QCNT filter is not specified, all of the transactions matching the transaction name are returned.

The output returned when the CLASS filter is specified includes the class value of the transaction that caused the transaction name to be displayed even if the SHOW(CLASS) option is not specified.

NAME()

Displays the transactions or group of transactions whose name matches the
generic or wildcard parameter specified. If a STATUS, CLASS, or QCNT filter is not specified, all of the transactions matching the transaction name are returned.

**QCNT()**

Selects transactions that have a queue count less than (LT), less than or equal to (LE), greater than (GT), greater than or equal to (GE), equal to (EQ), or not equal to (NE) the specified numbers. The specified number cannot be a 1 when LT is specified. This allows additional filtering by QCNT value.

Transactions with a queue count of 0 are not returned when the QCNT filter is specified. When a filter of QCNT(LT,n) is specified, transactions with a queue count greater than 0 and less than ‘n’ are returned. If a STATUS, CLASS, or QCNT filter is not specified, all of the transactions matching the transaction name are returned.

The QCNT filter is valid in both a shared queues environment and a non shared queues environment.

In a shared queues environment, if QCNT is specified, the performance implication is that the shared queues are read. In this environment, the QRY TRAN QCNT command is processed only by the master IMS as the queues are global. The command master returns all the transactions on the shared queues that match the queue count filter specified. If QCNT is specified with a wildcard transaction name, the performance implication is that all of the shared queues transaction messages on the Coupling Facility must be read.

In a non shared queues environment, the local queue count values are used to determine the transactions to be displayed. In this environment, the QRY TRAN QCNT command is processed by each IMS the command is routed to as the queues are local. Each IMS returns all the transactions it found locally that match the queue count filter specified.

The output returned when the QCNT filter is specified includes the queue count of the transaction that caused the transaction name to be displayed even if the SHOW(QCNT) option is not specified.

**SHOW()**

Specifies the transaction output fields to be returned. The transaction name is always returned along with the name of the IMS that created the output for the transaction and the completion code. If SHOW is not specified, only the transaction names are returned provided the QCNT, CLASS or STATUS filter is not specified. This provides a method for a system management application to obtain a list of transactions matching the transaction name that are currently known in the IMSplex.

**ALL**

Returns all the output fields both local and global values except the affinity of the messages on the shared queues. This affinity that is shown when the AFFIN option is specified is valid only with the QCNT filter and is ignored for the other flavors of the QRY TRAN command. Global values are only returned for those status fields and attributes for which global information is kept for the IMSplex. In IMS Version 8, only the QCNT attribute may have both local and global values.

**AFFIN**

IMS affinity of the messages on the shared queues. The only SHOW option supported when the QCNT() filter is specified is the
AFFIN option. No other SHOW options are supported with the QCNT() filter due to performance reasons.

AFFIN is valid only in a shared queues environment and is ignored in a non-shared queues environment.

CLASS
Scheduling class used to determine which message regions can process the transaction locally on a particular IMS.

CPRI  Local current scheduling priority.

LCT   Limit count in the local IMS.

LPRI  Local limit scheduling priority.

MAXRGN
Local maximum region count.

NPRI  Local normal scheduling priority.

PARLIM
Local parallel processing limit count. If load balancing is disabled a numeric value of 65535 is returned. If load balancing is enabled, the PARLIM value between 0-37327 is returned.

PLCT  Local processing limit count.

PSB   PSB name associated with the transaction.

QCNT  Local transaction message queue count.

RGC   Number of regions the transaction is currently scheduled in the local IMS.

SEGNO
Local application program output segment limit allowed in the message queues for each GU call.

SEGSZ
Local application program output segment size limit allowed in the message queues for each GU call.

STATUS
Local transaction status.

STATUS()
Selects transactions for display that possess at least one of the specified transaction status. This allows for additional filtering by transaction status. If a STATUS, CLASS, or QCNT filter is not specified, all of the transactions matching the transaction name are returned.

The output returned when the STATUS filter is specified includes the status of the transaction that caused the transaction name to be displayed even if the SHOW(STATUS) option is not specified.

In IMS Version 8, RM does not keep any global status for transactions, so all status is local. In a follow on release, RM will keep certain types of global transaction status. At that time, filtering by transaction status will filter on both local and global status.

BAL   Transaction is eligible for load balancing (for example, with parallel limits specified).

CONV  This is a conversational transaction.
**CPIC**  This CPI-C transaction was built dynamically on this IMS system and can process only on this IMS system.

**DYN**  Transaction was built in a shared queues environment, is not defined to this IMS, and therefore, cannot be scheduled in this IMS subsystem.

**FPE**  This transaction is Fast Path exclusive.

**FPP**  This transaction is Fast Path potential.

**IOPREV**  Indicates that a BMP program containing GSAM cannot completed scheduling because I/O prevention has not completed. Further I/O requests to data sets are inhibited.

**LCK**  Transaction locked by a /LOCK TRANSACTION command.

**QERR**  I/O error has occurred on this queue for this MSC remote transaction.

**RESP**  Response mode transaction.

**RMT**  Remote transaction.

**SUSPEND**  Transaction has messages on the suspend queue.

**STOQ**  Transaction is stopped for queueing. This might be due to a previous UPDATE TRAN, /PURGE TRAN or /STO TRAN command.

**STOSCHD**  Transaction is stopped for scheduling. This might be due to a previous UPDATE TRAN, /PSTOP TRAN or /STO TRAN command or an application abend.

**TRACE**  Transaction is being traced.

**USTO**  Transaction scheduling stopped because of unavailable data.

### QUERY TRAN Compared to Other Commands

Table 111 shows different instances of the QUERY TRAN command and other IMS commands that display similar information.

<table>
<thead>
<tr>
<th>QUERY TRAN Command</th>
<th>Similar IMS Command</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUERY TRAN NAME(tranname) SHOW(ALL)</td>
<td>/DISPLAY TRAN tranname</td>
</tr>
<tr>
<td>QUERY TRAN SHOW(ALL)</td>
<td>/DISPLAY TRAN ALL</td>
</tr>
<tr>
<td>QUERY TRAN NAME(tranname) SHOW(QCNT)</td>
<td>/DISPLAY TRAN tranname QCNT</td>
</tr>
<tr>
<td>QUERY TRAN NAME(tranname) STATUS(IOPREV, LCK, QERR, SUSPEND, STOQ, STOSCHD, USTO) SHOW(STATUS)</td>
<td>/DISPLAY STATUS TRANSACTION</td>
</tr>
</tbody>
</table>

### QUERY TRAN Output Fields

Table 112 on page 482 shows the QUERY TRAN keywords, the output fields that are generated, the short label of the output fields, and the scope and the meaning of the output fields. The keyword N/A (not applicable) appears for output fields that are always returned.
### Table 112. Output Fields for the QUERY TRAN Command

<table>
<thead>
<tr>
<th>SHOW KEYWORD</th>
<th>SHORT LABEL</th>
<th>SCOPE</th>
<th>MEANING</th>
</tr>
</thead>
<tbody>
<tr>
<td>n/a</td>
<td>TRAN</td>
<td>n/a</td>
<td>Transaction name. A transaction defines the processing characteristics of messages destined for an application program. The transaction name is always returned.</td>
</tr>
<tr>
<td>n/a</td>
<td>MBR</td>
<td>n/a</td>
<td>IMSplex member that built the output line. IMS identifier of IMS that built the output. The IMS identifier is always returned.</td>
</tr>
<tr>
<td>n/a</td>
<td>CC</td>
<td>n/a</td>
<td>Completion code. The completion code indicates whether or not IMS was able to process the command for the specified resource. The completion code is always returned. Refer to Table 114 on page 486 for more information.</td>
</tr>
<tr>
<td>AFFIN</td>
<td>AFIN</td>
<td>GBL</td>
<td>Affinity of the messages on the shared queues. AFFIN displays the IMSid/RSEname of the IMS system that the message can be processed on.</td>
</tr>
<tr>
<td>CLASS</td>
<td>LCLS</td>
<td>LCL</td>
<td>Scheduling class used to determine which message regions can process the transaction locally on a particular IMS.</td>
</tr>
<tr>
<td>CPRI</td>
<td>LCP</td>
<td>LCL</td>
<td>Local current scheduling priority. The current scheduling priority is used to calculate which transaction is selected for scheduling.</td>
</tr>
<tr>
<td>LCT</td>
<td>LLCT</td>
<td>LCL</td>
<td>Limit count in the local IMS. The limit count is the number that, when compared to the number of input transactions queued and waiting to be processed, determines whether the normal or limit priority value is assigned to this transaction.</td>
</tr>
<tr>
<td>LPRI</td>
<td>LLP</td>
<td>LCL</td>
<td>Local limit scheduling priority. The limit scheduling priority is the priority to which this transaction is raised when the number of input transactions enqueued and waiting to be processed is equal to or greater than the limit count value.</td>
</tr>
<tr>
<td>MAXRGN</td>
<td>LMRG</td>
<td>LCL</td>
<td>Local maximum region count. The maximum region count is the maximum number of message processing program (MPP) regions that can be concurrently scheduled to process a transaction that is eligible for parallel scheduling.</td>
</tr>
<tr>
<td>NPRI</td>
<td>LNP</td>
<td>LCL</td>
<td>Local normal scheduling priority. The normal scheduling priority is the priority assigned to this transaction when the number of input transactions enqueued and waiting to be processed is less than the limit count value.</td>
</tr>
<tr>
<td>PARLIM</td>
<td>LPLM</td>
<td>LCL</td>
<td>Local parallel processing limit count. The parallel limit count is the maximum number of messages that can currently be queued, but not yet processed, by each active message region currently scheduled for this transaction. An additional message region is scheduled whenever the transaction queue count exceeds the PARLIM value multiplied by the number of regions currently scheduled for this transaction.</td>
</tr>
<tr>
<td>PLCT</td>
<td>LPLCT</td>
<td>LCL</td>
<td>Local processing limit count. The processing limit count is the number of transaction messages a program can process in a single scheduling.</td>
</tr>
<tr>
<td>PSB</td>
<td>PSB</td>
<td>LCL</td>
<td>PSB name associated with the transaction.</td>
</tr>
<tr>
<td>QCNT</td>
<td>Q</td>
<td>GBL</td>
<td>Global transaction message queue count on the shared queues. Q is only displayed if shared queues are used.</td>
</tr>
<tr>
<td>QCNT</td>
<td>LQ</td>
<td>LCL</td>
<td>Local transaction message queue count.</td>
</tr>
<tr>
<td>RGC</td>
<td>RGC</td>
<td>LCL</td>
<td>Number of regions the transaction is currently scheduled in the local IMS.</td>
</tr>
<tr>
<td>SEGNO</td>
<td>LSNO</td>
<td>LCL</td>
<td>Local application program output segment limit allowed in message queues for each GU call.</td>
</tr>
</tbody>
</table>
Table 112. Output Fields for the QUERY TRAN Command (continued)

<table>
<thead>
<tr>
<th>SHOW KEYWORD</th>
<th>SHORT LABEL</th>
<th>SCOPE</th>
<th>MEANING</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEGSZ</td>
<td>LSSZ</td>
<td>LCL</td>
<td>Local application program output segment size limit allowed in the message queues for each GU call.</td>
</tr>
<tr>
<td>STATUS</td>
<td>LSTT</td>
<td>LCL</td>
<td>Local transaction status.</td>
</tr>
</tbody>
</table>
Return, Reason, and Completion Codes for QUERY TRAN

The return and reason codes that can be returned as a result of the QUERY TRAN command are standard for all commands entered through the OM API. Refer to the OM Return and Reason code section in the [IMS Version 8: Common Service Layer Guide and Reference](#) for the list of codes and their meanings.

Table 113 on page 485 contains the return and reason codes that can be returned to OM from a QUERY TRAN command.
### Table 113. Return and Reason Codes for the QUERY TRAN Command

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Reason Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>X'00000000'</td>
<td>X'00000000'</td>
<td>The QUERY TRAN command completed successfully.</td>
</tr>
<tr>
<td>X'00000004'</td>
<td>X'00001000'</td>
<td>The QUERY TRAN command was not processed on the IMS system as the IMS system is not the command master. No resource information is returned.</td>
</tr>
<tr>
<td>X'00000004'</td>
<td>X'00001004'</td>
<td>The QUERY TRAN command was processed for a few resources and a partial list of resources is returned. The command terminated as the resource count to be returned exceeded the maximum number of resources that can be returned by a QUERY TRAN command.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The maximum number of resources that can be returned by a QUERY TRAN command is 5000. Re-issue the command with a generic mask or other filters so the number of resources to be returned is less than 5000.</td>
</tr>
<tr>
<td>X'00000008'</td>
<td>X'0000200C'</td>
<td>No resources were found to be returned. The resource name(s) specified may be invalid or there were no resources that match the filter specified.</td>
</tr>
<tr>
<td>X'00000008'</td>
<td>X'00002040'</td>
<td>The QUERY TRAN command has more than one filter value specified or an invalid filter value is specified for the QCNT filter. Only one of the CLASS, STATUS or QCNT filters may be specified. A value of 0 may have been specified for QCNT with LE, GE or, EQ. Or a value of 1 may have been specified for QCNT with LT.</td>
</tr>
<tr>
<td>X'00000008'</td>
<td>X'0000204C'</td>
<td>The CLASS value specified is invalid. Confirm the correct CLASS value is specified on the command.</td>
</tr>
<tr>
<td>X'0000000C'</td>
<td>X'00003000'</td>
<td>The QUERY TRAN command is successful for at least one resource name. The QUERY TRAN command is not successful for one or more resource names. The Completion Code indicates the reason for the error with the resource name. The Completion Codes that can be returned by the QUERY TRAN command are listed in the QUERY TRAN completion code table.</td>
</tr>
<tr>
<td>X'0000000C'</td>
<td>X'00003004'</td>
<td>The QUERY TRAN command is not successful for all the resource name(s) specified. The Completion Code indicates the reason for the error with the resource name. The Completion Codes that can be returned by the QUERY TRAN command are listed in the QUERY TRAN completion code table.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004014'</td>
<td>The QUERY TRAN command processing terminated as the TRAN keyword is not valid on the RSR tracker.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004018'</td>
<td>The QUERY TRAN command processing terminated as the RM resource structure is not available.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004100'</td>
<td>The QUERY TRAN command processing terminated as the resource structure is full.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004104'</td>
<td>The QUERY TRAN command processing terminated as there is no RM address space.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004108'</td>
<td>The QUERY TRAN command processing terminated as there is no SCI address space.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'00005004'</td>
<td>The QUERY TRAN command processing terminated as a DFSOCMD response buffer could not be obtained.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'00005008'</td>
<td>The QUERY TRAN command processing terminated as the DFSPOOL storage could not be obtained.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'00005100'</td>
<td>The QUERY TRAN command processing terminated due to a RM error.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'00005108'</td>
<td>The QUERY TRAN command processing terminated due to a SCI error.</td>
</tr>
</tbody>
</table>

Errors unique to the processing of this command are returned as a completion codes. A completion code is returned for each action against an individual resource.
Table 114 contains completion codes that can be returned on a QUERY TRAN command.

<table>
<thead>
<tr>
<th>Completion Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The QUERY TRAN command completed successfully for the resource.</td>
</tr>
<tr>
<td>10</td>
<td>The resource name is unknown to the client that is processing the request. The resource name may have been typed in error or the resource may not be active at this time. If this is a wildcard request there were no matches for the name. Confirm the correct spelling of the resource name is specified on the command.</td>
</tr>
<tr>
<td>50</td>
<td>The QUERY TRAN command could not be completed for the resource as CQS is not available. Make sure CQS is available before re-issuing the command.</td>
</tr>
<tr>
<td>51</td>
<td>The QUERY TRAN command could not be completed for the resource as there is no resource structure or it is unavailable.</td>
</tr>
<tr>
<td>52</td>
<td>The QUERY TRAN command could not be completed for the resource as the resource structure is full.</td>
</tr>
<tr>
<td>90</td>
<td>The QUERY TRAN command could not be completed for the resource due to an IMS internal error.</td>
</tr>
<tr>
<td>94</td>
<td>The QUERY TRAN command could not be completed for the resource due to a RM error.</td>
</tr>
<tr>
<td>98</td>
<td>The QUERY TRAN command could not be completed for the resource due to a CQS error.</td>
</tr>
</tbody>
</table>

Examples

This section provides OM API and TSO SPOC input and output examples and explanations for the QUERY command.

Example 1 for QUERY IMSPLEX Command

TSO SPOC input:
QRY IMSPLEX NAME(CSLPLEX1) SHOW(JOB,SUBTYPE,STATUS,TYPE)

TSO SPOC output:
Response for: QUERY IMSPLEX NAME(CSLPLEX1) SHOW(JOB,SUBTYPE,STATUS)

<table>
<thead>
<tr>
<th>IMSplex</th>
<th>MbrName</th>
<th>CC Member</th>
<th>JobName</th>
<th>Type</th>
<th>Subtype</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSLPLEX1</td>
<td>OM1OM</td>
<td>0 IMS2</td>
<td>IMS2</td>
<td>IMS</td>
<td>DBDC</td>
<td>READY,ACTIVE</td>
</tr>
<tr>
<td>CSLPLEX1</td>
<td>OM1OM</td>
<td>0 CQSICQS</td>
<td>CQSRE1</td>
<td>CQS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSLPLEX1</td>
<td>OM1OM</td>
<td>0 SYS3</td>
<td>IMS1</td>
<td>IMS</td>
<td>DBDC</td>
<td>READY,ACTIVE</td>
</tr>
<tr>
<td>CSLPLEX1</td>
<td>OM1OM</td>
<td>0 OM1OM</td>
<td>OM1</td>
<td>OM</td>
<td></td>
<td>READY,ACTIVE</td>
</tr>
<tr>
<td>CSLPLEX1</td>
<td>OM1OM</td>
<td>0 IMS3</td>
<td>IMS3</td>
<td>IMS</td>
<td>DBDC</td>
<td>READY,ACTIVE</td>
</tr>
<tr>
<td>CSLPLEX1</td>
<td>OM1OM</td>
<td>0 USRT011</td>
<td>USRT011</td>
<td>AOP</td>
<td></td>
<td>ACTIVE</td>
</tr>
<tr>
<td>CSLPLEX1</td>
<td>OM1OM</td>
<td>0 PMR1RM</td>
<td>RMI</td>
<td>RM</td>
<td>MULTRM</td>
<td>READY,ACTIVE</td>
</tr>
<tr>
<td>CSLPLEX1</td>
<td>OM1OM</td>
<td>0 SCI1SC</td>
<td>SCI1</td>
<td>SCI</td>
<td></td>
<td>READY,ACTIVE</td>
</tr>
</tbody>
</table>

OM API input:
CMD(QRY IMSPLEX NAME(CSLPLEX1) SHOW(JOB,SUBTYPE,STATUS,TYPE))

OM API output:

<?xml version="1.0"?><!DOCTYPE imsout SYSTEM "imsout.dtd">
<imsout>
<ctl>
<omname>OM1OM</omname>
<omvsn>1.1.0</omvsn>
<xmlvsn>1</xmlvsn>
<statime>2002.163 15:05:18.859217</statime>
<stotime>2002.163 15:05:18.860443</stotime>
<staseq>B7C4A41E663011C3</staseq>
Explanation: The QUERY IMSPLEX command displays the IMSplex members that compose IMSplex CSLPLEX1. This IMSplex contains three IMSs (IMS1, IMS2, and IMS3), a TSO SPOC (USRT011), a CQS (CQSRE1), RM (RM1), and OM (OM1). OM1 is the command master that built the output.

Example 2 for QUERY IMSPLEX Command

TSO SPOC input:
QRY IMSPLEX NAME(CSLPLEX1) SHOW(JOB, SUBTYPE, STATUS, TYPE)

TSO SPOC output:

Response for: QUERY IMSPLEX NAME(CSLPLEX1) SHOW(JOB, SUBTYPE, STATUS, TYPE)

<table>
<thead>
<tr>
<th>IMSplex MbrName</th>
<th>CC Member</th>
<th>JobName</th>
<th>Type</th>
<th>Subtype</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSLPLEX1 OM1OM</td>
<td>0</td>
<td>IMS2</td>
<td>IMS</td>
<td>DBDC</td>
<td>READY,ACTIVE</td>
</tr>
<tr>
<td>CSLPLEX1 OM1OM</td>
<td>0</td>
<td>CQS1CQS</td>
<td>CQS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSLPLEX1 OM1OM</td>
<td>0</td>
<td>SYS3</td>
<td>IMS</td>
<td>DBDC</td>
<td>READY,ACTIVE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
QUERY

OM API input:

CMD (QRY IMSPLEX NAME(CSLPLEX1) SHOW(JOB, SUBTYPE, STATUS, TYPE))

OM API output:

<?xml version="1.0"?><!DOCTYPE imsout SYSTEM "imsout.dtd"><imsout><ctl><omname>OM1OM</omname><omvsn>1.1.0</omvsn><xmlvsn>1</xmlvsn><statime>2002.163 15:05:18.859217</statime><stotime>2002.163 15:05:18.860443</stotime><staseq>B7C4A41E663D11C3</staseq><stoseq>B7C4A41E6689B9C3</stoseq><rqsttkn1>USRT011 10080518</rqsttkn1><rc>00000000</rc><rsn>00000000</rsn></ctl><cmd><userid>USRT011</userid><verb>QRY</verb><kwd>IMSPLEX</kwd><input>QUERY IMSPLEX NAME(CSLPLEX1) SHOW(JOB, SUBTYPE, STATUS, TYPE)</input></cmd><cmdrsphdr><hdr slbl="IMSPLX" llbl="IMSplex" scope="LCL" sort="A" key="1" scroll="NO" len="8" dtype="CHAR" align="left" /><hdr slbl="MBR" llbl="MbrName" scope="LCL" sort="N" key="0" scroll="YES" len="8" dtype="CHAR" align="left" /><hdr slbl="CC" llbl="CC" scope="LCL" sort="N" key="0" scroll="YES" len="4" dtype="INT" align="right" /><hdr slbl="IMSMBR" llbl="Member" scope="LCL" sort="N" key="0" scroll="NO" len="8" dtype="CHAR" align="left" /><hdr slbl="JOB" llbl="JobName" scope="LCL" sort="N" key="0" scroll="YES" len="8" dtype="CHAR" align="left" /><hdr slbl="TYP" llbl="Type" scope="LCL" sort="N" key="0" scroll="YES" len="5" dtype="CHAR" align="left" /><hdr slbl="STYP" llbl="Subtype" scope="LCL" sort="N" key="0" scroll="YES" len="8" dtype="CHAR" align="left" /><hdr slbl="STT" llbl="Status" scope="GBL" sort="N" key="0" scroll="YES" len="*" dtype="CHAR" align="left" /></cmdrsphdr><cmdrspdata><rsp>IMSPLX(CSLPLEX1) MBR(OM1OM) IMSMBR(IMS2) CC( 0) JOB(IMS2) TYP(IMS) STYP(DBDC) STT(READY,ACTIVE)</rsp><rsp>IMSPLX(CSLPLEX1) MBR(OM1OM) IMSMBR(CQS1CQS) CC( 0) JOB(CQSRE1) TYP(CQS) STYP( ) STT(ACTIVE)</rsp><rsp>IMSPLX(CSLPLEX1) MBR(OM1OM) IMSMBR(SYS3) CC( 0) JOB(IMS1) TYP(IMS) STYP(DBDC) STT(READY,ACTIVE)</rsp><rsp>IMSPLX(CSLPLEX1) MBR(OM1OM) IMSMBR(OM1OM) CC( 0) JOB(OM1) TYP(OM) STYP( ) STT(READY,ACTIVE)</rsp><rsp>IMSPLX(CSLPLEX1) MBR(OM1OM) IMSMBR(USRT011) CC( 0) JOB(USRT011) TYP(AOP) STYP(DBDC) STT(READY,ACTIVE)</rsp><rsp>IMSPLX(CSLPLEX1) MBR(OM1OM) IMSMBR(RM1RM) CC( 0) JOB(RM1) TYP(RM) STYP(MULTRM) STT(READY,ACTIVE)</rsp><rsp>IMSPLX(CSLPLEX1) MBR(OM1OM) IMSMBR(SCI1SC) CC( 0) JOB(SCI1) TYP(SCI) STYP( ) STT(READY,ACTIVE)</rsp></cmdrspdata></imsout>
Explanation: The QUERY IMSPLEX command displays the IMSplex members that compose IMSplex CSLPLEX1. This IMSplex contains three IMSs (IMS1, IMS2, and IMS3), a TSO SPOC (USRT011), a CQS (CQSRE1), RM (RM1), and OM (OM1). OM1 is the command master that built the output.

Example 1 for QUERY LE Command

Assume the following filters are specified on QRY LE commands:

1. TRAN(PART) SHOW(ALL) Returns entries #1, 2, 3, 5, 6, 8.
2. TRAN(PART) LTERM(TERM1) SHOW(ALL) Returns entries #3, 5, 6.
3. LTERM(TERM2) USERID(BETTY) SHOW(ALL) Returns entry #7.
4. TRAN(PART) LTERM(TERM1) USERID(BETTY) SHOW(ALL) Does not return any entries.
5. TRAN(PART) LTERM(TERM*) SHOW(ALL) Returns entries #3, 5, 6, 8.
6. USERID(B*) SHOW(ALL) Returns entries #2, 5, 6, 7.

Rules for matching an entry which results in it being returned on QUERY command:

- If a filter is specified on the command for a particular resource it must match the resource filter defined in the entry. The resource in the QUERY LE command may be specified with wildcards as defined previously.
- A resource filter that is not specified on a QUERY LE command will match on any filter for the specific resource defined in the entry. A non-specified filter is treated as a wildcard. For instance if the LTERM filter is not specified on a QUERY LE command it will match on any LTERM resource defined in an entry, as if LTERM(*) was specified on the command.

<table>
<thead>
<tr>
<th>Entry#</th>
<th>TRAN</th>
<th>LTERM</th>
<th>USERID</th>
<th>PROGRAM</th>
<th>LERUNOPTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PART</td>
<td></td>
<td></td>
<td>DFSSAM02</td>
<td>aaaa</td>
</tr>
<tr>
<td>2</td>
<td>PART</td>
<td></td>
<td>BETTY</td>
<td></td>
<td>bbbb</td>
</tr>
<tr>
<td>3</td>
<td>PART</td>
<td>TERM1</td>
<td></td>
<td></td>
<td>cccc</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>DFSSAM02</td>
<td>dddd</td>
</tr>
<tr>
<td>5</td>
<td>PART</td>
<td>TERM1</td>
<td>BARBARA</td>
<td></td>
<td>eeee</td>
</tr>
<tr>
<td>6</td>
<td>PART</td>
<td>TERM1</td>
<td>BOB</td>
<td></td>
<td>ffff</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>TERM2</td>
<td>BETTY</td>
<td></td>
<td>gggg</td>
</tr>
<tr>
<td>8</td>
<td>PART</td>
<td>TERM2</td>
<td></td>
<td></td>
<td>iii</td>
</tr>
</tbody>
</table>

Table 115 is a logical representation of the parameter override table entries prior to any of the above query commands being processed.

Table 115. Parameter Override Table Entries for Example 1

Example 2 for QUERY LE Command

TSO SPOC input:

QRY LE SHOW(ALL)

TSO SPOC output:

SYS3 0 IAPMDI29 CCC
SYS3 0 IAPMDI26 USRT001 RPTOPTS=((ON),NOOVR),RPTSTG=((OFF),NOOVR)
SYS3 0 IAPMDI27 IMS1 USRT001 IAPMDI27 AAA

OM API input:
Explanation: The SHOW(ALL) parameter is specified, so all four filters and the runtime option string are shown for each table entry. Furthermore, no filters are specified in the command, so all table entries are shown. In this example, there are three table entries. The first specifies one filter (program) and the parameter string for this entry is CCCC. The second entry specifies two filters, trancode and userid, and its parameter string is RPTOPTS=((ON),NOOVR),RPTSTG=((OFF),NOOVR). The last entry specifies all four filters and a parameter string of AAAA.

Example 3 for QUERY LE Command

TSO SPOC input:
QRY LE SHOW(LTERM,USERID)

TSO SPOC output:
OM API input:
CMD(QRY LE SHOW(LTERM,USERID))

OM API output:

<imsout>
<ctl>
<omname>OM1OM</omname>
<omvsn>1.1.0</omvsn>
<xmlvsn>1</xmlvsn>
<statime>2002.163 17:36:27.589393</statime>
<stotime>2002.163 17:36:27.589261</stotime>
<stoseq>B7C4C5E703729D6F</stoseq>
<rqsttkn1>USRT002 10103627</rqsttkn1>
<rc>00000000</rc>
<rsn>00000000</rsn>
</ctl>
<cmd>
<master>SYS3</master>
<userid>USRT002</userid>
<verb>QRY</verb>
<kwd>LE</kwd>
<input>QRY LE SHOW(LTERM,USERID)</input>
</cmd>
</cmdrsphdr>
<rsp>MbrName CC Lterm Userid
SYS3 0
SYS3 0 USRT001
SYS3 0 IMS1 USRT001
</cmdrspdata>
</imsout>

Explanation: This command uses the SHOW parameter to limit the amount of data that is shown for each entry in the table. All three table entries are shown, but only the LTERM and TRAN filters are shown for each one. The first entry has neither an LTERM filter nor a USERID filter defined, so it is blank except for the MbrName and CC.

Example 4 for QUERY LE Command

TSO SPOC input:
QRY LE USERID(USRT*) SHOW(LTERM,USERID)

TSO SPOC output:
MbrName CC Lterm Userid
SYS3 0
SYS3 0 USRT001
SYS3 0 IMS1 USRT001

OM API input:
OM API output:
<imsout>
<ctl>
<omname>OM1OM</omname>
<omvsn>1.1.0</omvsn>
<xmlvsn>1</xmlvsn>
<statime>2002.163 17:50:24.925819</statime>
<stotime>2002.163 17:50:24.926381</stotime>
<staseq>B7C4C9058F87B484</staseq>
<stoseq>B7C4C9058FAAD324</stoseq>
<rqtsttkn1>USRT002 10105024</rqtsttkn1>
<rc>00000000</rc>
<rsn>00000000</rsn>
</ctl>
<cmd>
<master>SYS3</master>
<userid>USRT002</userid>
<verb>QRY</verb>
<input>QRY LE USERID(USRT*) SHOW(LTERM,USERID)</input>
</cmd>
<cmdrsphdr>
<hdr slbl="MBR" lbl="MbrName" scope="LCL" sort="A" key="1" scroll="NO" len="8"
dtype="CHAR" align="left" />
<hdr slbl="CC" lbl="CC" scope="LCL" sort="N" key="0" scroll="YES" len="4"
dtype="INT" align="right" />
<hdr slbl="LTRM" lbl="Lterm" scope="LCL" sort="N" key="0" scroll="YES" len="8"
dtype="CHAR" align="left" />
<hdr slbl="UID" lbl="Userid" scope="LCL" sort="N" key="0" scroll="YES" len="8"
dtype="CHAR" align="left" />
</cmdrsphdr>
<cmdrspdata>
<rsp>MBR(SYS3) CC(0) LTRM( ) UID(USRT001) </rsp>
<rsp>MBR(SYS3) CC(0) LTRM(IMS1) UID(USRT001) </rsp>
</cmdrspdata>
</imsout>

Explanation: This command uses both the USERID filter and the SHOW parameter to limit the amount of data shown in the output. The USERID(USRT*) parameter limits the output to only those table entries that define a USERID filter that fits the specified pattern (USRT*). The SHOW parameter limits how much information is returned about each table entry in this case, only the LTERM and USERID are shown.

Example 1 for QUERY MEMBER TYPE(IMS) Command

TSO SPOC input:
QRY MEMBER TYPE(IMS) SHOW(ALL)

TSO SPOC output:
MbName   CC  Type  Status  LclAttr  LclStat  ModId
SYS3    0   IMS      1

OM API input:
CMD(QRY MEMBER TYPE(IMS) SHOW(ALL))

OM API output:
<imsout>
<ctl>
<omname>OM1OM</omname>
Example 2 for QUERY MEMBER TYPE(IMS) Command

TSO SPOC input:
QRY MEMBER TYPE(IMS) SHOW(ALL)

TSO SPOC output:
MbrName  CC  Type  Status  LclAttr  LclStat  ModId
SYS3     0    IMS    LEOPT    1

OM API input:
CMD(QRY MEMBER TYPE(IMS) SHOW(ALL))

OM API output:

Explanation: IMS member SYS3 is active in the IMSplex.
Example 3 for **QUERY MEMBER TYPE(IMS) Command**

**TSO SPOC input:**

```plaintext
QRY MEMBER TYPE(IMS) SHOW(ALL)
```

**TSO SPOC output:**

```
Response for: QUERY MEMBER TYPE(IMS) SHOW(ALL)

<table>
<thead>
<tr>
<th>MbrName</th>
<th>CC</th>
<th>Type</th>
<th>Status</th>
<th>LclAttr</th>
<th>LclStat</th>
<th>ModId</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMS2</td>
<td>0</td>
<td>IMS</td>
<td>SHAREDQ,GBLOLC</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>IMS3</td>
<td>0</td>
<td>IMS</td>
<td>SHAREDQ,GBLOLC</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>SYS3</td>
<td>0</td>
<td>IMS</td>
<td>SHAREDQ,GBLOLC</td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>
```

**OM API input:**

```plaintext
CMD (QRY MEMBER TYPE(IMS) SHOW(ALL))
```

**OM API output:**

```xml
```
Explanation: IMS members SYS3, IMS2, and IMS3 are active in the IMSplex. All three IMSs have shared queues enabled and global online change enabled.

Example 1 for QUERY OLC Command

TSO SPOC input:
QRY OLC LIBRARY(OLCSTAT) SHOW(ACTVLIB,MODID,MBRLIST)

TSO SPOC output:
Response for: QUERY OLC LIBRARY(OLCSTAT) SHOW(ACTVLIB,MODID,MBRLIST)
MbrName CC Library ACBLIB FMTLIB MODBLKS Modid MbrList
MS3 0 OLCSTAT B A B 1 IMS3,IMS2,SYS3

OM API input:
CMD (QRY OLC LIBRARY(OLCSTAT) SHOW(ACTVLIB,MODID,MBRLIST))

OM API output:

<?xml version="1.0"?>
<!DOCTYPE imsout SYSTEM "imsout.dtd">
<imsout>
<ctl>
<omname>OM1OM</omname>
<omvsn>1.1.0</omvsn>
<xmlvsn>1</xmlvsn>
<stotime>2002.16315:22:45.400709</stotime>
<staseq>B7C4A8029DD62884</staseq>
<stoseq>B7C4A80475885248</stoseq>
<rqsttkn1>USRT01110082243</rqsttkn1>
<rc>00000000</rc>
</ctl>
<cmderr>
<mbr name="IMS2"/>
<typ>IMS</typ>
<styp>DBDC</styp>
<rc>00000000</rc>
</cmderr>
**QUERY**

```
<rsn>00001000</rsn>
</mbr>

<mbr name="SYS3">
.typ>IMS
.<styp>DBDC</styp>
<rc>00000004</rc>
<rsn>00001000</rsn>
</mbr>
</cmderr>

<cmd>
<master>IMS3</master>
<userid>USRT011</userid>
<verb>QRY</verb>
<kwd>OLC</kwd>
<input>QUERY OLC LIBRARY(OLCSTAT) SHOW(ACTVLIB,MODID,MBRLIST)</input>
</cmd>

<cmdrsphdr>
<hdr slbl="MBR" llbl="MbrName" scope="LCL" sort="a" scroll="no" len="8" dtype="CHAR" align="left"/>
<hdr slbl="CC" llbl="CC" scope="LCL" sort="n" scroll="yes" len="4" dtype="INT" align="right"/>
<hdr slbl="LIB" llbl="Library" scope="GBL" sort="a" scroll="no" len="8" dtype="CHAR" align="left"/>
<hdr slbl="ACBL" llbl="ACBLIB" scope="GBL" sort="n" scroll="yes" len="8" dtype="CHAR" align="right"/>
<hdr slbl="FMTL" llbl="FMTLIB" scope="GBL" sort="n" scroll="yes" len="8" dtype="CHAR" align="right"/>
<hdr slbl="MODB" llbl="MODBLKS" scope="GBL" sort="n" scroll="yes" len="8" dtype="CHAR" align="right"/>
<hdr slbl="MODI" llbl="Modid" scope="GBL" sort="n" scroll="yes" len="8" dtype="CHAR" align="right"/>
<hdr slbl="MBRL" llbl="MbrList" scope="GBL" sort="n" scroll="yes" len="*" dtype="CHAR" align="left"/>
</cmdrsphdr>

<rsp>MBR(IMS3) CC(0) LIB(OLCSTAT) ACBLIB(A) FMTLIB(A) MODLIB(B) MODID(1) MBRL(IMS3,IMS2,SY3)</rsp>
</cmdrspdata>
</imsout>

Explanation: QUERY OLC LIBRARY(OLCSTAT) displays the contents of the OLCSTAT data set, which contains global online change status. This command displays the active online change libraries, the modify id, and the list of IMS members that are current with the online change libraries and may therefore warm list. The output shows that the ACBLIB data set is active, the FMTLIB data set is active, the MODLIB data set is active, and the modify id is 2. SYS3 was the command master that built the output.

**Example 2 for QUERY OLC Command**

**TSO SPOC input:**

```
QRY OLC LIBRARY(OLCSTAT) SHOW(DSN)
```

**TSO SPOC output:**

```
MbrName  CC  Library  DSNName  
IMS3  0  OLCSTAT  IMSTESTL.IMS02.OLCSTAT
```

**OM API input:**

```
CMD (OLC LIBRARY(OLCSTAT) SHOW(DSN))
```

**OM API output:**
Example 1 for QUERY STRUCTURE Command

TSO SPOC input:

QRY STRUCTURE SHOW(STATISTICS)

TSO SPOC output:

<table>
<thead>
<tr>
<th>StructureName</th>
<th>MbrName</th>
<th>CC</th>
<th>LeAlloc</th>
<th>LeInuse</th>
<th>ElmAlloc</th>
<th>ElmInuse</th>
<th>LE/EL</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSR SRC01</td>
<td>RM1RM</td>
<td>0</td>
<td>3577</td>
<td>676</td>
<td>3574</td>
<td>24</td>
<td>0001/0001</td>
</tr>
</tbody>
</table>

OM API input:

CMD (QRY STRUCTURE SHOW(STATISTICS))
OM API output:

<?xml version="1.0"?>
<!DOCTYPE imsout SYSTEM "imsout.dtd">
<imsout>
  <ctl>
    <omname>OM1OM</omname>
    <omvsn>1.1.0</omvsn>
    <xmlvsn>1</xmlvsn>
    <statime>2002.16314:31:34.901057</statime>
    <stotime>2002.16314:31:34.941134</stotime>
    <staseq>B7C49C9433D410C1</staseq>
    <stoseq>B7C49C943D9CEC44</stoseq>
    <rqsttkn1>USRT0110073134</rqsttkn1>
    <rc>00000000</rc>
    <rsn>00000000</rsn>
  </ctl>
  <cmd>
    <master>RM1RM</master>
    <userid>USRT011</userid>
    <verb>QRY</verb>
    <kwd>STRUCTURE</kwd>
    <input>QUERY STRUCTURE SHOW(ALL)</input>
  </cmd>
  <cmdrsphdr>
    <hdr slbl="STRNM" llbl="StructureName" scope="LCL" sort="A" key="1" scroll="NO" len="16" dtype="CHAR" align="left"/>
    <hdr slbl="MBR" llbl="MbrName" scope="LCL" sort="N" key="0" scroll="NO" len="8" dtype="CHAR" align="left"/>
    <hdr slbl="CC" llbl="CC" scope="LCL" sort="N" key="0" scroll="YES" len="4" dtype="INT" align="left"/>
    <hdr slbl="TYP" llbl="Type" scope="LCL" sort="N" key="0" scroll="YES" len="8" dtype="CHAR" align="left"/>
    <hdr slbl="LEA" llbl="LeAlloc" scope="LCL" sort="N" key="0" scroll="YES" len="4" dtype="INT" align="right"/>
    <hdr slbl="LEI" llbl="LeInuse" scope="LCL" sort="N" key="0" scroll="YES" len="4" dtype="INT" align="right"/>
    <hdr slbl="ELMA" llbl="ElmAlloc" scope="LCL" sort="N" key="0" scroll="YES" len="4" dtype="INT" align="right"/>
    <hdr slbl="ELMI" llbl="ElmInuse" scope="LCL" sort="N" key="0" scroll="YES" len="4" dtype="INT" align="right"/>
    <hdr slbl="RATIO" llbl="LE/EL" scope="LCL" sort="N" key="0" scroll="YES" len="9" dtype="CHAR" align="left"/>
  </cmdrsphdr>
  <cmdrspdata>
    <rsp>STRNM(IMSRSRC01) MBR(RM1RM) CC(0) TYP(RSRC) LEA(3577) LEI(676) ELMA(3574) ELMI(24) RATIO(0001/0001)</rsp>
  </cmdrspdata>
</imsout>

Explanation: This command displays all of the resource structures in the IMSp lex and their statistics. Only one resource structure is defined, IMSRSRC01. The list entries allocated on the resource structure is 3577, the list entries in use on the structure is 680. The data elements allocated is 3574, the data elements in use is 32. The list entry to data element ratio on the resource structure is one to one. Not many list entries or data elements are in use on the resource structure, so the resource structure is not approaching full.

Example 1 for QUERY TRAN Command

TSO SPOC input:

QRY TRAN NAME(OLCFT117,OLCTMSA*,OLCTB14*) SHOW(QCNT,CLASS,STATUS)

TSO SPOC output:
Trancode | MbrName | CC | LCls | LQCnt | LclStat
---|---|---|---|---|---
OLCFT117 | SYS3 | 0 | 1 | 0 | FPE,RESP
OLCTB140 | SYS3 | 0 | 1 | 0 | BAL
OLCTB141 | SYS3 | 0 | 5 | 0 |
OLCTB148 | SYS3 | 0 | 1 | 0 | CONV
OLCTMSAI | SYS3 | 0 | 1 | 0 | RMT

**Explanation:** A QUERY TRAN command can be issued to obtain information about transactions on one or more IMSs in the IMSplex. This QUERY TRAN command is issued in an IMSplex with one active IMS SYS3 that is not shared queues enabled. The command returns all transactions that match the name OLCFT117 and wild card names OLCTMSA* and OLCTB14*. The output returned is based on the SHOW keyword options. The IMS SYS3 returns the local queue count, local class, and local status for each transaction found that match the NAME parameters. Because the IMS is not shared queues enabled, no global queue count response line is returned.
Example 2 for QUERY TRAN Command

TSO SPOC input:
QRY TRAN NAME(PART*) SHOW(QCNT,STATUS,CLASS,PSB)

TSO SPOC output:

<table>
<thead>
<tr>
<th>Trancode</th>
<th>MbrName</th>
<th>CC</th>
<th>PSBname</th>
<th>QCnt</th>
<th>LCls</th>
<th>LQCnt</th>
<th>LclStat</th>
</tr>
</thead>
<tbody>
<tr>
<td>PART</td>
<td>IMS3</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PART</td>
<td>IMS2</td>
<td>0</td>
<td>DFSAM02</td>
<td>4</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PART</td>
<td>IMS3</td>
<td>0</td>
<td>DFSAM02</td>
<td>4</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PART</td>
<td>SYS3</td>
<td>0</td>
<td>DFSAM02</td>
<td>4</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PARTROOT</td>
<td>IMS3</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PARTROOT</td>
<td>IMS2</td>
<td>0</td>
<td>PARTAPP</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PARTROOT</td>
<td>IMS3</td>
<td>0</td>
<td>TPARTAPP</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PARTROOT</td>
<td>SYS3</td>
<td>0</td>
<td>TPARTAPP</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OM API input:
CMD ( QRY TRAN NAME(PART*) SHOW(QCNT,STATUS,CLASS,PSB)  )

OM API output:

```xml
<?xml version="1.0"?>
<!DOCTYPE imsout SYSTEM "imsout.dtd">
<imsout>
  <ctl>
    <omname>OM10M</omname>
    <omvsn>1.1.0</omvsn>
    <xmlvsn>1</xmlvsn>
    <staseq>B7D2E76D3DE7BD2C</staseq>
    <stoseq>B7D2E76D62B68A49</stoseq>
    <rqsttkn>USRT005 10162059</rqsttkn>
    <rc>00000000</rc>
    <rsn>00000000</rsn>
  </ctl>
  <cmd>
    <master>IMS3</master>
    <userid>USRT005</userid>
    <verb>QRY</verb>
    <kwd>TRAN</kwd>
    <input>QRY TRAN NAME(PART*) SHOW(QCNT,STATUS,CLASS,PSB)

  </input>
  </cmd>
  <cmdrsphdr>
    <hdr slbl="TRAN" llbl="Trancode" scope="LCL" sort="a" key="1" scroll="no" len="8"
    dtype="CHAR" align="left"/>
    <hdr slbl="MBR" llbl="MbrName" scope="LCL" sort="a" key="4" scroll="no" len="8"
    dtype="CHAR" align="left"/>
    <hdr slbl="CC" llbl="CC" scope="LCL" sort="n" key="0" scroll="yes" len="4"
    dtype="INT" align="right"/>
    <hdr slbl="PSB" llbl="PSBname" scope="LCL" sort="n" key="0" scroll="yes" len="8"
    dtype="CHAR" align="left"/>
    <hdr slbl="Q" llbl="QCnt" scope="GBL" sort="d" key="2" scroll="yes" len="8"
    dtype="INT" align="right"/>
    <hdr slbl="LCLS" llbl="LCls" scope="LCL" sort="n" key="0" scroll="yes" len="3"
    dtype="INT" align="right"/>
    <hdr slbl="LQ" llbl="LQCnt" scope="GBL" sort="d" key="3" scroll="yes" len="8"
    dtype="INT" align="right"/>
    <hdr slbl="LSTT" llbl="LclStat" scope="LCL" sort="n" key="0" scroll="yes" len="*"
    dtype="CHAR" align="left"/>
  </cmdrsphdr>
  <cmdrspdata>
    <rsp>TRAN(PARTROOT) MBR(IMS3) CC(0) Q(0)</rsp>
    <rsp>TRAN(PARTROOT) MBR(IMS3) CC(0) PSB(TPARTAPP) LCLS(1) LQ(0)</rsp>
    <rsp>TRAN(PART) MBR(IMS3) CC(0) Q(1)</rsp>
  </cmdrspdata>
</imsout>
```
Explanation: The QUERY TRAN command returns information on the transactions that match the name parameter. This command is issued in an IMSplex that has 3 IMSs - IMS2, IMS3 and SYS3. The resource manager (RM) is using a resource structure and all IMSs are shared queues enabled. The command returns the transactions that match the wildcard name PART*. The output is based on the SHOW options specified. Each IMS processes the command while local information is requested with the SHOW keyword. Each IMS returns its local information for the PSB name, Class, local queue count, and local status associated with the transactions it found that matched the NAME PART*. The master IMS, IMS3, returned the global queue count information from shared queues for all transactions that match the NAME parameter PART*.

Example 3 for QUERY TRAN Command

TSO SPOC input:
QRY TRAN QCNT(GT,0) SHOW(AFFIN)

TSO SPOC output:
Trancode MbrName CC QCnt Affinity
PART IMS3 0 2
SMQ6 IMS3 0 1 SYS3

OM API input:
CMD ( QRY TRAN QCNT(GT,0) SHOW(AFFIN))

OM API output:
<?xml version="1.0"?>
<!DOCTYPE imsout SYSTEM "imsout.dtd">
<imsout>
<ctl>
<omname>OM1OM</omname>
<omvsn>1.1.0</omvsn>
<xmlvsn>1</xmlvsn>
<staseq>B7D2EB7E6CAE0127</staseq>
<stoseq>B7D2EB7E79330E8D</stoseq>
<rqtsttkn1>USRRT005 10163911</rqtsttkn1>
<rc>02000000</rc>
<rsn>00000000</rsn>
</ctl>
<cmderr>
<mbr name="SYS3">
<typ>IMS</typ>
<styp>DBDC</styp>
<rc>00000004</rc>
<rsn>00001000</rsn>
</mbr>
<mbr name="IMS2">
<typ>IMS</typ>
<styp>DCCTL</styp>
<rc>00000004</rc>
<rsn>00001000</rsn>
</mbr>
</cmderr>
</imsout>
Explanation: The QUERY TRTRAN QCNT(GT,0) command returns all transactions that have a queue count greater than 0. This command is issued in an IMSplex with 3 IMSs - IMS2, IMS3 and SYS3. RM is using the resource structure and all IMSs are shared queues enabled. In a shared queues environment, the QUERY TRTRAN QCNT(GT,0) command is only processed by the master IMS because it can obtain the global queue counts. All transactions that have a queue count greater than 0 are returned by the master IMS which is IMS3. When SHOW(AFFIN) is specified, any affinity of the messages to an IMS is returned. In this example, transactions SMQ6 has a message queued that can be processed only on the IMS SYS3.

Example 4 for QUERY TRAN Command

TSO SPOC input:
QRY TRAN NAME(FPTR*) STATUS(FPE,RESP)

TSO SPOC output:

OM API input:
CMD ( QRY TRAN NAME(FPTR*) STATUS(FPE,RESP) )

OM API output:
Explanation: A QUERY TRAN NAME(FPTR*) STATUS(FPE, RESP) is issued to obtain all transactions that match the wildcard name FPTR* and also have one or more of the following status conditions:

- FPE - Fast Path enabled
- RESP - Response mode

This command is issued in an IMSplex with 3 IMSs - IMS2, IMS3 and SYS3. RM is using the resource structure and all IMSs are shared queues enabled. All IMSs process the command because the status is local. Each IMS returns the
transactions that are defined locally that match the wildcard name FPTR* and have the status of FP, RESP, or both. The status condition that resulted in the transaction name being returned is also returned even though SHOW(STATUS) is not specified.

Example 5 for QUERY TRAN Command

TSO SPOC input:
QRY TRAN CLASS(6)

TSO SPOC output:
Trancode  MbrName  CC  LCls
HPCSTCL6  IMS3  0  6
HPCSTCL6  SYS3  0  6
OLCTB241  IMS2  0  6
OLCTB241  IMS3  0  6
OLCTB241  SYS3  0  6
SKS6  IMS2  0  6
SKS6  IMS3  0  6
SKS6  SYS3  0  6

OM API input:
CMD ( QRY TRAN CLASS(6) )

OM API output:
<?xml version="1.0"?>
<!DOCTYPE imsout SYSTEM "imsout.dtd">
<imsout>
<ctl>
<omname>OM1OM</omname>
<omvsn>1.1.0</omvsn>
<xmlvsn>1</xmlvsn>
<statime>2002.174 23:54:03.498534</statime>
<stotime>2002.174 23:54:03.500563</stotime>
<staseq>B7D2EED171826C43</staseq>
<stoseq>B7D2EED172013A43</stoseq>
<rqsttkn1>USRT005 10165403</rqsttkn1>
<rc>00000000</rc>
<rsn>00000000</rsn>
</ctl>
<cmd>
<master>IMS3</master>
<userid>USRT005</userid>
<verb>QRY</verb>
<kwd>TRAN</kwd>
<input>QRY TRAN CLASS(6)</input>
</cmd>
<cmdrsphdr>
<hdr slbl="Trancode" ltbl="Trancode" scope="LCL" sort="a" key="1" scroll="no" len="8" dtype="CHAR" align="left" />
<hdr slbl="MbrName" ltbl="MbrName" scope="LCL" sort="a" key="4" scroll="no" len="8" dtype="CHAR" align="left" />
<hdr slbl="CC" ltbl="CC" scope="LCL" sort="n" key="0" scroll="yes" len="4" dtype="INT" align="right" />
<hdr slbl="LCLS" ltbl="Lcls" scope="LCL" sort="n" key="0" scroll="yes" len="3" dtype="INT" align="right" />
</cmdrsphdr>
<rsp><trn><trancode>SKS6</trancode> <MBR>IMS3</MBR> <CC>0</CC> <LCLS>6</LCLS></trn>
<trn><trancode>HPCSTCL6</trancode> <MBR>IMS3</MBR> <CC>0</CC> <LCLS>6</LCLS></trn>
<trn><trancode>OLCTB241</trancode> <MBR>IMS3</MBR> <CC>0</CC> <LCLS>6</LCLS></trn>
<trn><trancode>SKS6</trancode> <MBR>SYS3</MBR> <CC>0</CC> <LCLS>6</LCLS></trn>
<trn><trancode>HPCSTCL6</trancode> <MBR>SYS3</MBR> <CC>0</CC> <LCLS>6</LCLS></trn>
<trn><trancode>OLCTB241</trancode> <MBR>SYS3</MBR> <CC>0</CC> <LCLS>6</LCLS></trn>
</rsp>

504  Command Reference
Explanation: A QUERY TRAN CLASS(6) is issued to obtain all transactions that have a local class value of 6. This command is issued in an IMSplex with 3 IMSs - IMS2, IMS3 and SYS3. RM is using the resource structure and all IMSs are shared queues enabled. All the IMSs that process the command as CLASS, are local. The NAME parameter is not specified so each IMS returns all the transactions defined locally with a class value 6. The class value that resulted in the transaction name being returned is also returned even though SHOW(CLASS) is not specified.
Chapter 42. /QUIESCE

Format

```
/QUIESCE /QUI
   NODE nodename
   USER username
```

Environments and Keywords

Table 116 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 116. Valid Environments for the /QUIESCE Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/QUIESCE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NODE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>USER</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/QUIESCE initiates the shutdown and deallocates the user for the specified ISC node. The /QUIESCE NODE command is valid for ISC nodes only.

/QUIESCE resets preset mode, test mode, response mode, lock node, lock lterm, pstop lterm, and purge lterm because these statuses are not significant and are not kept after a logon or restart. /QUIESCE also takes other actions depending on the recovery settings for the node:

**RCVYCONV=NO**

/QUIESCE causes any IMS conversations (active and held) to be terminated. Any conversational message that is queued or being processed has its output response message delivered asynchronously.

**RCVYFP=NO**

/QUIESCE causes Fast Path status and messages to be discarded

If global resource information is not kept in Resource Manager, /QUIESCE deallocates the user and resets status locally. If global resource information is kept in Resource Manager, /QUIESCE deallocates the user and resets status globally. If the user has no significant status, /QUIESCE deletes the user in Resource Manager. If the node has no significant status, and there are no other half-sessions for the node, /QUIESCE deletes the node in Resource Manager.

If ROUTE is specified, it should be specified with ROUTE(*). The command fails if not routed to the IMS where the node is active.

**NODE**

Specifies the VTAM node for the user to be shut down and deallocated.
If the USER keyword is omitted, all half-sessions of an ISC node are affected. The half-sessions must be connected.

Example for /QUIESCE Command

Entry ET:
/QUIESCE NODE CAL USER LAX

Response ET:
/DFS058I QUIESCE COMMAND COMPLETED

Explanation: The half-session of node CAL using user LAX is shut down.
Chapter 43. /RCLSDST

Format

/RCLSDST

Environments

Table 117 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command can be issued.

Table 117. Valid Environments for the /RCLSDST Command

<table>
<thead>
<tr>
<th>Command</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/RCLSDST</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/RCLSDST causes IMS to disconnect the VTAM terminal from which the command is entered. If you are in an active conversational mode, /EXIT or /HOLD must be entered before /RCLSDST is executed. If this command is issued by a signed on user, the user is signed off.

This command does not reset preset mode.

/RCLSDST resets preset mode, response mode, test mode, lock node, lock lterm, psstop lterm, and purge lterm because these statuses are not significant and, therefore, are not kept after logons and restart. /RCLSDST also takes other actions depending on the recovery settings for the node:

RCVYSTSN=NO

/RCLSDST acts like a /CHANGE NODE COLDSESS command for FINANCE and SLUP nodes by setting the session status to 'cold'. /RCLSDST acts like a /QUIESCE NODE command for ISC (LU6.1) nodes by initiating the shutdown and deallocating the user for the specified node. This action changes the session status to 'cold'. With these actions taken by the /RCLSDST command, the next session initiation request for this node is allowed to again attempt a session cold start. For ETO nodes, the control block structure could be deleted, if no significant status exists.

RCVYCONV=NO

/RCLSDST causes any held IMS conversations to be terminated. Any conversational message that is queued or being processed has its output response message delivered asynchronously.

RCVYFP=NO

/RCLSDST causes Fast Path status and messages to be discarded.

If global resource information is not kept in Resource Manager, /RCLSDST logs a node off and resets status locally. If global resource information is kept in Resource Manager, /RCLSDST logs a node off and resets status globally. If the node has no status, /RCLSDST deletes the node in Resource Manager.
Example for /RCLSDST Command

Entry ET:
/RCLSDST

Response ET:
DFS058I  RCLSDST COMMAND COMPLETED

Explanation: The entering terminal is logged off IMS.
Chapter 44. /RCOMPT

Format

Environments and Keywords

Table 118 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 118. Valid Environments for the /RCOMPT Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/RCOMPT</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CNS</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>NOTRDY</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PCH</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PDS</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PRT</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>RDR</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>READY</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TDS</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>UDS</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>VID</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/RCOMPT sets a particular VTAM terminal component to a ready/not ready state. Output messages queued for a particular component will not be sent unless the component is ready. Depending on terminal type, output operations for other components can continue.

Note: Defaults are READY and 1.

The ready/not ready state set by the /RCOMPT command can be altered by the following:
- Another /RCOMPT command

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A /COMPT, /START, or /RSTART command
An I/O error on the terminal component

The command format takes one of the following forms:
A keyword is used.
A search is made of the components (as defined in the TERMINAL macro during IMS system definition or logon descriptor) for the component defined that corresponds to the specified keyword. When a match is found, that component type is made ready or not ready as specified by the command.
A keyword is used with a number other than 1 following the keyword.
The corresponding occurrence of that component type is made ready or not ready, as specified by the command.
Number 1 through 4 is used instead of a keyword.
The component affected is the one defined in that position during system definition or logon descriptor independent of component type. For more information about component support see Chapter 5, "/ASSIGN," on page 97. For more information on the keywords, see "Keywords" on page 16.

When using ISC, only parameters 1, 2, 3, and 4 are valid.

Example for /RCOMPT Command

Entry ET:
/RCOMPT VID 2 READY

Response ET:
DFS058I RCOMPT COMMAND COMPLETED

Explanation: The second display component is declared operable to IMS.

Entry ET:
/RCOMPT 4 READY

Response ET:
DFS058I RCOMPT COMMAND COMPLETED

Explanation: The fourth component defined is declared ready to IMS.
Chapter 45. /RDISPLAY

Format

```
/RDISPLAY MASTER
/RDI
```

Environments

Table 119 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keyword can be issued.

**Table 119. Valid Environments for the /RDISPLAY Command and Keyword**

<table>
<thead>
<tr>
<th>Command/Keyword</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/RDISPLAY</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>MASTER</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/RDISPLAY references the terminal assigned as the master terminal and displays either:

- The logical terminal name and the line and physical terminal numbers
- The logical terminal name and the VTAM NODE name

If the 3270 master terminal capability was generated during IMS system definition, the logical terminal name, line, and physical terminal number of the secondary master terminal are also displayed.

**MASTER**

Specifies the identity of the terminal designated as the master terminal.

Examples

**Example 1 for /RDISPLAY Command**

Entry ET:
```
/RDISPLAY MASTER
```

Response ET:
```
LTERM CNTRL
PTERM 3-1
*91010/123704*
```

Explanation: CNTRL is the master terminal logical terminal and is assigned to LINE 3 PTERM 1.

**Example 2 for /RDISPLAY Command**

Entry ET:
```
/RDISPLAY MASTER
```

Response ET:
LTERM CTRL1
PTERM 4-2
LTERM CTRL2
PTERM 4-4
*91010/12370*

Explanation: CTRL1 is the primary master terminal logical terminal and is assigned to LINE 4 PTERM 2. CTRL2 is the secondary master terminal logical terminal and is assigned to LINE 4 PTERM 4.
Chapter 46. /RECOVER

Format

/RECOVER Command: ADD

/RECOVER ADD RCVTOKEN recoveryname

OFFLINE

STAGLOBAL

STALOCAL

USEDDBDS

USEAREA

SMSOPTS optionname

AREA areaname

CAGROUP groupname

DATAGROUP groupname

DB dbname

DBDS dbname ddname

DBDSGRP groupname

RECOVGRP groupname

/RECOVER Command: REMOVE

/RECOVER REMOVE RCVTOKEN recoveryname
/RECOVER Command: START

/RECOVER Command: STOP through TERMINATE
Environments and Keywords

Table 120 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 120. Valid Environments for the /RECOVER Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/RECOVER</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>ADD</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>ALLENTRIES</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>AREA</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>CAGROUP</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DATAGROUP</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DB</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DBDS</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DBDSGRP</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>ERRORABORT</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>ERRORCONT</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>NOCHECK</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>OFFLINE</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PITR</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>RCVTIME</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>RCVTOKEN</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>READNUM</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RECOVGRP</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
Usage

/RECOVER commands are used with the recovery list of database data sets and areas.

In an IMSplex, the /RECOVER command affects the operation of the Online Recovery service. OM sends the /RECOVER command to one IMS.

/RECOVER ADD

Usage

The /RECOVER ADD command is used to add database data sets and areas to a list (recovery list) of database data sets and areas to be recovered using the Online Recovery Service. The database data sets and areas can be specified as database data sets, areas, databases, or groups.

Successful completion of a /RECOVER ADD command results in the specified database data sets and areas being added to a recovery list. Database data sets and areas can also be added to a recovery list by specifying databases, change accumulation groups (CAGROUP), database data set groups (DBDSGRP), recovery groups (RECOVGRP), or database groups (DATAGROUP). If a database or group is specified, all database data sets and areas making up the database or group are added to a recovery list. If the a specified database is a master database for a partitioned HALDB, all database data sets from all partitions that make up the HALDB are added to a recovery list. All groups (including databases) are defined in DBRC.

Database data sets and areas must be registered with DBRC to be recovered with the Online Recovery Service. If the database data set, area, or group name is not known to DBRC, it is not added to a recovery list and a message is issued.

If a database data set or area specified in a /RECOVER ADD command (individually or as part of a group) is already on a recovery list, processing for the duplicate is ignored and a message is issued. Other database data sets and areas that are not duplicates are processed normally.

This command can be issued in IMS DBCTL and IMS DB/DC environments.

Examples of using the /RECOVER ADD command are shown in:
- "Example 1 for /RECOVER ADD Command" on page 527
OFFLINE

Specifies that the databases and areas undergoing recovery are to be left offline after recovery is complete. If OFFLINE, STAGLOBAL, or STALOCAL is not specified on the /RECOVER ADD command, the action specified on the /RECOVER START command is taken. If no action is specified on the /RECOVER START command, the database and areas are left offline.

If the OFFLINE parameter is specified for one database data set and not specified for another database data set and they are part of the same database, the database will not start when recovery processing completes.

STAGLOBAL

Specifies that a /START DB or AREA will be processed on all IMSs that have databases and areas defined when recovery completes successfully.

STALOCAL

Specifies that a /START DB or AREA command will be processed on the IMS that ran recovery after recovery successfully completes.

If STALOCAL is specified for one database data set and STAGLOBAL is specified for another database data set and they are part of the same database, the database starts on the IMS performing recovery after recovery processing completes.

USEDBDS or USEAREA

USEDBDS (or the USEAREA synonym) specifies that Online Recovery Service will not restore database data sets or areas specified in the command with image copies. The USEDDBDS and USEAREA parameters can be specified with the DB, DBDS, AREA, or any of the group parameters. If more than one database data set or area is added to a recovery list as a result of a /RECOVER ADD command with the USEDDBDS parameter, the parameter applies to all the database data sets that were added.

For information on recovery with the USEDDBDS parameter, see information in the IMS Version 8: Administration Guide: Database Manager on nonstandard image copies.

RCVTOKEN

Specifies the unique identifier associated with a recovery list that the /RECOVER ADD command operates against. RCVTOKEN is optional. If it is not specified, IMS generates a recovery name. However, if the command is intended to add entries to an existing recovery list, RCVTOKEN must be specified with the intended recovery list token recoveryname. When RCVTOKEN is specified in a command, it must come before any keywords that identify the names of database data sets, areas, or groups.

recoveryname

Specifies the unique recovery token associated with the recovery list that the /RECOVER ADD command operates against. This token can be up to eight characters in length.

SMSOPTS

Specifies that the DFSMSds™ options are to be associated with the entries being added to the recovery list.
/RECOVER ADD

optionname
Specifies a unique SMS option.

DELCAT
The DELETCATALOGENTRY keyword is to be supplied to DFSMSdss on the RESTORE command for the entries being added to the recovery list.

AREA
Specifies that one or more Fast Path areas are to be added to a recovery list.

areaname
Specifies a unique Fast Path area.

CAGROUP
Specifies that one or more change accumulation groups as defined in the RECON data sets are to have their database data sets and areas added to a recovery list.

grouppname
Specifies that the database data sets and areas belonging to the named CA group are to be added to the recovery list.

DATAGROUP
Specifies that one or more database groups as defined in the RECON data sets are to have their database data sets and areas added to a recovery list.

groupname
Specifies that the database data sets and areas belonging to the named data group are to be added to the recovery list.

DB
Specifies that all the areas or full function database data sets for one or more databases are to be added to a recovery list.

ddbname
Specifies that all of the database data sets or areas that comprise the named database are to be added to the recovery list.

DBDS
Specifies that one or more full function database data sets are to be added to a recovery list.

ddbname ddname
Specifies a full function database data set to be added to a recovery list.

Full function database data sets are specified with the /RECOVER ADD DBDS command as an ordered pair. The first member of the pair is the database name. The second member is the DD name. If more than one full function database data set is specified, the complete ordered pair must be specified for each database data set. All parameters must be separated by at least one blank space.

DBDSGRP
Specifies that one or more DBDS groups as defined in the RECON data sets will have their database data sets and areas added to a recovery list.

grouppname
Specifies that the database data sets and areas belonging to the named DBDS group are to be added to the recovery list.

RECOVGRP
Specifies that the listed groups are recovery groups. A recovery group is a
group of full-function databases, DEDB areas, or both that the user defines to IMS as related. All DBDSs that make up the full-function databases and all the DEDB areas making up the recover groups specified in the command are added to a recovery list.

For additional information on recovery groups, see the IMS Version 8: Database Recovery Control (DBRC) Guide and Reference and the IMS Version 8: Administration Guide: Database Manager.

groupname
Speifies the unique name of the group whose database data sets and areas are to be added to a recovery list.

/RECOVER REMOVE

Usage
A /RECOVER REMOVE command removes some or all database data sets and areas from the recovery list. It can only be issued before recovery starts. Use the /RECOVER STOP command to remove entries after recovery has started.

- If /RECOVER REMOVE is issued before the /RECOVER START command, database data sets and areas specified on the /RECOVER REMOVE command individually or as part of databases or groups are removed from the recovery list. A subsequent /RECOVER START command initiates recovery for the remaining members in the recovery list.
- If a /RECOVER REMOVE ALLEnTRIES command is issued before the /RECOVER START command, all elements in the list are removed and the recovery instance is eliminated.
- If the /RECOVER REMOVE command is issued after the /RECOVER START command, the /RECOVER REMOVE command is rejected.

If /RECOVER REMOVE is issued with one or more databases or groups, all database data sets and areas that are part of the database or group specified are removed from the recovery list. If a /RECOVER REMOVE command results in the last database data set or area being removed from the recovery list, the recovery list is eliminated.

This command executes in IMS DBCTL and IMS DB/DC environments.

Examples of using the /RECOVER REMOVE command are shown in:
- "Example 1 for /RECOVER REMOVE Command" on page 528
- "Example 2 for /RECOVER REMOVE Command" on page 529
- "Example 3 for /RECOVER REMOVE Command" on page 529
- "Example 4 for /RECOVER REMOVE Command" on page 529

RCVTOKEN | RCK
Specifies the unique identifier associated with the recovery list that the /RECOVER REMOVE command operates against. When RCVTOKEN is specified in a command, it must come before any keywords that identify the names of database data sets, areas, or groups.

recoveryname
Speifies the unique recovery token associated with the recovery list that the /RECOVER REMOVE command operates against. This token can be up to eight characters in length.
/RECOVER REMOVE

**ALLENTRIES**
Specifies that the recovery list is to be eliminated.

**AREA**
Specifies that one or more Fast Path areas are to be removed from the recovery list.

  **areaname**
  Specifies a unique Fast Path area.

**CAGROUP**
Specifies that the database data sets and areas of one or more change accumulation groups as defined in the RECON data sets are to be removed from the recovery list.

  **groupname**
  Specifies that the database data sets and areas belonging to a specific CA group are to be removed from the recovery list.

**DATAGROUP**
Specifies that the database data sets and areas of one or more database groups (as defined in the RECONs) are to be removed from the recovery list.

  **groupname**
  Specifies the database data sets and areas of the unique group name that are to be removed from the recovery list.

**DB**
Specifies that the full function database data sets or Fast Path areas making up one or more databases are to be removed from the recovery list.

  **dbname**
  Specifies database data sets or areas of the database that are to be added to a recovery list.

**DBDS**
Specifies that one or more full function database data sets are to be removed from the recovery list.

  **dbname**
  Specifies the database data sets or areas of the database that are to be removed from the recovery list.

  **ddname**
  Specifies the DD name of the database data set. If DBDS is specified on the /RECOVER REMOVE command, **dbname** and **ddname** must be specified together.

**DBDSGRP**
Specifies that the database data sets and areas of one or more DBDS groups as defined in the RECON data sets are to be removed from the recovery list.

  **groupname**
  Specifies the database data sets and areas of the group that are to be removed from the recovery list.

**RECOVGRP**
Specifies that this group is a recovery group. All DBDSs that make up the full-function databases and all the DEDB areas are removed from the recovery list.
/RECOVER START

Usage
The /RECOVER START command initiates recovery for the recovery list identified by the mandatory recovery token (RCVTOKEN) parameter. All database data sets and areas added to the recovery list by the preceding /RECOVER ADD command that have a matching recovery token are processed.

/RECOVER START can be issued with ERRORCONT as an optional parameter. If ERRORCONT is specified, recovery continues as long as the recovery process can be completed for at least one database data set or area. If ERRORABORT is specified, or if ERRORCONT is not specified, recovery stops if recovery processing cannot be completed for any database data set.

The command will only execute against the recovery instance for the specified RCVTOKEN. The command will not execute against recovery instances with other RCVTOKENs.

If IRLM is present and STAGLOBAL is specified on the /RECOVER START command, all IMSs sharing the databases and areas being recovered are notified by the Database Recovery Manager with an internal /START GLOBAL command. If STAGLOBAL is specified but IRLM is not present, or if STALOCAL is specified, the Database Recovery Manager only starts the databases and areas on the IMS performing the recovery.

Specifying OFFLINE on the /RECOVER START command results in the database data sets and areas on the recovery list remaining offline after recovery completes. OFFLINE, STAGLOBAL, and STALOCAL can also be issued on /RECOVER ADD commands and are not over-ridden if they are specified on the /RECOVER START command. If PITR is specified, all STAGLOBAL and STALOCAL specifications on preceding /RECOVER ADD commands are ignored and the database data sets and areas on the recovery list are left in an "image copy needed" state in the RECON data sets.

If online change removes from the system any database data set or area that has been previously added to a recovery list, message DFS4266I with reason code NOT FOUND will be issued after the /RECOVER START command for that recovery list is entered. See the System Programmer Response under reason code NOT FOUND of message DFS4266I for action to be taken.

After a /RECOVER START command is issued, /RECOVER ADD, /RECOVER REMOVE, and /RECOVER START commands (for the same RCVTOKEN) are rejected until the current recovery completes or recovery is stopped for all database data sets and areas in the current recovery list.

Examples of using the /RECOVER START command are shown in:

- "Example 1 for /RECOVER START Command" on page 529
- "Example 2 for /RECOVER START Command" on page 530
- "Example 3 for /RECOVER START Command" on page 530
- "Example 4 for /RECOVER START Command" on page 530
/RECOVER START

- "Example 5 for /RECOVER START Command" on page 531

RCVTOKEN
  Specifies the token of the recovery list that will be processed. When RCVTOKEN is specified in a command, it must come before any keywords that identify the names of database data sets, areas, or groups.

  recoveryname
  Specifies the unique recovery token associated with the recovery list that the /RECOVER START command operates against. This token can be up to eight characters in length.

ERRORABORT
  Specifies that recovery stops for all entries in the recovery list if recovery of any database data set cannot be completed. ERRORABORT is the default.

ERRORCONT
  Specifies that recovery is to continue if recovery is able to complete processing for any database data set.

READNUM n
  Specifies the number of input devices used in parallel during recovery. Image copies are restored using the number of input devices specified by n. When image copies are restored, log data sets are read using the number of input devices specified by n.

OFFLINE
  Specifies that the database data sets and areas in the recovery list are to remain offline after recovery is complete. If OFFLINE, STAGLOBAL, or STALOCAL is not specified on the /RECOVER ADD command, the action specified on the /RECOVER START command is taken. If STAGLOBAL or STALOCAL is not specified on either the /RECOVER ADD or the /RECOVER START commands then recovered database data sets or areas remain offline.

STAGLOBAL
  If IRLM is available, STAGLOBAL specifies that a /START DB or AREA command will be processed when recovery successfully completes on all IMSs where the databases and areas are defined. This parameter applies to the databases and areas for which STALOCAL or OFFLINE were not specified. STAGLOBAL is ignored if PITR is specified.

STALOCAL
  Specifies the databases and areas that have entries in the recovery list are to be brought online on the IMS that ran recovery only, except for those database data sets and areas that had OFFLINE or STAGLOBAL specified on /RECOVER ADD commands. STALOCAL is ignored if PITR is specified.

RCVTIME
  Specifies the time stamp to which a point in time or time stamp recovery is to be performed.

  For information about time stamp recovery characteristics, see [IMS Version 8 Utilities Reference: Database and Transaction Manager].

  time-stamp
  The time-stamp must have a format that is recognizable to IMS. For additional information on acceptable time stamp formats, see the [IMS Version 8: Database Recovery Control (DBRC) Guide and Reference].

  Additionally, the timestamp must by surrounded by single quotation marks ('). For example:

  /RECOVER START RCVTOKEN R1 RCVTIME '022671213156'
PITR
Specifies that a timestamp recovery (TSR) will be performed to the time specified with the RCVTIME parameter regardless if there are any active database allocations for the specified database data sets.

NOCHECK
If a portion of the database data sets making up a database are in the recovery list being started, NOCHECK specifies that the Online Recovery Service will not stop a timestamp recovery or a timestamp recovery to any prior point in time (PITR) if one of the following situations occurs:
- All members of the recovery group are not in the same recovery list.
- All members of the recovery group are not being recovered to an equivalent point in time. For more information, see the IMS Version 8: Database Recovery Control (DBRC) Guide and Reference, IMS Version 8: Operations Guide, and IMS Version 8: Administration Guide: Database Manager.

/RECOVER STOP

Usage
A /RECOVER STOP command stops recovery for some or all database data sets and areas on the recovery list. The command can only be issued for a recovery list that has had /RECOVER START issued against it. If the /RECOVER STOP is issued before the /RECOVER START command, it is rejected. If it is issued after the /RECOVER START command, recovery is stopped for the database data sets and areas specified in the command. After a /RECOVER STOP command successfully processes, subsequent /RECOVER STOP commands are rejected for database data sets and areas for which recovery has been stopped.

If /RECOVER STOP ALLENT is issued, all recovery processing for the affected recovery list halts, and the existing recovery list is deleted. If /RECOVER STOP is issued with a database data set or area, recovery processing stops for the database data set or area. If /RECOVER STOP is issued with a list of database data sets or areas, recovery processing stops for the database data sets and areas specified.

If /RECOVER STOP is issued with at least one database or group, recovery processing stops for all database data sets and areas that are part of the specified database or group.

Recovery processing stops for a database data set or area if it is part of a database or group specified on a /RECOVER STOP command, even if it is not the database or group that added the database data set or area to the recovery list. Recovery processing stops for the database data set or area even though other members of a database or group not listed in the /RECOVER STOP command will remain. If a /RECOVER STOP command results in recovery processing stopping for the last database data set or area on the recovery list, messages are issued notifying you.

Examples of using the /RECOVER STOP command are shown in:
- "Example 1 for /RECOVER STOP" on page 531
- "Example 2 for /RECOVER STOP" on page 531
- "Example 3 for /RECOVER STOP" on page 532
- "Example 4 for /RECOVER STOP" on page 532
- "Example 5 for /RECOVER STOP" on page 532
ALLENTRIES  
Specifies that recovery is to be aborted for all database data sets and areas (all entries) in the recovery list.

SAVE  
Specifies that the recovery list is not to be deleted when recovery is stopped. This parameter is only allowed with the ALLENT parameter after recovery has been initiated with the /RECOVER START command.

AREA  
Specifies that recovery processing is to be stopped for the specified Fast Path areas.

area
 specifies a unique Fast Path area.

CAGROUP  
Specifies that recovery processing is to be stopped for the database data sets and areas making up the specified change accumulation groups as defined in the RECON data sets.

group
 specifies the unique name of the group whose database data sets and areas are to have recovery processing be stopped.

DATAGROUP  
Specifies that recovery processing is to be stopped for database data sets and areas making up the specified database groups as defined in the RECON data sets.

group
 specifies the unique name of the group whose database data sets and areas are to have recovery processing be stopped.

DB  
Specifies that recovery processing is to be stopped for the full function database data sets or Fast Path areas that make up the specified databases.

db
 specifies the database whose database data sets or areas are to be added to a recovery list.

DBDS  
Specifies that recovery processing is to be stopped for the specified full function database data sets.

db
 specifies the database whose database data sets or areas are to be added to a recovery list.

dd  
The 8 character identifier associated with the data set name and data set characteristics. db and dd must be specified together if DBDS is specified on the /RECOVER REMOVE command.

DBDSGRP  
Specifies that recovery processing is to be stopped for the database data sets and areas making up the specified DBDS groups as defined in the RECON data sets.

group
 specifies the unique name of the group whose database data sets and areas are to have recovery processing be stopped.
RECOVGRP
  Specifies that this group is a recovery group. A recovery group is a group of full-function databases or DEDB areas that are considered to be related. All DBDSs that make up the full-function databases and all the DEDB areas are removed from the recovery list.

groupname
  Specifies the unique name of the group whose database data sets and areas are to have recovery processing be stopped.

/RECOVER TERMINATE

Usage
  Use the /RECOVER TERMINATE command to remove the the database recovery service from the system and shutdown the Recovery Data Manager address space. Resources will be released, such as tracker data spaces and Database Recovery Manager control blocks. If an online recovery is in progress, it is forced to end early. While terminate processing is in progress, any subsequent /RECOVER commands are rejected.

An example of using the /RECOVER TERMINATE command is shown in "Example for /RECOVER TERMINATE Command" on page 532.

Examples

Examples for /RECOVER ADD Commands
  The COMMAND IN PROGRESS message is issued for /RECOVER ADD commands but is not shown in the following examples.

Example 1 for /RECOVER ADD Command
  In this example, a /RECOVER ADD STALOCAL command is issued for full function database data sets. The database is started on the IMS that runs the recovery.

/REC ADD STALOCAL DBDS DBNAME1 DDNAME1 DBNAME2 DDNAME2
DFS4263I THE FOLLOWING ENTRIES ARE ADDED TO THE RECOVERY LIST:
  DFS4265I DBNAME1 DDNAME1
  DFS4265I DBNAME2 DDNAME2

Example 2 for /RECOVER ADD Command
  In this example, a /RECOVER ADD command is issued for full function database data sets. One of the database data sets is not registered in RECON and is rejected.

/RECOVER ADD DBDS DBNAME1 DDNAME1 DBNAME2 DDNAME2
DFS4263I THE FOLLOWING ENTRIES ARE ADDED TO THE RECOVERY LIST:
  DFS4265I DBNAME1 DDNAME1
DFS4261I UNABLE TO ADD TO RECOVERY LIST, NOT FOUND IN RECON, DBNAME2 DDNAME2

Example 3 for /RECOVER ADD Command
  In this example, a /RECOVER ADD command is issued for full function database data set. The database that database data set belongs to is still authorized to two IMSs.

/RECOVER ADD DBDS DBNAME1 DDNAME1
DFS4263I THE FOLLOWING ENTRIES ARE ADDED TO THE RECOVERY LIST:
  DFS4265I DBNAME1 DDNAME1
  DFS4265I DBNAME1 DDNAME1 AUTHORIZED BY IMS1
  DFS4265I DBNAME1 DDNAME1 AUTHORIZED BY IMS2
Examples for /RECOVER ADD Commands

Example 4 for /RECOVER ADD Command
Databases can be specified as a whole with the /RECOVER ADD DB command. In the example below, a full function database and a Fast Path database have all their database data sets and areas, respectively, added to the recovery list.

```
/REC ADD DB FFDB1 FPDB2
DFS4263I THE FOLLOWING ENTRIES ARE ADDED TO THE RECOVERY LIST:
DFS4265I FFDB1 DDNAME1
DFS4265I FFDB1 DDNAME2
DFS4265I DBAREA3 DDAREA3
DFS4265I DBAREA4 DDAREA4
```

Example 5 for /RECOVER ADD Command
If more than one DATAGROUP is specified, the group names must be separated by at least one blank space. In this example, a /RECOVER ADD command is issued for two database groups.

```
/REC ADD DATAGROUP GRPNAME1 GRPNAME2
DFS4263I THE FOLLOWING ENTRIES ARE ADDED TO THE RECOVERY LIST:
DFS4265I DBNAME3 DDNAME3
DFS4265I DBNAME4 DDAREA4
DFS4265I DBNAME5 DDNAME5
DFS4265I DBNAME6 DDAREA6
DFS4265I DBNAME7 DDNAME7
DFS4265I DBNAME8 DDAREA8
```

Example 6 for /RECOVER ADD Command
If one or more RECOVGRP is specified, the group names must be separated by at least one blank. In this example, a /RECOVER ADD command is issued for two recovery groups.

```
/REC ADD RECOVGRP GRPNAME1 GRPNAME2
DFS4263I THE FOLLOWING ENTRIES ARE ADDED TO THE RECOVERY LIST:
DFS4265I DBNAMEA DDNAMEA
DFS4265I DBNAMEB DDAREAB
DFS4265I DBNAMEC DDNAMEC
DFS4265I DBNAMED DDAREAD
DFS4265I DBNAMEE DDNAMEE
DFS4265I DBNAMEF DDAREAF
```

Examples for /RECOVER REMOVE Command
The command IN PROGRESS message is issued for /RECOVER commands but is not shown in the following examples.

Example 1 for /RECOVER REMOVE Command
As with the /RECOVER ADD command, full function database data sets and Fast Path areas are specified with the /RECOVER REMOVE DBDS command. Each full function database data set must be specified as an ordered pair. Each element must be separated by at least one blank space. The first element of the pair is the database name. The second element is the DDNAME. In the example below, a /RECOVER REMOVE command is issued for a single full function database data set.

```
/RECOVER REMOVE RCVTOKEN DFS00001 DBDS DBNAME1 DDNAME1
DFS4268I THE FOLLOWING ENTRIES WERE REMOVED FROM THE RECOVERY LIST:
DFS4265I DBNAME1 DDNAME1
```

If more than one full function database data set is specified in a /RECOVER REMOVE DBDS command, each dbname/ddname ordered pair must be separated by at least one blank space.

Examples for /RECOVER ADD Commands

Example 4 for /RECOVER ADD Command
Databases can be specified as a whole with the /RECOVER ADD DB command. In the example below, a full function database and a Fast Path database have all their database data sets and areas, respectively, added to the recovery list.

```
/REC ADD DB FFDB1 FPDB2
DFS4263I THE FOLLOWING ENTRIES ARE ADDED TO THE RECOVERY LIST:
DFS4265I FFDB1 DDNAME1
DFS4265I FFDB1 DDNAME2
DFS4265I DBAREA3 DDAREA3
DFS4265I DBAREA4 DDAREA4
```

Example 5 for /RECOVER ADD Command
If more than one DATAGROUP is specified, the group names must be separated by at least one blank space. In this example, a /RECOVER ADD command is issued for two database groups.

```
/REC ADD DATAGROUP GRPNAME1 GRPNAME2
DFS4263I THE FOLLOWING ENTRIES ARE ADDED TO THE RECOVERY LIST:
DFS4265I DBNAME3 DDNAME3
DFS4265I DBNAME4 DDAREA4
DFS4265I DBNAME5 DDNAME5
DFS4265I DBNAME6 DDAREA6
DFS4265I DBNAME7 DDNAME7
DFS4265I DBNAME8 DDAREA8
```

Example 6 for /RECOVER ADD Command
If one or more RECOVGRP is specified, the group names must be separated by at least one blank. In this example, a /RECOVER ADD command is issued for two recovery groups.

```
/REC ADD RECOVGRP GRPNAME1 GRPNAME2
DFS4263I THE FOLLOWING ENTRIES ARE ADDED TO THE RECOVERY LIST:
DFS4265I DBNAMEA DDNAMEA
DFS4265I DBNAMEB DDAREAB
DFS4265I DBNAMEC DDNAMEC
DFS4265I DBNAMED DDAREAD
DFS4265I DBNAMEE DDNAMEE
DFS4265I DBNAMEF DDAREAF
```

Examples for /RECOVER REMOVE Command
The command IN PROGRESS message is issued for /RECOVER commands but is not shown in the following examples.

Example 1 for /RECOVER REMOVE Command
As with the /RECOVER ADD command, full function database data sets and Fast Path areas are specified with the /RECOVER REMOVE DBDS command. Each full function database data set must be specified as an ordered pair. Each element must be separated by at least one blank space. The first element of the pair is the database name. The second element is the DDNAME. In the example below, a /RECOVER REMOVE command is issued for a single full function database data set.

```
/RECOVER REMOVE RCVTOKEN DFS00001 DBDS DBNAME1 DDNAME1
DFS4268I THE FOLLOWING ENTRIES WERE REMOVED FROM THE RECOVERY LIST:
DFS4265I DBNAME1 DDNAME1
```

If more than one full function database data set is specified in a /RECOVER REMOVE DBDS command, each dbname/ddname ordered pair must be separated by at least one blank space.
Examples for /RECOVER REMOVE Command

/RECOVER REMOVE RCVTOKEN DFS00001 DBDS DBNAME1 DDNAME1 DBNAME3 DDNAME3

DFS4268I THE FOLLOWING ENTRIES WERE REMOVED FROM THE RECOVERY LIST:
DFS4265I DBNAME1 DDNAME1
DFS4265I DBNAME3 DDNAME3

Example 2 for /RECOVER REMOVE Command

In this example, a /RECOVER REMOVE command is issued for a single Fast Path area that was not added to the recovery list.

/REC REMOVE RCVTOKEN DFS00001 AREA DDAREA1

DFS4270I RECOVER REMOVE FAILED FOR AREA DDAREA1: NOT IN RECOVERY LIST

Example 3 for /RECOVER REMOVE Command

In this example, a /RECOVER REMOVE command is issued for a full function database and Fast Path database. All full function database data sets and Fast Path areas making up the two databases are removed from the recovery list.

/REC REMOVE RCVTOKEN DFS00001 DB FFDB1 FFDB2

DFS4268I THE FOLLOWING ENTRIES WERE REMOVED FROM THE RECOVERY LIST:
DFS4265I FFDB1 DDNAME1
DFS4265I FFDB1 DDNAME2
DFS4265I DBAREA3 DDAREA3
DFS4265I DBAREA4 DDAREA4

Example 4 for /RECOVER REMOVE Command

In this example, a /RECOVER REMOVE command is issued to stop recovery for the entire recovery list.

/REC REMOVE RCVTOKEN DFS00001 ALLENT

DFS4268I THE FOLLOWING ENTRIES WERE REMOVED FROM THE RECOVERY LIST:
DFS4265I DBNAME1 DDNAME1
DFS4265I DBNAME2 DDNAME2
DFS4265I DBAREA1 DDAREA1
DFS4265I DBNAME3 DDNAME3
DFS4265I DBAREA4 DDAREA4
DFS4265I DBNAME5 DDNAME5
DFS4265I DBAREA6 DDAREA6
DFS4265I DBAREA7 DDAREA7
DFS4265I DBAREA8 DDAREA8
DFS4269I RECOVERY LIST IS NOW EMPTY

Examples for /RECOVER START Command

The command IN PROGRESS message is issued for /RECOVER commands but is not shown in the following examples.

Example 1 for /RECOVER START Command

In this example, /RECOVER START initiates recovery for the database data sets and areas from previous examples. Recovery continues until it completes or until one of the database data sets or areas is operable.

/REC START RCVTOKEN RCVTKN1 ERRORCONT
DFS42641 RECOVERY STARTED FOR:
DFS42661 DBNAME1 DDNAME1
DFS42661 DBNAME2 DDNAME2
DFS42661 DBAREA1 DDAREA1
DFS42661 DBNAME3 DDNAME3
DFS42661 DBAREA4 DDAREA4
DFS42661 DBAREA5 DDAREA5
DFS42661 DBAREA6 DDAREA6
DFS42661 DBNAME7 DDNAME7
DFS42661 DBAREA8 DDAREA8
Example 2 for /RECOVER START Command

In this example, /RECOVER START RCVTOKEN initiates recovery for the database data sets and areas owned by the recovery token RCVTKN2.

/REC START RCVTOKEN RCVTKN2
DFS4264I RECOVERY STARTED FOR:
  DFS4266I DBNAME1 DDNAME1
  DFS4266I DBNAME2 DDNAME2
  DFS4266I DBAREA1 DDAREA1
  DFS4266I DBNAME3 DDNAME3
  DFS4266I DBAREA4 DDAREA4
  DFS4266I DBAREA5 DDAREA5
  DFS4266I DBAREA6 DDAREA6
  DFS4266I DBNAME7 DDNAME7
  DFS4266I DBAREA8 DDAREA8

Example 3 for /RECOVER START Command

In the example below, /RECOVER START RCVTOKEN OFFLINE READNUM 6 initiates recovery for the database data sets and areas from previous examples. Recovery will not continue if any error is detected for any member of the recovery list. The database data sets and areas remain offline after recovery completes.

/RECOVER START RCVTOKEN RCVTKN2 OFFLINE READNUM 6
DFS4264I RECOVERY STARTED FOR:
  DFS4266I DBNAME1 DDNAME1
  DFS4266I DBNAME2 DDNAME2
  DFS4266I DBAREA1 DDAREA1
  DFS4266I DBNAME3 DDNAME3
  DFS4266I DBAREA4 DDAREA4
  DFS4266I DBAREA5 DDAREA5
  DFS4266I DBAREA6 DDAREA6
  DFS4266I DBNAME7 DDNAME7
  DFS4266I DBAREA8 DDAREA8

Example 4 for /RECOVER START Command

In this example, /RECOVER START RCVTOKEN ERRORCONT RCVTIME time-stamp is issued. TSR continues until it completes or until one of the database data sets or areas undergoing recovery encounters an error. After recovery completes, a message is issued listing each database data set and area successfully recovered.

/REC START RCVTOKEN RCVTKN2 ERRORABORT RCVTIME '020011015257' NOCHECK
DFS4264I RECOVERY STARTED TO '020011015257', FOR:
  DFS4266I DBNAME1 DDNAME1
  DFS4266I DBNAME2 DDNAME2
  DFS4266I DBAREA1 DDAREA1
  DFS4266I DBNAME3 DDNAME3
  DFS4266I DBAREA4 DDAREA4
  DFS4266I DBAREA5 DDAREA5
  DFS4266I DBAREA6 DDAREA6
  DFS4266I DBNAME7 DDNAME7
  DFS4266I DBAREA8 DDAREA8

... DFS4265I RECOVERY TO '020011015257' COMPLETED FOR:
  DFS4266I DBNAME1 DDNAME1
  DFS4266I DBNAME2 DDNAME2
  DFS4266I DBAREA1 DDAREA1
  DFS4266I DBNAME3 DDNAME3
  DFS4266I DBAREA4 DDAREA4
  DFS4266I DBAREA5 DDAREA5
  DFS4266I DBAREA6 DDAREA6
  DFS4266I DBNAME7 DDNAME7
  DFS4266I DBAREA8 DDAREA8
Example 5 for /RECOVER START Command

In this example, /RECOVER START RCVTOKEN RCVTIME/time-stamp PITR is issued. Point-in-time recovery will continue until it completes or until one of the database data sets encounters an error. A message is issued listing the database data sets and areas that were not in the recovery list, but might need recovery using point-in-time recovery.

```
/RECOVER START RCVTOKEN RCVTIME '020011015257' PITR
DFS4266I RECOVERY TO '020011015257' STARTED FOR:
  DBNAME1 DDNAME1
  DBNAME2 DDNAME2
  DBAREA1 DDAREA1
  DBNAME3 DDNAME3
  DBAREA4 DDAREA4
  DBAREA5 DDAREA5
  DBAREA6 DDAREA6
  DBNAME7 DDNAME7
  DBAREA8 DDAREA8
```

```
DFS4267I RECOVERY MAY BE REQUIRED AT '020011015257' FOR: DBNAME9 DDNAME9
DFS4267I RECOVERY MAY BE REQUIRED AT '020011015257' FOR: DBNAMEA DDNAMEA
DFS4267I RECOVERY MAY BE REQUIRED AT '020011015257' FOR: DBAREA9 DDAREA9
DFS4267I RECOVERY MAY BE REQUIRED AT '020011015257' FOR: DBNAMEC DDNAMEC
```

...  

```
DFS4267I RECOVERY TO '020011015257' COMPLETED FOR:
  DBNAME1 DDNAME1
  DBNAME2 DDNAME2
  DBAREA1 DDAREA1
  DBNAME3 DDNAME3
  DBAREA4 DDAREA4
  DBAREA5 DDAREA5
  DBAREA6 DDAREA6
  DBNAME7 DDNAME7
  DBAREA8 DDAREA8
```

Examples for /RECOVER STOP Command

The COMMAND IN PROGRESS message is issued for /RECOVER commands but is not shown in the following examples.

Example 1 for /RECOVER STOP

As with the /RECOVER ADD command, full function database data sets can be specified with the /RECOVER STOP DBDS command. Each full function database data set must be specified as an ordered pair. Each element must be separated by at least one blank space. The first element of the pair is the database name. The second element is the DDNAME. In this example, a /RECOVER STOP command is issued for a single full function database data set.

```
/RECOVER STOP DBDS DBNAME1 DDNAME1
DFS4275I THE FOLLOWING ENTRIES WILL HAVE RECOVERY STOPPED:
  DBNAME1 DDNAME1
```

Example 2 for /RECOVER STOP

In this example, a /RECOVER STOP command is issued for a full function database and Fast Path database. Recovery processing stops for all full function database data sets and Fast Path areas making up the two databases.

```
/RECOVER STOP DB FFDB1 FFDB2
DFS4275I THE FOLLOWING ENTRIES WILL HAVE RECOVERY STOPPED:
  FFDB1 DDNAME1
  FFDB2 DDNAME2
  DBAREA3 DDAREA3
  DBAREA4 DDAREA4
```
Examples for /RECOVER STOP Command

Example 3 for /RECOVER STOP
In this example, a /RECOVER STOP command is issued to stop recovery for the entire recovery list.
/REC STOP ALLENT
DFS4275I THE FOLLOWING ENTRIES WILL HAVE RECOVERY STOPPED:
DFS4265I DBNAME1 DDNAME1
DFS4265I DBNAME2 DDNAME2
DFS4265I DBAREA1 DDAREA1
DFS4265I DBNAME3 DDNAME3
DFS4265I DBAREA4 DDAREA4
DFS4265I DBNAME5 DDNAME5
DFS4265I DBAREA6 DDAREA6
DFS4265I DBAREA7 DDAREA7
DFS4265I DBAREA8 DDAREA8
DFS4269I RECOVERY LIST IS NOW EMPTY

Example 4 for /RECOVER STOP
In this example, a /RECOVER STOP ALLENT SAVE is issued after a /RECOVER START command.
/REC STOP ALLENT SAVE
DFS4275I THE FOLLOWING ENTRIES WILL HAVE RECOVERY STOPPED:
DFS4265I DBNAME1 DDNAME1

Example 5 for /RECOVER STOP
In this example, a /RECOVER STOP ALLENT command is issued with no recovery in progress.
/REC STOP ALLENT
DFS4274I RECOVER STOP FAILED FOR LIST : RECOVERY NOT IN PROGRESS

Example for /RECOVER TERMINATE Command
In this example, a /RECOVER TERMINATE command is issued with no recovery in progress.
/RECOVER TERMINATE
DFS4286I ONLINE RECOVERY SERVICE IS BEING TERMINATED
DFS4287I ONLINE RECOVERY SERVICE HAS TERMINATED
Chapter 47. /RELEASE

Format

```
/RELEASE CONVERSATION conv#
/REL
```

Environments and Keywords

Table 121 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keyword can be issued.

Table 121. Valid Environments for the /RELEASE Command and Keyword

<table>
<thead>
<tr>
<th>Command / Keyword</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/RELEASE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>CONVERSATION</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/RELEASE resumes a conversation that was previously saved by means of the /HOLD command.

The last message sent to the terminal before /HOLD was entered is sent to the terminal again.

/RELEASE is not valid from an LU 6.2 device. LU 6.2 communications cannot release a conversation, whether started by itself or by another communications protocol.

If global resource information is kept in Resource Manager, /RELEASE updates the conversation globally in Resource Manager. If global resource information is not kept in Resource Manager, /RELEASE updates the conversation locally.

CONVERSATION

Specifies the 4-digit identification (including leading zeros) of the conversation to be resumed; CONVERSATION conv# is the 4-digit identification conv# that was provided when the conversation was previously held.

Example for /RELEASE Command

Entry ET:

```
/RELEASE CONVERSATION 0001
```

Response ET:

IMS does not respond to this command except to resend the last message.

Explanation: Conversation 0001 has been released and can be resumed by the terminal operator.
Chapter 48. /RESET

Format

```
/RESET
/RES
```

Environments

Table 122 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command can be issued.

Table 122. Valid Environments for the /RESET Command

<table>
<thead>
<tr>
<th>Command</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/RESET</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/RESET eliminates the preset mode established by the /SET command.

Example for /RESET Command

Entry ET:

```
/RESET
```

Response ET:

```
DFS058I  RESET COMMAND COMPLETED
```

Explanation: The preset mode is no longer in effect.
Chapter 49. /RMxxxxxxx

Format

```
/RMCHANGE
  /RMC
  /RMDELETE
  /RMD
  /RMGENJCL
  /RMG
  /RMINIT
  /RMI
  /RMLIST
  /RML
  /RMNOTIFY
  /RMIN

LTERM=lttermname

DBRC='modifier parameter-set'
```

Environments and Keywords

Table 123 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keyword can be issued.

<table>
<thead>
<tr>
<th>Command / Keyword</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/RMxxxxxxx</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>LTERM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

The /RMxxxxxxx commands are multisegment commands that call functions of IMS Database Recovery Control (DBRC). These commands allow the IMS master terminal operator or an authorized terminal operator to run certain DBRC utility functions online. Output is limited to what can be put in a 4 KB buffer (8 KB for /RMLIST).

All /RMxxxxxxx formats require an EOM indication to denote end-of-message. An EOS indication must be included for all segments, if any, that precede the last segment. See “Multisegment Command Input” on page 7 for more detail on using EOS and EOM. If comments are included with the /RMxxxxxxx commands, they must be enclosed in asterisks.

If a failure other than the loss of both RECON data sets occurs while DBRC is processing an online command, DBRC makes the command unavailable for the remaining time the IMS online region is running. (After determining and correcting the cause of the original failure, the command can be made available again by resubmitting the online command with the RESET parameter specified in the parameter set.) It is the verb, rather than the modifier, level of the command that DBRC makes unavailable. That is, if a DBRC INIT.DB command fails, DBRC makes all INIT commands unavailable. DBRC sends an error message to the originating terminal when the command fails. You can still issue the failing command from other IMS online regions.
Exception: DBRC does not make GENJCL commands unavailable because the GENJCL.ARCHIVE command is needed for automatic archiving.

DBRC does not remember command failures across IMS restarts because it assumes that you will correct the error before restarting IMS.

Table 124 lists the DBRC commands that are supported online and describes the utility function of each command.

Table 124. Functions of the DBRC Commands Supported Online

<table>
<thead>
<tr>
<th>Command</th>
<th>Utility Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>/RMCHANGE</td>
<td>Changes or modifies information in the RECON data set</td>
</tr>
<tr>
<td>/RMDELETE</td>
<td>Deletes information in the RECON data set</td>
</tr>
<tr>
<td>/RMGENJCL</td>
<td>Generates JCL for:</td>
</tr>
<tr>
<td></td>
<td>• IMS Change Accumulation utility</td>
</tr>
<tr>
<td></td>
<td>• IMS Log Archive utility</td>
</tr>
<tr>
<td></td>
<td>• IMS Log Recovery utility</td>
</tr>
<tr>
<td></td>
<td>• IMS Database Image Copy utility</td>
</tr>
<tr>
<td></td>
<td>• Database Image Copy 2</td>
</tr>
<tr>
<td></td>
<td>• IMS Online Database Image Copy utility</td>
</tr>
<tr>
<td></td>
<td>• Database Recovery utility</td>
</tr>
<tr>
<td></td>
<td>• User-defined output</td>
</tr>
<tr>
<td>/RMINIT</td>
<td>Creates records in the DBRC RECON data set</td>
</tr>
<tr>
<td>/RMLIST</td>
<td>Lists information contained in the RECON data set</td>
</tr>
<tr>
<td>/RMNOTIFY</td>
<td>Adds information to the RECON data set</td>
</tr>
</tbody>
</table>

LTERM

Specifies the logical terminal designated for output. If you omit the LTERM keyword, the output destination is the input terminal.

Recommendation: Because some of the DBRC commands generate a large amount of output, especially the /RMGENJCL and /RMLIST commands, direct the output to a printer.

modifier

The DBRC modifier for the function specified.

Table 125 lists the DBRC modifiers and the /RMxxxxxx commands with which the modifiers can be issued.

Table 125. DBRC Modifiers for the /RMxxxxxx Commands

<table>
<thead>
<tr>
<th>Modifier</th>
<th>CHANGE</th>
<th>DELETE</th>
<th>GENJCL</th>
<th>INIT</th>
<th>LIST</th>
<th>NOTIFY</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADS</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALLOC</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>ARCHIVE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>BKOUT</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>CA</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAGRP</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>CLOSE</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DB</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>DBDS</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
Table 125. DBRC Modifiers for the /RMxxxxxx Commands (continued)

<table>
<thead>
<tr>
<th>Modifier</th>
<th>CHANGE</th>
<th>DELETE</th>
<th>GENJCL</th>
<th>INIT</th>
<th>LIST</th>
<th>NOTIFY</th>
</tr>
</thead>
<tbody>
<tr>
<td>DBDSGRP</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>GSG</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>HISTORY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>IC</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>LOG</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>OIC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PART</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PRILOG</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>RECON</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>RECOV</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REORG</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SECLOG</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SG</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SUBSYS</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>UIC</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>USER</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

*parameter-set*

Represents the required and optional parameters that will be passed to DBRC. For a full description of the DBRC commands, modifiers, and parameters, see IMS Version 8: Database Recovery Control (DBRC) Guide and Reference.

Examples

**Example for /RMCHANGE Command**

Entry ET (with comments):

```
/RMCHANGE DBRC='DB DBD(DIVNTZ04) SHARELVL(3)' /*COMMENT*/.
```

Response ET:

```
CHANGE.DB DBD(DIVNTZ04) SHARELVL(3)
DSP0203I  COMMAND COMPLETED WITH CONDITION CODE 00
DSP0201I  COMMAND COMPLETION TIME
DSP0211I  COMMAND PROCESSING COMPLETE
DSP0211I  HIGHEST CONDITION CODE = 00
DSP0058I  RMC COMMAND COMPLETED
```

Entry ET:

```
/RMCHANGE DBRC='DBDS DBD(DIVNTZ04) DDN(DBHVSAM1) ICON'.
```

Response ET:

```
CHANGE.DBDS DBD(DIVNTZ04) DDN(DIVNTZ04) ICON
DSP0203I  COMMAND COMPLETED WITH CONDITION CODE 00
DSP0201I  COMMAND COMPLETION TIME
DSP0211I  COMMAND PROCESSING COMPLETE
DSP0211I  HIGHEST CONDITION CODE = 00
DSP0058I  RMC COMMAND COMPLETED
```

Entry ET:
Example for /RMDELETE Command

Entry ET (with comments):

/RMDELETE DBRC='DBDB DDB(DIVNTZ04)'. *COMMENT*.

Response ET:

DELETE.DDB DDB(DIVNTZ04)
DSP0203I COMMAND COMPLETED WITH CONDITION CODE 00
DSP0203I COMMAND COMPLETION TIME
DSP0211I COMMAND PROCESSING COMPLETE
DSP0211I HIGHEST CONDITION CODE = 00
DSP0058I RMD COMMAND COMPLETED

Example for /RMGENJCL Command

Entry ET (with comments):

/RMGENJCL LTERM SMITH DBRC='IC DDB(HDAMVSAM) DDN/DD1) LIST'. *END OF DAY MESSAGE*.

Response ET:

DSP058I RMG COMMAND COMPLETED

Response LTERM SMITH:

GENJCL.IC DDB(HDAMVSAM) DDN/DD1
IC135607 JOB
IC EXEC PGM=DFSRRC00,PARM='ULU,DFSUDMP0',REGION=800K
*/
/* THIS JCL ORIGINATES FROM THE USER'S 'JCLPDS' LIBRARY.
/*/ %KEYWORDS ARE REPLACED BY THE GENJCL FUNCTION OF
/*/ THE IMS DATABASE RECOVERY CONTROL FEATURE.
/*/ JCL FOR IMAGE COPY.
*/
/* SYSPRINT DD SYSOUT=A
/* RECON1 DD DSN=POCON01,DISP=SHR
/* RECON2 DD DSN=POCON02,DISP=SHR
/* IMS DD DSN=IMS.DBDLIB,DISP=SHR
/* DD1 DD DSN=HDAMVASM,DCB=BUFNO=10,DISP=OLD
/* DATAOUT1 DD DSN=IMS.HDAMVSAM.DD1.IC.ICD1,UNIT=3400,
/* VOL=(PRIVATE,,,1,SER=(****)),
/* LABEL=(1,SL),
/* DISP=(NEW,KEEP),DCB=BUFNO=10
/* DFSVSAMP DD *
/* SYSIN DD *
/* D1 HDAMVSAM DD1 DATAOUT1
DSP0203I COMMAND COMPLETED WITH CONDITION CODE 00
DSP0220I COMMAND COMPLETION TIME
DSP0211I COMMAND PROCESSING COMPLETE
DSP0211I HIGHEST CONDITION CODE = 00
DSP0058I RMD COMMAND COMPLETED

Example for /RMINIT Command

Entry ET (with comments):

/RMINIT DBRC='DB DDB(DIVNTZ04) SHARELVL(3)'. *COMMENT*.
Example for /RMLIST Command

Entry ET (with comments):
/RMLIST DBRC='DB DBD(DIVNTZ04)'*.LAST COMMENT*.

Response ET:
LIST.DB DBD(DIVNTZ04)

Response ET:
LIST.DB DBD(DIVNTZ04) DBDS

Entry ET:
/RMLIST DBRC='DB DBD(DIVNTZ04) DBDS'

Response ET:
LIST.DB DBD(DIVNTZ04) DBDS
IC NEEDED-OFF RECOV-OFF
NOREUSE ICJCL=ICJCL OICJCL=OICJCL RECOVJCL=RECOVJCL

DSP0180I  NUMBER OF RECORDS LISTED IS 3
DSP0203I  COMMAND COMPLETED WITH CONDITION CODE 00
DSP0201I  COMMAND COMPLETION TIME
DSP0211I  COMMAND PROCESSING COMPLETE.
DSP0211I  HIGHEST CONDITION CODE = 00
DSP0058I  RML COMMAND COMPLETED

Entry ET (With Comments):
/RML DBRC='DBDS DBD(DEDBJN21) AREA(DB21AR0)'. *VSO AREA*.

Response ET:
LIST.DBDS DBD(DEDBJN21) AREA(DB21AR0)

```
ENTRY DBDS DBD(DBDJN21) AREA(DB21AR0) TYPE=FP
SHARE LEVEL=1 DSID=001 DBORG=DEDB DSORG=VSAM
DSID=007 DBORG=DEDB DSORG=VSAM
DSID=007 DBORG=DEDB DSORG=VSAM
RESPONSE ET:
LIST.DBDS DBD(DEDBJN21) AREA(DB21AR6)
```

Entry ET (With Comments):
/RML DBRC='DBDS DBD(DEDBJN21) AREA(DB21AR6)'. *DEDB AREA*.

Response ET:
LIST.DBDS DBD(DEDBJN21) AREA(DB21AR6)
Example for /RMNOTIFY Command

Entry ET (with comments):

/RMNOTIFY DBRC='SUBSYS SSID(IMSB) IRLMID(IRLM1) NORMAL'. *END OF DAY MESSAGE*.

Response ET:

NOTIFY.SUBSYS SSID(IMSB) IRLMID(IRLM1) NORMAL
DSP0203I COMMAND COMPLETED WITH CONDITION CODE 00
DSP0220I COMMAND COMPLETION TIME 93.076 13:38:21.0
DSP0211I COMMAND PROCESSING COMPLETE
DSP0211I HIGHEST CONDITION CODE = 00
DSP0058I RML COMMAND COMPLETED
Environment and Keywords

Table 126 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 126. Valid Environments for the /RSTART Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/RSTART</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>CONTINUOUS</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LINE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LINK</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LOPEN</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Table 126. Valid Environments for the /RSTART Command and Keywords (continued)

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>MSPLINK</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NODE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PTERM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>USER</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/RSTART starts lines, lines and physical terminals, logical links, nodes, and users when you do not want to reset all associated conditions such as a conversation or special operating mode.

/RSTART checks the validity of all parameters entered by the terminal operator. If an error is detected on parameters that are independent of one another, only the invalid parameters are flagged as being in error and the /RSTART command processes the rest of the parameters.

/RSTART can be used to reset conditions previously established by the /START, /STOP, /PSTOP, /PURGE, /MONITOR, /COMPT, or /RCOMPT command.

**LINE**

specifies the line or line/physical terminal to be started with all terminals on the line in the same mode of operation they were in when they were stopped.

/RSTART LINE allows all input, output, and queuing to start on the line and take the line out of response mode if the line was in this mode. /RSTART LINE PTERM does not reset line response mode, but does reset the BTAM-attached 3270 terminal response mode and looptest mode.

**LOOPEN**

LOOPEN enables stopped and idle remote BTAM lines. Enter the /RSTART LINE LOPEN command before any /RSTART LINE PTERM command to avoid having a line that is stopped and idle reset before it can be enabled again. If the line is not stopped or process stopped, and idle, or if enabling is not applicable, the LOPEN keyword is ignored and processing continues.

/RSTART LINE and /RSTART NODE cannot reset terminal response mode if Fast Path is active for a specified physical terminal or node. /DEQUEUE must be entered to discard Fast Path output before using /RSTART.

**LINK**

Specifies the logical links to be started, either individually or all at once. Communication between IMS systems does not begin until a /START LINK command is entered in both systems for BTAM, CTC, or MTM link, or in either one of the systems for a VTAM link. /RSTART LINK will be rejected unless the link is in process stopped and idled status and the assigned physical link is open, as shown in the /DISPLAY command. /RSTART LINK also re-enables BTAM-attached BSC logical links.

**CONTINUOUS**

Keeps the link running by sending dummy data blocks when there is no data to be sent. These blocks are discarded when received. This mode of operation eliminates the need for either side to bid for the line, which can
improve the traffic handling capabilities of a high usage link. The block size parameter is the size of the dummy data blocks to be sent.

If the size is not specified, it defaults to 2 bytes. The maximum size of the dummy data blocks to be sent is equal to the size of the link buffer minus 80 bytes.

The CONTINUOUS keyword is ignored if the link is not BTAM. If multiple links are restarted and the CONTINUOUS keyword is specified, only the BISYNC links are restarted in continuous mode.

A /PSTOP LINK command resets continuous mode. If a link is stopped because of an error while in continuous mode, a /RSTART command that does not specify the CONTINUOUS parameter will reset continuous mode.

**MODE**

The MODE keyword allows you to specify mode table entries to be used when activating an IMS VTAM MSC session. Use of the MODE keyword with non-VTAM links is invalid. If non-VTAM links are referred to specifically in a /RSTART LINK command with the MODE keyword, they will be marked in error.

**MSPLINK**

Specifies that only MSC VTAM links be reset to allow logons.

**NODE**

Specifies the VTAM node for which input, output, and queuing will start. The /RSTART NODE nodename USER username command restarts the ISC half-session allocated to username for nodename. The USER keyword is valid only with the NODE keyword and restarts the specified half-session. If the USER keyword is omitted, all half-sessions of the specified node are affected.

These conditions apply to ISC, dynamic 3600 and dynamic LUP.

The NODE parameter can be generic if the USER keyword is not specified. The generic parameter specifies nodes that already exist. If the node was created temporarily to retain status data and the status conditions have been reset, then the node is deleted at the next simple checkpoint.

If global resource information is not kept in Resource Manager, the /RSTART NODE command allows a node to logon to the local IMS, without resetting local status. If global resource information is kept in Resource Manager, the /RSTART NODE command allows a node to logon to any IMS in the IMSplex, without resetting global node status kept in Resource Manager. If the node no longer has significant status, it is deleted by Resource Manager.

**USER**

Specifies the USER for which input, output, and queueing are to start. This command starts the USER without resetting conditions such as conversation mode, exclusive mode, and test mode. The /RSTART USER command applies only to dynamic users.

The USER parameter can be generic where the generic parameter specifies already existing users.

If the user structure is temporary and was created solely to retain status that is now reset, the temporary user is deleted at the next simple checkpoint.

If global resource information is not kept in Resource Manager, the /RSTART USER command allows a user to signon to the local IMS. If global resource information is kept in Resource Manager, the /RSTART USER command allows a
user to signon to any IMS in the IMSplex. If the user no longer has significant status in Resource Manager, it is deleted.

Examples

Example 1 for /RSTART Command
Entry ET:
/RSTART LINE 4,5,6,7,8,9,10,11

Response ET:
DFS058I RSTART COMMAND COMPLETED

Response RT:
DFS059I TERMINAL RSTARTED

Explanation: LINES 4,5,6,7,8,9,10, and 11 are started.

Example 2 for /RSTART Command
Entry ET:
/RSTART LINE 4 5 6 700

Response ET:
DFS058I RSTART COMMAND COMPLETED EXCEPT LINE 700

Example 3 for /RSTART Command
Entry ET:
/RSTART LINE 4 PTERM 1,2

Response ET:
DFS058I RSTART COMMAND COMPLETED

Response RT:
DFS059I TERMINAL RSTARTED

Explanation: LINE 4 PTERM 1 and 2 are started.

Example 4 for /RSTART Command
Entry ET:
/RSTART LINE 4 LOPEN

Response RT:
DFS058I RSTART COMMAND COMPLETED

Response ET:
DFS059I TERMINAL RSTARTED

Explanation: If line 4 is a 3270 remote BTAM line that is idle and stopped, the line is restarted and re-enabled.
Example 5 for /RSTART Command

Entry ET:
/RSTART LINK ALL

Response ET:
DFS058I  RSTART COMMAND COMPLETED

Explanation: All of the logical links are started. Communication across the link will not begin until the partner in the remote system is started with the /RSTART LINK command.

Response ET:
DFS2168I  CONNECTION ESTABLISHED ON LINK 2

Explanation: The connection for communication between two IMS systems is established. The partner link is started with a /RSTART LINK command. After each connection, the message DFS2168 is returned.

Example 6 for /RSTART Command

Entry ET:
/RSTART LINK 2

Response ET:
DFS058I  RSTART COMMAND COMPLETED

Explanation: Logical link 2 is started.

Response ET:
DFS2168I  CONNECTION ESTABLISHED ON LINK 2

Explanation: The two IMS systems are connected.

Example 7 for /RSTART Command

Entry ET:
/RSTART LINK 4

Response ET:
DFS058I  RSTART COMMAND COMPLETED

Response ET at Partner System:
DFS2160I  LINK 4 STARTED BY PARTNER AB NODE WEST

Explanation: Link 4 was started at the request of the primary system.

Example 8 for /RSTART Command

Entry ET:
/RSTART NODE EAST

Response ET:
DFS058I  RSTART COMMAND COMPLETED

Explanation: The node named EAST is started.
Chapter 51. /RTAKEOVER

Format

/RTAKEOVER for an Active Subsystem

/RTAKEOVER FREEZE
/RTA DUMPQ

/RTAKEOVER for a Tracking Subsystem

/RTAKEOVER UNPLAN NOREVERSE

Environments and Keywords

Table 127 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 127. Valid Environments for the /RTAKEOVER Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/RTAKEOVER</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>DUMPQ</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>FREEZE</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>NOREVERSE</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>UNPLAN</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

The /RTAKEOVER command requests a remote takeover of an active IMS subsystem by a tracking subsystem at a secondary site. The remote takeover causes the tracking subsystem to finish processing and shut down.

If entered on an active subsystem, /RTAKEOVER also causes the active subsystem to shut down. Once the remote tracking subsystem has shut down and remote takeover has successfully completed, one or more subsystems may be brought up in an active role at the secondary site and started with standard IMS restart commands.

Unless you specify the NOREVERSE keyword, a remote takeover can be reversed, even after the /RTAKEOVER command has been issued. The NORTA parameter on the CHANGE.SG command can be used to reverse a remote takeover. See [IMS Version 8: Operations Guide].

/RTAKEOVER for an Active Subsystem

/RTAKEOVER is issued on the active IMS subsystem to initiate a planned remote takeover and must be specified with either the FREEZE keyword or the DUMPQ keyword.
/RTAKEOVER

/RTAKEOVER FREEZE indicates that a /CHECKPOINT FREEZE type of shutdown is performed before the planned takeover occurs.

/RTAKEOVER DUMPO indicates that a /CHECKPOINT DUMPO type of shutdown is performed before the planned takeover occurs. This form of takeover provides that all relevant log records reach the tracking subsystem such that no data is lost. This form of takeover allows the capability to rebuild the message queues during the new active start.

/RTAKEOVER must be entered for at least one IMS subsystem in the global service group (GSG) at the active site for which takeover is to occur. The other IMS subsystems at the active site must also be shut down, either with the /RTAKEOVER command, or some form of the /CHECKPOINT command that shuts the system down.

Once the active sends all of its log data sets, the active IMS subsystem shuts down. When all of the active subsystems in the global service group have shut down, the tracking subsystem then completes tracking work, stops online forward recovery (OFR), changes the role of the service group (tracking to active) in the RECON data set, and shuts down.

/RTAKEOVER for a Tracking Subsystem

/RTAKEOVER UNPLAN is issued on the tracking IMS subsystem to initiate an unplanned remote takeover after the active site fails unexpectedly. /RTAKEOVER UNPLAN causes the tracking subsystem to complete tracking work, stops online forward recovery (OFR), changes the role of the service group (tracking to active) in the RECON data set, and shuts down.

**Recommendation:** Specify the NOREVERSE keyword to allow the tracking IMS subsystem to save and process all data it has received from the active site, regardless of whether that data was committed on the active IMS subsystem.

Although you can still reverse a remote takeover even if you specify NOREVERSE, you should not reverse it; in this case, you receive message DFS4122A when you restart the tracking subsystem.

If you do not specify NOREVERSE, the tracking IMS subsystem discards any uncommitted data it has received from the active subsystem.

**Examples**

**Example for /RTAKEOVER Command at Active Site**

Entry ET:
/RTA FREEZE

Response ET:
DFS2939I REMOTE SITE PLANNED TAKEOVER IN PROGRESS SYS3
DFS2719I MSDB CHECKPOINT WRITTEN TO MSDBCP2 SYS3 DFS994I
*CHKPT 94308/160026**FREEZE** SYS3
DFS3499I ACTIVE DDNAMES: MODBLKSA IMSACBB FORMATA MODSTAT ID: 2 SYS3
DFS3804I LATEST RESTART CHKPT: 94308/160026, LATEST BUILDQ CHKPT: 94308/154950 SYS3
DFS4036I CONVERSATION ENDING WITH SERVICE GROUP STLSITE2 SYS3
DFS3257I ONLINE LOG CLOSED ON DFSOLP01 SYS3
DFS2484I JOBNAME=JT160031 GENERATED BY LOG AUTOMATIC ARCHIVING SYS3
DFS092I IMS LOG TERMINATED SYS3
DFS4036I CONVERSATION ENDED WITH SERVICE GROUP STLSITE2 SYS3
Example for /RTAKEOVER DUMPQ at Active Site

Entry ET:
/RTA DUMPQ

Response ET:
DFS2939I REMOTE SITE PLANNED TAKEOVER IN PROGRESS SYS3
DFS2719I MSDB CHECKPOINT WRITTEN TO MSDBCP2 SYS3
DFS994I *CHKPT 94308/165340**DUMPQ** SYS3
DFS3499I ACTIVE DDNAMES: MODBLKSA IMSACBB FORMATA MODSTAT ID: 2 SYS3
DFS3804I LATEST RESTART CHKPT: 94308/165340, LATEST BUILDQ CHKPT: 94308/165340 SYS3
DFS4036I CONVERSATION ENDING WITH SERVICE GROUP STLSITE2 SYS3
DFS3257I ONLINE LOG CLOSED ON DFSOLP01 SYS3
DFS2484I JOBNAME=JT165345 GENERATED BY LOG AUTOMATIC ARCHIVING SYS3

Example for /RTAKEOVER UNPLAN at Remote Site

Entry ET:
/RTA UNPLAN

Response ET:
DFS4123I UNPLANNED TAKEOVER IN PROGRESS
DFS2913I CONVERSATION WITH IMS SYS3 TERMINATED: TRK SYS SHUTDOWN
DFS2913I CONVERSATION WITH IMS IMS2 TERMINATED: TRK SYS SHUTDOWN
DFS2500I DATASET IMZ00007 SUCCESSFULLY DEALLOCATED
DFS2500I DATASET IMZ00015 SUCCESSFULLY DEALLOCATED
DFS2934I LOG TRUNCATION STARTED FOR IMS: IMS2
DFS2934I LOG TRUNCATION STARTED FOR IMS: SYS3
DFS2943I THERE ARE NO DATA SETS TO TRUNCATE FOR SYS3
DFS2908I DATABASE UPDATES COMPLETE FOR REMOTE TAKEOVER PROCESSING
DFS2500I DATASET IMZ00020 SUCCESSFULLY CREATED
DFS2500I DATASET IMZ00021 SUCCESSFULLY DEALLOCATED
DFS4040I SHADOW LOG CREATE, DD=IMZ00020, DSN=IMSTESTL.RSR.SLDS1.N0000016
DFS2500I DATASET IMZ00021 SUCCESSFULLY DEALLOCATED
DFS2935I TRACKING LOG DATA SETS HAVE BEEN TRUNCATED AT 000000000000209C:
DFS2936I IMSTESTL.RSR.SLDS1.N0000012
DFS2500I DATASET IMZ00016 SUCCESSFULLY DEALLOCATED
DFS2500I DATASET IMZ00020 SUCCESSFULLY DELETED
DFS4126I TAKEOVER COMPLETE
DFS994I *CHKPT 94310/160240**FREEZE*
DFS3499I ACTIVE DDNAMES: MODBLKSA IMSACBB FORMATA MODSTAT ID: 3
DFS3804I LATEST RESTART CHKPT: 94310/160240, LATEST BUILDQ CHKPT: 94310/155301
DFS3257I ONLINE LOG CLOSED ON DFSOLP01
DFS2484I JOBNAME=JT160245 GENERATED BY LOG AUTOMATIC ARCHIVING
Explanation: An unplanned takeover is successfully initiated for a tracking subsystem that was tracking 2 active subsystems (SYS3 and IMS2).
Chapter 52. /SECURE

Format

```
/SECURE APPC CHECK FULL NONE PROFILE
/SEC
```

Environments and Keywords

Table 128 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

**Table 128. Valid Environments for the /SECURE Command and Keywords**

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/SECURE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>APPC</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>OTMA</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

The /SECURE command is used to control the RACF security level. It is used for administrative control of the IMS environment and as an emergency operations control command to throttle RACF activity without requiring an IMS shutdown.

**APPC**

When used with the CHECK, FULL, NONE, or PROFILE parameters. APPC controls the RACF security level for input from LU 6.2 devices. The /DISPLAY APPC command can be used to show the security level that is currently in effect. At IMS startup, the security default is FULL.

**CHECK**

Causes existing RACF calls to be made. IMS commands are checked using the RACF resource class of CIMS. IMS transactions are checked using TIMS. Disables MVS System Authorization Facility security for IMS allocate PSBs (APSBs).

**FULL**

Causes the same processing as the CHECK parameter but uses additional RACF calls to create the security environment for dependent regions and enables MVS System Authorization Facility security for IMS APSBs for all CPI Communications driven application programs.

**NONE**

Does not call RACF within IMS for security verification. RACF security
verification in APPC/MVS is not affected. Disables MVS System Authorization Facility security for IMS APSBs.

**PROFILE**
Causes the values in the TP profile for each transaction to be used. If the TP profile is not defined for a transaction, or if the TP profile does not specify a RACF security level, then the default security is CHECK.

**OTMA**
Is used with the CHECK, FULL, NONE, or PROFILE parameters to control the RACF security level for input from IMS Open Transaction Manager Access (OTMA) clients. The /DISPLAY OTMA command can be used to show the security level that is currently in effect. After an IMS cold start, the security default is FULL if the IMS start-up parameter OTMASE= is not used. If the IMS initialization parameter OTMASE is not specified, IMS retains OTMA security settings (established by a /SECURE OTMA command) after a warm start or emergency restart. If the OTMASE parameter is used, the security option for OTMA will be determined by the OTMASE= setting. Also, the command with the REFRESH option can refresh the cached userid ACEEs.

**Related Reading:** For more information about the OTMASE parameter, see the [IMS Version 8: Installation Volume 2: System Definition and Tailoring](#).

**CHECK**
Causes existing RACF calls to be made. IMS commands are checked using the RACF resource class of CIMS. IMS transactions are checked using TIMS.

**FULL**
Causes the same processing as the CHECK parameter but uses additional RACF calls to create the security environment for dependent regions.

**NONE**
Does not call RACF within IMS for security verification.

**PROFILE**
Causes the values in the Security Data section of the OTMA message prefix for each transaction to be used.

**REFRESH**
OTMA caches the ACEE for a userid to reduce the amount of RACF I/O. As a result, a refresh for the cached ACEE is needed after the RACF database is updated. Issuing the /SEC OTMA REFRESH command without the TMEMBER option will perform the ACEE refresh for all the userids for all the OTMA clients. However, the actual ACEE refresh occurs when the next OTMA message for the userid is received. This is designed to prevent all the RACF ACEE refreshes from happening at one time.

**TMEMBER**
Causes the security operation to be performed on the identified OTMA client.

---

**Examples**

**Example 1 for /SECURE Command**

**Entry ET:**

```
/SECURE
```

**Response ET:**
Explanation: Enter /DISPLAY APPC to see which security checking option is in effect.

Entry ET:
/SECURE APPC FULL

Response ET:
DFS058I SECURE COMMAND COMPLETED

**Example 2 for /SECURE Command**

Entry ET:
/DIS OTMA

Response ET:
GROUP/MEMBER XCF-STATUS USER-STATUS SECURITY
HARRY -APPL8 ACTIVE SERVER FULL

Explanation: Enter /DISPLAY OTMA to see which security checking option is in effect.

Entry ET:
/SECURE OTMA FULL

Response ET:
DFS058I SECURE COMMAND COMPLETED
Chapter 53. /SET

Format

```
/SET
  CONVERSATION tranname
    (password)
  LTERM ltermname
  TRANSACTION tranname
    (password)
```

Environments and Keywords

Table 129 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/SET</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>CONVERSATION</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LTERM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TRANSACTION</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/SET establishes the destination of all messages entered into this terminal to another terminal or to a particular transaction code. If the terminal is in conversation, the /SET command also sets the destination of only the next message to the specified transaction.

The status fields of /DISPLAY LINE PTERM, /DISPLAY NODE, or /DISPLAY USER indicate if a physical terminal, node, or user is in preset destination mode (PRST), and display the destination transaction code or logical terminal name.

CONVERSATION

Directs the next input message to a selected transaction. The terminal being used must be in a conversation that is waiting for an input message. For example, the response message must have been received.

In an IMSplex, if global resource information is kept in Resource Manager, the /SET command sets a transaction for the next input message both globally and locally. If global resource information is not kept in Resource Manager, the /SET command sets the transaction just locally.

LTERM

Specifies the logical terminal that is the destination of all messages entered into this terminal.

The mode established by /SET LTERM is called preset mode. If the preset mode is established from a 3270 and user-defined formats are not being used, input message must be entered from a cleared screen. Preset mode can be reset by:

/IAM
/STOP LINE PTERM
/STOP NODE command
/STOP USER command
Once a destination is preset, the terminal operator cannot enter the destination (logical terminal name) as the first part of the message.

In a multiple systems configuration, the name of a remote logical terminal can be specified. If the preset destination is to be deleted (/RESET) or changed (/SET), the command must be entered from some other valid component.

**TRANSACTION**

Specifies the transaction code that is the destination of all messages entered into this terminal. The mode established by `/SET TRANSACTION` is called preset mode. If the preset mode is established from a 3270 and user-defined formats are not being used, input messages must be entered from a cleared screen. Preset mode can be reset by:

/IA
/START LINE PTERM
/RESET
/STOP NODE
/STOP LINE
/STOP USER

Once a destination is preset, the terminal operator cannot enter the destination (transaction code) as the first part of the message. In a multiple systems configuration, the name of a remote transaction can be specified. The terminal cannot be in conversation.

---

**Examples**

**Example 1 for /SET Command**

Entry ET:

```
/SET CONVERSATION CONVTRAN(password)
```

Response ET:

```
DF5058I SET COMMAND COMPLETED
```

Explanation: Any message entered from this terminal is sent to conversation CONVTRAN.

**Example 2 for /SET Command**

Entry ET:

```
/SET LTERM CNTRL
```

Response ET:

```
DF5058I SET COMMAND COMPLETED
```

Explanation: Any message entered from this terminal is sent to LTERM CNTRL.

**Example 3 for /SET Command**

Entry ET:

```
/SET TRANSACTION IMS(password)
```
Response ET:

DF5058I  SET COMMAND COMPLETED

Explanation: Any message entered from this terminal is sent to transaction IMS.
Chapter 54. /SIGN

Format

```
SIGN  ON  userid  A
SIGN  OFF
```

A:

```
USERD-userdesc  userpw  PassTicket
APPL-applname
GROUP-groupname  NEWPW-nuserpw  VERIFY-nuserpw
userdata
```

Environments

Table 130 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command can be issued.

Table 130. Valid Environments for the /SIGN Command

<table>
<thead>
<tr>
<th>Command</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/SIGN</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

The /SIGN command is used to sign on and sign off at terminals attached to IMS. This command enables IMS to identify who is using the terminal and to determine if you are authorized to enter the transaction or command.

When SGN=G, Z, or M is specified, the user can sign on multiple times to both STATIC and ETO terminals when the structure name is different from the user ID.

The status fields of /DISPLAY NODE and /DISPLAY LINE PTERM indicate whether a terminal is signed on with the word SIGN.

ON

/SIGN ON must be issued for any physical terminal or user ID requiring a signon, or the transaction entered is rejected.

From terminals that require signon, commands other than /SIGN or /RCLSDST are rejected if transaction authorization is requested. Static terminals requiring a signon also have enhanced command authorization with RACF or an equivalent product if RCF=S or RCF=A is specified at system startup.

At terminals not requiring signon, transactions are passed to RACF, an equivalent security product, or a user exit for authorization checking. If /SIGN ON is entered at a terminal not requiring a signon, the signon is processed as if the terminal required a signon. That is, the terminal is placed in a signed on status.
with the user ID until a /SIGN OFF or another /SIGN ON command is entered. For switched terminals, the /IAM command must be issued before the /SIGN ON command.

After any IMS restart or terminal disconnect, the remote terminal operator is required to sign on again using the /SIGN ON command. A terminal can be disconnected by:

- A switched line disconnect
- A VTAM CLSDST
- A line shutdown
- The /IDLE command
- Auto logoff

Signon status is also reset by the /START LINE, /START LINE PTERM, and /START NODE commands and auto signoff.

The remote terminal operator must wait at a static physical terminal for confidential responses, because responses queued for a given physical terminal are sent even if the physical terminal is signed off. If the remote terminal operator must be absent, the /LOCK command can be used to prevent output from being received. Confidential output sent to a dynamic user is queued to the user instead of to the physical terminal when the user has signed off. A successful signon of an existing user turns off the DEADQ status for the user, if that status exists.

**APPL**

A keyword that notifies IMS that the following character string should be the application name used by IMS when IMS makes the SAF call to verify the user. The default application name used by IMS is the IMSID. The IMSID can be overridden by the SAPPLID= parameter in the IMS PROCLIB member DFSDCxxx. If the signon specifies a PassTicket instead of a password, the APPL parameter should specify the application name used when the PassTicket was created. The creator of the PassTicket can specify any value to identify an IMS subsystem.

If RACF is used, APPL= should specify the name of the RACF PTKTDATA profile for IMS as defined to RACF by the creator of the PassTicket. If the name of the PTKTDATA profile is the same as the IMSID, the APPL keyword is not needed. For more information on the RACF secured signon PassTicket, see the RACF Macros and Interfaces manual. For more information on using the secured signon function, see the RACF Security Administrator’s Guide.

**GROUP**

Is an optional keyword indicating a group name of 8 characters or fewer that is associated with the user ID.

**NEWPW**

Is an optional keyword indicating a new user password of 8 characters or fewer that replaces the current user password specified in userpw.

**nuserpw**

Is a new password of 8 characters or fewer that is associated with the user identification.

**PassTicket**

A one-time password that is generated by a requesting product or function.
The PassTicket is an alternative to the RACF password. Using a PassTicket removes the need to send RACF passwords across the network in clear text.

USERD
Is a user descriptor name. This user descriptor name is used in the sign on. The userdesc parameter must be a user ID, node name or DFSUSER.

userdata
Is user identification information that has been defined to IMS with the (RACF), equivalent security product or the user exit routine, DFSCSGN0. For RACF, this information consists of the following:

userpw GROUP groupname NEWPW nuserpw

userid
Is a user identification of 8 characters or fewer.

userpw
Is a password of 8 characters or fewer that is associated with the user identification.

VERIFY
Is an optional keyword that requests IMS to verify the new password entered. IMS verifies the new password before passing it to RACF or to the IMS signon exit routines. This keyword can also be used as an alternative to re-entering the password on the DFS3656 panel.

Restriction: You can use this keyword only when responding to an IMS DFS3656A message and as an alternative to re-entering the password on the DFS3656 panel.

For the user exit routine DFSCSGN0, the user ID and userdata parameter values are defined by the installation.

OFF
The /SIGN OFF command is used to complete a session on a terminal that required a signon. Static terminals in conversational mode cannot be signed off without first issuing an /EXIT or /HOLD command.

Another method of signing off a terminal is to reenter the /SIGN ON command. This method initiates a new signon at the terminal without having to enter the /SIGN OFF command.

The /SIGN OFF command resets status that is not significant such as preset mode, test mode, response mode, lock lterm, pstop lterm, and purge lterm.

/SIGN OFF for ETO users will also take other actions depending on the recovery settings for the user:

RCVYCONV=NO
/SIGN OFF causes any IMS conversations (active and held) for an ETO user to be terminated. Any conversational message that is queued or being processed has its output response message delivered asynchronously.

RCVYFP=NO
/SIGN OFF causes Fast Path status and messages for an ETO user to be discarded.

If global resource information is kept in Resource Manager, /SIGN OFF deletes the user ID from Resource Manager (if single user signon enforced) and resets
status globally. If the user has no status, /SIGN OFF deletes the user and associated items from Resource Manager.

Examples

Example 1 for /SIGN Command

Entry ET:

```
DFS3649A /SIGN COMMAND REQUIRED FOR IMS
DATE: 11/03/92    TIME: 14:39:33

NODE NAME: DT327001
USERID: IMSUS01
PASSWORD: IMSPW01
USER DESCRIPTOR:
GROUP NAME:
NEW PASSWORD:

OUTPUT SECURITY AVAILABLE
```

Response ET:

```
DFS3650I SESSION STATUS FOR IMS
DATE: 11/03/92    TIME: 14:41:48

NODE NAME: DT327001
USERID: IMSUS01
PRESET DESTINATION:
CURRENT SESSION STATUS:

OUTPUT SECURITY AVAILABLE
```

Explanation: The user with user ID IMSUS01 and password IMSPW01 has successfully signed on to a dynamic terminal. The signon is done with the panel (DFS3649A).

Example 2 for /SIGN Command

Entry ET:

```
/SIGN IMSUS02 IMSPW02
```

Response ET:

```
DFS3650I SESSION STATUS FOR IMS
DATE: 11/03/92    TIME: 14:41:48

NODE NAME: DT327001
USERID: IMSUS02
PRESET DESTINATION:
CURRENT SESSION STATUS:

OUTPUT SECURITY AVAILABLE
```

Explanation: The user with user ID IMSUS02 and password IMSPW02 has successfully signed on to a dynamic terminal. The signon is done with the /SIGN command.
Example 3 for /SIGN Command

Entry ET:
/SIGN IMSUS03 IMSPW03

Response ET:
DFS3650I SESSION STATUS FOR IMS
DATE: 11/03/92  TIME: 14:45:53
NODE NAME: L3270A
USERID: IMSUS03
PRESET DESTINATION:

CURRENT SESSION STATUS:

NO OUTPUT SECURITY AVAILABLE

Explanation: The user with user ID IMSUS03 and password IMSPW03 has successfully signed on to a static terminal.
Chapter 55. /SMCOPY

Format

```
/SMCOPY
/SMC
MASTER  ON
OFF
TERMINAL  ON
OFF
MASTER  ON
OFF
TERMINAL  ON
OFF
```

Environments and Keywords

[Table 131](#) lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

*Table 131. Valid Environments for the /SMCOPY Command and Keywords*

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/SMCOPY</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>MASTER</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TERMINAL</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

The /SMCOPY command is used by the master terminal operator to control the printing of certain output to the secondary master terminal.

[Table 132](#) shows the IMS commands that can be printed on the secondary master terminal.

*Table 132. Commands that Are Logged to the Secondary Master Terminal*

```
/ACTIVATE
/ALLOCATE
/ASSIGN
/CHECKPOINT
/CLSDST
/COMPT
/DBDUMP
/DBRECOVERY
/DELETE
/DEQUEUE
/DISPLAY
/IDLE
/MODIFY
/MONITOR
/MSASSIGN
/OPNDST
/PSTOP
/PURGE
/QUIESCE
/RCLSDST
/RCOMPT
/RMCHANGE
/RMDELETE
/RMGENJCL
/RMINIT
/RMLIST
/RMNOTIFY
/RSTART
/SECURE
/START
/STOP
/SWITCH
/TRACE
/UNLOCK SYSTEM
```
System definition establishes whether the commands and their responses will be printed on the secondary master and the origin of the printed command (master terminal, remote terminal, or both). /SMCOPY provides online control of the printing established by system definition.

**MASTER**
Turns ON or OFF the printing of the above subset of IMS commands and command responses when issued from the master terminal.

**TERMINAL**
Turns ON or OFF the printing of the above subset of IMS commands and command responses when issued from terminals other than the master terminal.

Input coming through Operations Manager is not reflected in the secondary master. This also applies to input coming from MCS/E-MCS terminals.

---

### Example for /SMCOPY Command

A system definition has established that copies of the above subset of commands and command responses, when issued from any terminal, will be printed on the secondary master terminal (operand COPYLOG=ALL was specified on the COMM macro).

**Entry ET:**

/SMCOPY TERMINAL OFF

**Response ET:**

DFS058I SMCOPY COMMAND COMPLETED

**Explanation:** The secondary master terminal does not receive copies of IMS commands and command responses issued from remote terminals. Commands and responses issued from the master terminal are still received.
Chapter 56. /SSR

Format

/SSR—text—

Environments

Table 133 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command can be issued.

Table 133. Valid Environments for the /SSR Command

<table>
<thead>
<tr>
<th>Command</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/SSR</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/SSR is a multisegment command that allows the IMS operator to enter an external subsystem command as part of the command input. (The external system is not a CCTL subsystem.) Routing is the only function IMS performs. The command is processed by the external subsystem and the response (from the external subsystem, not CCTL) is routed back to the entering terminal.

All /SSR formats require an EOM indication to denote end-of-message. An EOS indication must be included for all segments that precede the last segment.

text is the alphanumeric external subsystem command.

Example for /SSR Command

Entry ET:

/SSR ;START DATABASE (DSN8D22P)

Response ET:

DFS058I  SSR COMMAND COMPLETED

DSN9022I ; DSNTDIS 'START DATABASE' NORMALCOMPLETION

Explanation: The START DATABASE command is successfully routed to the DB2 subsystem for processing.
Chapter 57. /START

Format

/START Command: APPC through MADSIO

```
APPC
  /START
    /STA
      AREA
        areaname
          LOCAL
            GLOBAL
              ALL
      AUTOARCH
        Aolds
      CLASS
        cls#
          ALL
      DATABASE
        dbname
          LOCAL
            GLOBAL
              A
                  C
          ALL
      DATAGROUP
        datagroupname
          LOCAL
            A
                  B
          A
                  B
      DESCRIPTOR
        proclibmember
      DC
      ISOLOG
      LINE
        line#
          line#
              PTERM
                  pterm#
                    ALL
          ALL
      LTERM
        ltermname
          ltermname*
            ALL
      LUNAME
        luname
          INPUT
              OUTPUT
                luname
                    TPNAME
                        tpname
      MADSIO
```

A:
/START

/START Command: MSNAME through TMEMBER
/START Command: TRANSACTION through XRCTRACK
Table 134 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/START</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>ACCESS</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>APPC</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AREA</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>AUTOARCH</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>CLASS</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DATABASE</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DATAGROUP</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DBALLOC</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DC</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>DESCRIPTOR</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>GLOBAL</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>GRSNAME</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>INPUT</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>ISOLOG</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>JOBNAME</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>LINE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LOCAL</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>LTERM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LUNAME</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>MADSIOT</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>MSNAME</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Table 134. Valid Environments for the /START Command and Keywords (continued)

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOBACKOUT</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>NODBALLOC</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>NODE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NOOPEN</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>OLDS</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>OPEN</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>OTMA</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>OUTPUT</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PROGRAM</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PTERM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>REGION</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>RTCODE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SB</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SERVGRP</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SLDSREAD</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SSM</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SUBSYS</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SURVEILLANCE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>THREAD</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TMEMBER</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TPIPE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TPNAME</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>TRANSACTION</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TRKAUTOARCH</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>USER</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>VGRS</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>WADS</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>XRCTRACK</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

The /START command makes IMS resources available for reference and use.

The /START command can be used on HALDBs. For more information see Appendix H, “High Availability Large Database Commands,” on page 805.

/START also checks the validity of all parameters entered by the terminal operator. If an error is detected on parameters that are independent of one another, only the invalid parameters are indicated as being in error and the /START command processes the rest of the parameters. For example,

/START LINE 4 6 200
DFS058 START COMMAND COMPLETED EXCEPT LINE 200
signifies parameter value 200 is not a valid line number.

When a resource becomes available, the system parameters used for this initialization of IMS are displayed in message DFS1929I. The system parameters are also written to the job log.

**APPC**

Instructs IMS to activate the connection to APPC/MVS and to start accepting transaction schedule requests from APPC/MVS. This command reverses the effect of a /PURGE APPC command or a /STOP APPC(CANCEL) command.

The /START APPC command sets the desired status to ENABLED. The current status is initially set to STARTING. When APPC/MVS responds to the start request, the status changes to either ENABLED or FAILED.

**AREA**

Specifies the specific areas of DEDBs to be allocated. For MVS/ESA, /START AREA can be used to reallocate DEDB areas.

For areas on an RSR tracking subsystem, /START AREA is used to resume tracking for those areas that were stopped by a previous /DBRECOVERY command or by errors found during tracking subsystem processing. /START AREA also starts online forward recovery (OFR) for those areas that are not current with mainline tracking.

For virtual storage option (VSO) areas that have been defined with the PREOPEN option, /START AREA causes the areas to be preopened. If the VSO area is defined with the PRELOAD option, /START AREA causes the area to be opened and loaded into the MVS data space.

**Restriction:** This command only applies to the IMS subsystem on which it is entered; it does not preload or preopen areas on other IMS subsystems in the Sysplex that share the area.

The /START AREA command has no effect on VSO areas that are in virtual storage when the command is issued.

The output of the /START AREA command is changed when the command is entered through the OM API. In this case, the DFS058I message is not returned to OM. For commands that specify GLOBAL, only the command master returns the asynchronous messages to OM. When a command is processed with the LOCAL keyword, all IMSs are able to return the asynchronous messages to OM. The command response returned to OM contains one or more of the following messages as appropriate.

Fast Path messages: DFS0011I, DFS140I, DFS0488I, DFS0666I, DFS1407I, DFS2980E, DFS2981E, DFS3320I, DFS3325I, DFS3342I, DFS3720I, DFS3824I

**GLOBAL**

The GLOBAL keyword applies when an IRLM is active. GLOBAL specifies that the command applies to all subsystems sharing the area. The GLOBAL keyword and the ALL parameter are mutually exclusive. The /START command is rejected if both ALL and GLOBAL are specified. The GLOBAL keyword requires that IRLM be active. The command will be rejected if IRLM is not active.

The GLOBAL keyword is not supported on an RSR tracking subsystem.

If the GLOBAL keyword on a command is entered from an OM API, the command should only be routed to one IMS system in the IMSplex. The IMS that receives the command from OM will make DBRC calls to update
the RECON with GLOBAL status. It will also request IRLM NOTIFY to route and process the command on sharing IMS systems, and then process the command locally.

Messages produced on the NOTIFIED systems will appear only on the system console and will not be routed back to the OM API which originally entered the command.

If multiple IMS systems have been explicitly specified in the route list, the master IMS system will process the command as described above. However, the non-master IMS systems, to which OM routes the command, will reject the command with the following return and reason code listed in

Table 135. Return and reason code for GLOBAL keyword issued from the OM API

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Reason Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>X'00000004'</td>
<td>X'00001000'</td>
<td>The command contained the GLOBAL keyword and was routed to more than one IMS system in the IMS/PLEX. The non-master IMS systems will reject this command when OM routes the command to them. The master IMS system will process this command and use IRLM NOTIFY to route and process the command on the non-master IMS systems. See the discussion under the GLOBAL keyword.</td>
</tr>
</tbody>
</table>

LOCAL

Specifies that the command only applies to the IMS subsystem in which the command is entered. This command does not affect any other subsystem sharing the area.

LOCAL is the default.

/START AREA ALL causes message DFS0488 to be issued for every area that is not started successfully, but you do not see a DFS0488 message for every area that does start successfully. You do see a final DFS0488 message which indicates the end of command processing.

AUTOARCH

Is used to set the value to change the automatic archiving option selected at system initialization or to set the value to start automatic archiving after a previous /STOP AUTOARCH command. #olds is the number of OLDS that are to be filled before the /DBRC GENJCL ARCHIVE command is to be generated. It is optional and defaults to either the value specified at system initialization or to one. If /DBR NOFEOV or /DBD NOFEOV is issued before nn OLDS are filled, the number of OLDS currently filled will be archived.

/START AUTOARCH will not be carried over a warm start if a checkpoint has occurred after the command has been successfully completed, and before a warm start has been issued.

CLASS

Specifies transaction class, allowing scheduling of application programs to begin. Message regions must have appropriate classes assigned to them before scheduling will proceed.

DATABASE

Specifies the DBD name. The /START DATABASE command permits access from transactions that read or update databases. /START DATABASE can be used to
allocate or reallocate all databases other than DEDBs. An AREA command must be entered to allocate or deallocate DEDB AREAS.

For a DEDB, the /START DATABASE command also causes any unloaded randomizer, specified in the DBD source, to be reloaded.

When the name that’s specified is for a partition, the action taken to allocate data sets varies. The action varies depending on the status of the master database and whether the DMB for the master database is already loaded. If a /DBRECOVERY command has not been issued against the master database, the DMB is already loaded in the following situations:

- The database is defined in SYSGEN as RESIDENT.
- One of the database partitions was previously accessed while this control region is running.

When a /START DATABASE command is issued for all transactions whose processing program has access to a successfully started database, the USTOPPED attribute will be reset and any messages on the suspend queue for that transaction will be transferred to the normal queue.

If one or more of the named databases requires backout or recovery, and the database is registered in DBRC, the database requiring backout or recovery is dropped from the command and the remainder of the databases continue processing. If the database is not registered in DBRC, specify the NOBACKOUT keyword to inform IMS that it does not have to attempt to execute the failed backout again.

To start a HIDAM database, both the index and the data area DBD names must be specified. If a backout failure occurred for this database, the /START command causes the backout to be attempted again.

If the database specified in the command is being used by a batch message processing region, an error message is returned to the master terminal, and the command is ignored for the database named in the message. Processing continues for the other databases specified in the command. The master terminal operator must wait until the batch message processing concludes before reentering the command.

For databases on an RSR tracking subsystem, /START DATABASE is used to resume tracking for those databases that were stopped by a tracking subsystem processing. /START DATABASE also starts online forward recovery (OFR) for those databases that are not current with mainline tracking.

/START DATABASE ALL causes message DFS0488I to be issued. All databases that were defined at syssgen will be started if possible.

The output of the /START DATABASE command is changed when the command is entered through the OM API. In this case, the DFS058I message is not returned to OM. The command response returned to OM contains one or more of the following messages as appropriate to the database type and the command completion.

Full Function Database messages: DFS030I, DFS132, DFS160, DFS216, DFS0402I, DFS0488I, DFS0740I, DFS1407, DFS2026, DFS3317I, DFS3318I, DFS3320I, DFS3325I, DFS3465I, DFS3466I
Fast Path Database messages: DFS140I, DFS666, DFS3062

For the results of issuing this command on a shared secondary index, see Appendix D, “Shared Secondary Index Database Commands,” on page 787.

ACCESS

Specifies the type of access intended for the named database. This keyword overrides the database access specified at system definition. Changing the ACCESS parameter of a DEDB is allowed only when all the AREAS in the DEDB are not authorized by the subsystem.

Changing the access intent of a database with the /START DB ACCESS= command causes any VSO areas of the database to be removed from virtual storage. Because the access intent of a DEDB cannot be changed while any of its areas are authorized to an IMS subsystem, IMS closes any open areas before processing the command. If a VSO area is closed as a result of the command, it is also removed from the data space.

The /START AREA command must be used to reactivate the VSO options (VSO and PREOPEN) and PRELOAD option for the area. If an area is opened as a result of an access request rather than by the /START AREA command, it is opened as a non-VSO area.

Non-VSO areas with the PREOPEN option are closed as a result of the /START DB ACCESS= command. These areas are reopened either at the next access request for the area or by the /START AREA command.

The GLOBAL and ACCESS keywords are mutually exclusive. The /START command is rejected if both keywords are specified.

The meanings of the ACCESS parameter values are:

RO specifies that the named database is available for read-only processing on this IMS subsystem. The only programs that can use the database on this subsystem are those that have a PCB processing option of GO (PROCOPT=GO). Programs that access the data using the GO processing option might see uncommitted data, since a sharing IMS subsystem could be updating the database, which is opened for input only.

RD specifies that the named database is available for read-only processing in this IMS subsystem. Programs with update intent can be scheduled, but cannot update the database. ACCESS of RD differs from ACCESS of RO in that the data is read with integrity (locking is performed) and all programs can access the data, not just those with a processing option of GO. The database is opened for read only.

UP specifies that the named database is for update as well as read processing in the IMS subsystem.

EX specifies that the named database is to be used exclusively by this IMS subsystem. This exclusive access is guaranteed only when the database is registered to DBRC.

DBALLOC

Indicates that the databases within the data group are to be allocated. DBALLOC is the default except for /START DATABASE ALL commands.

A HALDB partition is not allocated during the command unless it was previously authorized but allocated, the OPEN keyword was specified, or the partition has EEQEs. The partition is allocated at first reference.
NODBALLOC
Indicates that the databases within the data group are not to be allocated. This is the default for /START DATAGROUP. The databases will be allocated when they are scheduled. NODBALLOC is the default for /START DATABASE ALL commands.

GLOBAL
Specifies that the command applies to all subsystems sharing the database. GLOBAL requires that IRLM be active. The command will be rejected if IRLM is not active. The GLOBAL keyword and the ALL parameter are mutually exclusive. The /START command is rejected if both ALL and GLOBAL are specified.

The GLOBAL keyword is not supported on an RSR tracking subsystem.

If the GLOBAL keyword on a command is entered from an OM API, the command should only be routed to one IMS system in the IMSplex. The IMS that receives the command from OM will make DBRC calls to update the RECON with GLOBAL status. It will also request IRLM NOTIFY to route and process the command on sharing IMS systems, and then process the command locally.

Messages produced on the NOTIFIED systems will appear only on the system console and will not be routed back to the OM API which originally entered the command.

If multiple IMS systems have been explicitly specified in the route list, the master IMS system will process the command as described above. However, the non-master IMS systems, to which OM routes the command, will reject the command with the following return and reason code listed in Table 136:

Table 136. Return and reason code for GLOBAL keyword issued from the OM API

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Reason Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>00000004</td>
<td>00001000</td>
<td>The command contained the GLOBAL keyword and was routed to more than one IMS system in the IMSplex. The non-master IMS systems will reject this command when OM routes the command to them. The master IMS system will process this command and use IRLM NOTIFY to route and process the command on the non-master IMS systems. See the discussion under the GLOBAL keyword.</td>
</tr>
</tbody>
</table>

LOCAL
Specifies that the command only applies to the IMS subsystem in which the command is entered. This command does not affect any other subsystem sharing the database.

LOCAL is the default.

NOBACKOUT
Suppresses backout restart for a database not registered in DBRC. If there was a prior dynamic backout or emergency restart backout failure, then a /START command will attempt to perform the backout again. However, if the log data required to perform the backout has been archived, the backout must be performed by executing the batch backout utility.
If the database is registered in DBRC and is using share control, then DBRC is informed when batch backout is successfully executed, and the failing backout will not be attempted again when the /START command is issued.

If the database is registered in DBRC and is using recovery control, DBRC is not informed when batch backout is successfully executed. You must specify the NOBACKOUT keyword to inform IMS that it does not have to attempt to execute the failed backout again.

NOBACKOUT is not valid with the ALL parameter.

**OPEN | NOOPEN**

Indicates that the named databases should be opened or should not be opened as part of the /START DB processing. NOOPEN is the default except when the database has EEQEs. If the database has EEQEs, then the database will be opened until the NOOPEN keyword is specified. Operators need to be aware of the results of issuing this command. Check the return code in message DFS0488I.

**Restrictions:** The OPEN parameter is not supported:
- On a HALDB master. The command will result in message DFS0488I RC=57; however, partition rebuild will occur if structure rebuild is needed and if only one HALDB master was specified in the command. No rebuild will be attempted if there is more than one database name listed in the command.
- In an RSR environment
- On an XRF alternate
- With keywords DATAGROUP, ALL, GLOBAL, or NOALLOC.

**DATAGROUP**

Specifies groups of DL/I databases and Fast Path DEDBs to be allocated. Data groups are logical groupings of databases and areas; they allow simplified command processing for databases. You define a data group in the RECON data set using the INIT.DBDSGRP command with parameters GRPNAME and DBGRP. DATAGROUP is valid on active and RSR tracking subsystems.

**Related Reading:** See "Group Parameters" on page 19 for more information on defining data groups.

For databases and areas on an RSR tracking subsystem, /START DATAGROUP is used to resume tracking for those areas that were stopped by a previous DBRECOVERY command or by errors found during tracking subsystem processing. /START DATAGROUP also starts online forward recovery (OFR) for those databases and areas that are not current with mainline tracking.

After processing for a /START DATAGROUP completes, a DFS0488 message is issued indicating the end of processing. A DFS0488 message is also issued for every database or area that does not start successfully.

If the datagroup contains both full function and Fast Path databases, a DFS0488 message might be issued indicating the /START DATAGROUP command completed successfully before any messages are issued that indicate a Fast Path area did not start successfully. This situation is due to the asynchronous processing of Fast Path databases.

For virtual storage option (VSO) areas that have been defined with the PREOPEN option, /START AREA causes the areas to be preopened. If the VSO area is defined with the PRELOAD option, /START AREA causes the area to be opened and loaded into the MVS data space.
Recommendation: Although you can use DBDS groups as well as database groups for this command, you should use database groups whenever possible to eliminate the overhead of converting the DBDS group to a database group.

ACCESS
Overrides the access intent for a database. The original database access is specified during IMS system definition.

Changing the access intent for a DEDB is allowed only when no PSBs are scheduled that access any areas in the DEDB. You might have to stop PSBs and regions that have wait-for-input (WFI) transactions scheduled before you can change a DEDB’s access intent.

Changing the access intent of a database with the /START DB ACCESS= command causes any VSO areas of the database to be removed from virtual storage. Because the access intent of a DEDB cannot be changed while any of its areas are authorized to an IMS subsystem, IMS closes any open areas before processing the command. If a VSO area is closed as a result of the command, it is also removed from the data space.

The /START AREA command must be used to reactivate the VSO options (VSO and PREOPEN) and PRELOAD option for the area. If an area is opened as a result of an access request rather than by the /START AREA command, it is opened as a non-VSO area.

Non-VSO areas with the PREOPEN option are closed as a result of the /START DB ACCESS= command. These areas are reopened either at the next access request for the area or by the /START AREA command.

The GLOBAL and ACCESS keywords are mutually exclusive. The /START command is rejected if both keywords are specified.

The meanings of the ACCESS parameter values are:

RO specifies that the named database is available for read-only processing on this IMS subsystem.

The only programs which can use the database on this subsystem are those which have a PCB processing option of GO (PROCOPT=GO). Programs which access the data using the GO processing option might see uncommitted data, since a sharing IMS subsystem could be updating the database, which is opened for input only.

RD specifies that the named database is available for read-only processing on this IMS subsystem.

Programs with update intent can be scheduled, but cannot update the database. ACCESS=RD differs from ACCESS=RO in that the data is read with integrity (locking is performed) and all programs can access the data, not just those with a processing option of GO. The database is opened for read only.

UP specifies that the named database is for update as well as read processing in the IMS subsystem.

EX specifies that the named database is to be used exclusively by this IMS subsystem.

This exclusive access is guaranteed only when the database is registered to DBRC.
DBALLOC
Indicates that the databases within the data group are to be allocated.
NODBALLOC is the default for a /START DATAGROUP command.

LOCAL
Specifies that the /START command only applies to the IMS subsystem in
which the command is entered.

NODBALLOC
Indicates that the databases within the data group are not to be allocated.
This is the default for START DATAGROUP. The databases will be allocated
when they are scheduled. This command does not affect any other
subsystem sharing the database.
LOCAL is the default.

DC
Opens the VTAM ACB (if it’s not already open), enables logons to IMS, and
enables the following optional transaction manager functions:
- IMS generic resource support. The defined VTAM generic resource group is
  joined with GRSNAME in the IMS or DCC PROCLIB members.
- IMS persistent sessions support. Session activity that was suspended due to
  a major outage is resumed or terminated, as appropriate, if the RNR option
  was specified in the DFSDCxxx PROCLIB member.

DESCRIPTOR
Defines the LU62 descriptors from DFS62xxx PROCLIB member to IMS. The
full PROCLIB member name needs to be specified. The PROCLIB member
must start with DFS62.

ISOLOG
Indicates that the RSR tracking subsystem is to initiate a request for isolated
log data from the isolated log sender at the active site. /START ISOLOG can only
be entered on an RSR tracking subsystem. /START ISOLOG may be needed
when:
- The active system failed and was not restarted, and the OLDS at the time of
  failure was closed using the log recovery utility.
- Batch jobs or utilities running at the active were unable to send logs.
- Permanent error status is shown for gaps in the output of a /DISPLAY
  TRACKING STATUS command. If the log problem at the active has been
  corrected, use /START ISOLOG to initiate retry.

Successful completion of syntax checking of the /START ISOLOG command
results in the DFS058 START COMMAND COMPLETED message, although processing
of the command continues asynchronously.

LINE
Makes communication lines that are idle and in a stopped or process stopped
state available for use. It also terminates any conversations that are active on
the line. All terminals are removed from looptest mode, MFSTEST mode, or
exclusive mode, and any terminals in signon status are reset. The /START LINE
command without the PTERM keyword enables the line again (resulting in a
BTAM LOPEN macro).

If the line must be enabled again, /START LINE must be entered prior to any
/START LINE PTERM command.

The /START LINE PTERM command makes one or more physical terminals
available for use. The physical terminals are removed from response mode, test
mode, looptest mode, MFSTEST mode, preset destination mode, or exclusive
/START

mode, and resets terminals in signon status. If IMS encounters a stopped and idle line when processing /START LINE PTERM, it restarts the line. Any inoperable components are marked as operable.

To activate I/O operations for a LINE, LINE PTERM, or NODE without altering the status of the associated/specified terminals, use /RSTART instead of /START.

If an error is detected on parameters that are independent of one another, only the invalid parameters are indicated as being in error and processing continues for the rest of the parameters. This happens for /START LINE if:

- The specified line is already started or is not idle.
- Any terminals on the line had conversations that could not be canceled (because an application program is scheduled).
- The specified line could not be started because of IMS internal processing.
- The DD statement is missing from the IMS execution JCL.

/START LINE no longer resets preset mode, test mode, and response mode since these statuses are no longer significant and therefore are not kept after a /START LINE or restart command.

LTERM

Specifies the logical terminals to be started and resets the QLOCK state (QLOCK indicates that the LTERM is locked from sending any further output or from receiving input that can create additional output for the same LTERM until the state is reset by a specific request received on the session.) /START LTERM is rejected for remote logical terminals.

The LTERM keyword is only effective for existing LTERMs.

The LTERM parameter can be generic where the generic parameter specifies LTERMs that already exist.

If global resource information is kept in Resource Manager, the /START LTERM command allows messages to be queued to the LTERM from anywhere in the IMSplex and the change is reflected both in Resource Manager and in the local IMS system.

LUNAME TPNAME

Specifies the LU name that is to be started.

Specifying the keyword INPUT starts an luname for any input and synchronous outbound activities. Specifying the parameter ALL with the keyword INPUT causes all future LU 6.2 inbound and synchronous output activities to be started as well.

Specifying the keyword OUTPUT starts an luname for asynchronous outbound activities. Specifying the parameter ALL with the keyword OUTPUT causes all future LU 6.2 outbound asynchronous activities to be started as well.

Specifying neither INPUT nor OUTPUT is the same as specifying both INPUT and OUTPUT. The LU name is started for any input and both synchronous and asynchronous outbound activities. Specifying the parameter ALL in this case also causes the start of all future LU 6.2 inbound activities, outbound synchronous, and asynchronous activities.

A network-qualified LU name is optional for the LUNAME keyword. If the LU name is not network-qualified and no TP name is specified, all the network-qualified LU names whose LU name matches the LU name specified are also started.
/START LUNAME TPNAME starts a particular tpname of an luname. The keyword OUTPUT is the default for this command.

If the specified resource does not exist, a structure is created to retain the state.

MADSIOT

Specifies the MADS I/O timing function. The /START MADSIOT command is valid only after the long busy handling function is disabled for a link failure, a structure failure, or a rebuild failure. When the /START MADSIOT command completes normally, one of the two following messages is returned to the operator’s console:

- DFS1728E START MADSIOT COMMAND FAILED RSN=rrr
- DFS1727I MADSIOT TIMING FUNCTION RESUMED SUCCESSFULLY

The purpose of this command is to enable MADS I/O Timing function. If MADS I/O Timing list structure is not defined in DFSVSMxx, the command will be rejected. If MADS I/O Timing function is already enabled, the command will be ignored. If MADS I/O Timing function is not enabled and all sharing partners successfully connect to MADS I/O Timing list structure on the coupling facility, the command will complete successfully; if any sharing partners fails to connect to MADS I/O Timing list structure, the command will fail.

The output of the /START MADSIOT command is changed when the command is entered through the OM API. In this case, the DFS058I message is not returned to OM. The command response returned to OM contains one or more of the following messages as appropriate.

Fast Path messages: DFS0023I, DFS0007I, DFS1270I, DFS1727I, DFS1552A, DFS1728E

MSNAME

Specifies the logical link path that is to be started. The MSNAME keyword can be generic.

NODE

Allows IMS to accept logons from VTAM-attached terminals. It only operates if the node is disconnected, idle, and stopped. Any terminals in MFSTEST mode, exclusive mode, or signon status are reset. The user is not signed off and the conversations are terminated. /START NODE is valid for temporary nodes, even though the node is not logged on.

The /START NODE command is only effective for existing nodes.

If an ETO logon terminal is stopped, use the /OPNDST NODE USER command to start it, not the /START NODE command.

If Fast Path is active for a specified physical terminal or node, /START LINE and /START NODE cannot reset terminal response mode. The /DEQUEUE command must be entered to discard Fast Path output before using /START.

The /START NODE nodename USER username command applies to ISC sessions only, and it is used to start a half-session allocated to USER username for NODE nodename. The USER keyword when used with the NODE keyword affects the specified half-session. When the USER keyword is omitted, all half-sessions of the specified node are affected.

The NODE parameter can be generic if the USER keyword is not present. The generic parameter specifies nodes that already exist.
/START NODE no longer resets response mode, test mode, and preset mode, since these statuses are no longer significant and therefore no longer carried across logon or restart. MFSTEST mode (at the node level) and exclusive mode are still reset.

If global resource information is kept in Resource Manager, the /START NODE command allows a node to logon to any IMS in the IMSplex and resets MFSTEST mode and exclusive mode. If the node no longer has significant status, it is deleted from Resource Manager.

Note: If the message, DFS058I START COMMAND COMPLETED EXCEPT message is returned when a /START NODE command is issued against a node in conversational mode, it is possible that the conversation is INUSE by another process. This is a temporary condition; retry the command.

OLDS
Indicates that either a previously stopped OLDS is to be started or that IMS is to add a new OLDS log data set. If a new OLDS is being added, olds# is an OLDS identifier that is defined by the DFSMDA macro specification. If in dual mode, both primary and secondary OLDSs are started. olds# must be 00-99.

When using /START OLDS, an OLDS must be defined in the DFSMDA macro, even if it is allocated in JCL.

OTMA
Causes IMS to join the XCF group for the IMS Open Transaction Manager Access (OTMA).

/START OTMA command processing is as follows:
1. IMS joins the XCF group.
2. Following a successful Client-Bid, IMS sends an ACK message to the OTMA client.
3. IMS begins sending all Commit-then-Send (commit mode 0) output messages to the OTMA client.

PROGRAM
Specifies the application program that is to be started. This command also clears the indicator preventing a program from scheduling when I/O prevention has not completed. The integrity of a GSAM database residing on DASD can be affected if I/O prevention has not been done on a failing active system.

/START PROGRAM does not start a CPI Communications driven transaction program.

REGION
Specifies the set of message processing region JCL to be passed to MVS. If no member name is specified, the default member name is used.

IMS dependent regions of the same type (MPP, BMP, or IFP) can share a PROCLIB member containing the startup JCL for the type of region. Use the JOBNAME or LOCAL keywords of the /START REGION command to allow IMS to set (or override) the IMS ID for the dependent region to match the IMS ID of the IMS that processes the command.

Restriction: The JCL for the region to be started must include the IMSID= execution parameter.

Use the JOBNAME keyword to override the job name on the JOB statement of the default or specified JCL member for a dependent region.
If you specify the LOCAL keyword, IMS overrides the symbolic IMSID parameter in the JCL of the default or specified member. LOCAL is the default if you specify the JOBNAME keyword.

When the LOCAL or JOBNAME keywords are specified on the /START REGION command, the PROCLIB member must be a job that runs a procedure to start the dependent region. The procedure cannot be an instream procedure. For example, suppose that the /START REGION command is entered in one of the following formats:

/START REGION member_name LOCAL
/START REGION member_name JOBNAME job_name
/START REGION member_name JOBNAME job_name LOCAL

In these instances, member_name is a job that runs a procedure to start the dependent region and has the following format:

//job_name JOB ... (parameters)...
// EXEC proc_name,
// IMSID=xxxx

The operator can start more dependent regions than were specified in the IMS system definition or the EXEC parameter, up to 255. A request to start more regions than the system-definition value (but less than or equal to 255) might be rejected if resources are not available.

The /START REGION command is not mirrored on the XRF alternate subsystem. You must enter this command on the alternate subsystem if you want it to affect the alternate subsystem.

**RTCODE**

Specifies the Fast Path routing codes to be activated and allows transactions associated with the routing codes to be processed.

**SB**

Dynamically allows sequential buffering. This command does not affect sequential buffering applications scheduled before this command was issued.

**SERVGRP**

Starts communications between the entering service group and the service group at the other site in an RSR complex. If the subsystem is not currently identified to the transport manager, an attempt to identify precedes an attempt to connect to the other subsystem. /START SERVGRP is supported on an active IMS subsystem and an RSR tracking subsystem.

The /START SERVGRP command is not normally needed for an active subsystem, since the logger normally attempts to identify to transport manager at each OLDS switch to establish connections with the other subsystem. However, the operator may want to trigger this process between OLDS switches; for instance if a network outage between the active and tracking sites has been repaired and the operator does not want to wait until the next OLDS switch to re-establish communications.

Successful completion of the syntax checking of the /START SERVGRP command results in the DFS058 START COMMAND COMPLETED message, although processing of the command continues asynchronously.

**SLDSREAD**

Indicates whether IMS is enabled to retrieve records from both a system log data set (SLDS) and OLDS or OLDS only. The default is that SLDSREAD is enabled.
SSM

Allows external subsystem connection processing to occur even though the option was not requested when IMS was started.

The syntax and usage of the SSM keyword are the same as the SSM=EXEC parameter that can be specified on the IMS startup JCL. The SSM keyword is followed by a 1 to 4 character identifier. IMS concatenates the SSM identifier to the IMSID to create an SSM PROCLIB member name. The SSM Proclib member is then used for external subsystem processing.

The SSM keyword is not valid if either of the following conditions apply:
- The SSM= keyword is specified in the EXEC parameters of the startup JCL.
- The /START SUBSYS SSM command has been previously issued.

SUBSYS

Specifies the external subsystem to which IMS is to connect. This command can also be used to dynamically reconfigure existing subsystem definitions. The installation can start IMS with the subsystem PROCLIB member defining one subsystem. The PROCLIB member can then be changed or added to. The operator can then /STOP the existing subsystem connections or only the one that has changed. By issuing the /START SUBSYS command, IMS will pick up the new or changed definitions and attempt to connect to those subsystems.

The /START SUBSYS ALL command connects IMS to all external subsystems. Also, the SSM keyword can be used with the /START SUBSYS command.

If the subsystem connection was abnormally terminated, IMS puts the connection in a stopped state. In this instance, the /START command must be used to reestablish the connection.

SURVEILLANCE

Is used in an XRF environment to start the operation of the IMS surveillance function. When surveillance is on for a function, potential failures of the active system are detected. Based on information from surveillance, the alternate system either requests a takeover or informs the operator of the potential failure. The following are the surveillance functions to be started:

- **LNK**  ISC link
- **RDS**  Restart data set
- **LOG**  System log
- **ALL**  Same as specifying LNK, RDS, and LOG

The surveillance function is generally started during IMS system definition by using the /START SURVEILLANCE control statement. ALL is the default.

THREAD

Specifies the set of message processing region JCL to be passed to MVS/ESA. If no member name is specified, the default member name is used.

The /START THREAD command is used only for DEDB utility regions. BMP regions are started via JCL. CCTL threads are started automatically at connection: first to the MINTHREAD value, and later (on demand) to MAXTHREAD value.

TMEMBER

Causes IMS to send an Open Transaction Manager Access (OTMA) command to OTMA clients to request that input resume for the specified transaction pipe name. IMS then resumes sending output to the OTMA client.
TPIPE
When it is used with the /START command, TPIPE causes IMS to resume sending output to OTMA clients.

Restriction: If a transaction pipe has a resynchronization pending status, IMS does not start the transaction pipe.

TRANSACTION
Specifies the transactions to be started.

The /START TRANSACTION ALL CLASS cls# command causes all transactions associated with the specified class to be started.

If a transaction that has messages on the suspend queue is started, the suspend queue associated with the transaction will automatically be transferred to the normal queue.

The TRANSACTION keyword can be generic where the generic parameter specifies transactions that already exist.

TRKAUTOARCH
Indicates that the RSR tracking subsystem is to initiate a request to start the automatic archiving of the tracking log data sets. This keyword allows the user to start automatic archive after it has been terminated following archive data set full conditions.

Successful completion of the syntax checking of the /START TRKAUTOARCH command results in the DFS058I START COMMAND COMPLETED message, although processing of the command continues asynchronously.

USER
Without the NODE keyword, USER specifies the ISC user or the dynamic user to start. The USER parameter can be generic where the generic parameter specifies users that already exist.

/START USER applies only to users that are stopped and signed off. The /START USER command also terminates any active conversations before starting the user.

/START USER removes the user from MFSTEST mode and exclusive mode. If the USER structure is temporary and the status conditions that caused the creation of the structure have been reset, the temporary user is deleted at the next simple checkpoint.

For ISC users, the user is started and made available for allocation.

For dynamic users, the user is started and made available for signon.

/START USER no longer removes the user from response mode, test mode, and preset mode. MFSTEST mode can now be associated with the node and with the user. MFSTEST mode (at the user level) and exclusive mode are still reset. The other statuses are no longer significant and therefore not carried across signon or restart.

If global resource information is not kept in Resource Manager, the /START USER command allows a user to signon to the local IMS. If global resource information is kept in Resource Manager, the /START USER command allows a user to signon to any IMS in the IMSplex.

Note: If the message, DFS058I START COMMAND COMPLETED EXCEPT message is returned when a /START USER command is issued against a user in conversational mode, it is possible that the conversation is INUSE by another process. This is a temporary condition; retry the command.
/START

VGRS
Causes the IMS subsystem to join a VTAM generic resource group. The command is rejected if the VTAM ACB is closed (usually the result of a /STOP DC command).

The GRSNAME keyword allows you to specify the generic resource name if the IMS subsystem does not have one. The IMS subsystem already has a generic resource name if it has the GRSNAME= keyword specified on its EXEC statement.

WADS
Indicates that either a previously stopped WADS is to be started or that IMS is to add a new WADS to the pool of available WADSs. If a new WADS is being added, wads# is a WADS identifier that is defined by the DFSMDA macro specification. wads# must be 0-9.

When using /START WADS, a WADS must be defined in the DFSMDA macro, even if it is allocated in JCL.

XRCTRCK
Results in calls to the log router to initiate or terminate XRC tracking. It is only valid on a tracking IMS system.

Examples

Example 1 for /START Command
Entry ET:
/START AREA DB1AREA0 DB1AREA1

Response ET:
 DFS058I START COMMAND IN PROGRESS
 DFS0488I START COMMAND COMPLETED. AREA=DB1AREA0
 DFS0488I START COMMAND COMPLETED. AREA=DB1AREA1

Explanation: DEDB areas DB1AREA0 and DB1AREA1 are started.

Example 2 for /START Command
Entry ET:
/START AUTOARCH 4

Response ET:
 DFS058I START COMMAND COMPLETED

Explanation: Automatic archiving will be initiated after 4 OLDS data sets are filled.

Example 3 for /START Command
TSO SPOC input:
STA DB BANKATMS BANKTERM BANKLDGR BE3ORDER

TSO SPOC output:
 SYS3 DFS0488I STA COMMAND COMPLETED. DBN= BANKATMS RC=04
 SYS3 DFS0488I STA COMMAND COMPLETED. DBN= BANKTERM RC=04
 SYS3 DFS0488I STA COMMAND COMPLETED. DBN= BANKLDGR RC=04
 SYS3 DFS0488I STA COMMAND COMPLETED. DBN= BE3ORDER RC=08
 IMS3 DFS0488I STA COMMAND COMPLETED. DBN= BANKATMS RC=04
OM API input:

CMD (STA DB BANKATMS BANKTERM BANKLDGR BE3ORDER )

OM API output:

<?xml version="1.0"?>
<!DOCTYPE imsout SYSTEM "imsout.dtd">
<imsout>
<ctl>
<omname>OM1OM </omname>
<omvsn>1.1.0</omvsn>
<xmlvsn>1</xmlvsn>
<statime>2002.197 21:59:29.210362</statime>
<stotime>2002.197 21:59:30.213238</stotime>
<staseq>B7EFC01B367FAE02</staseq>
<stoseq>B7EFC01C2B576D8F</stoseq>
<rqsttkn1>USRT005 10145929</rqsttkn1>
<rc>0200000C</rc>
<rsn>00003008</rsn>
</ctl>
<cmderr>
<mbr name="SYS3 ">
<typ>IMS </typ>
<styp>DBDC </styp>
<rc>00000014</rc>
<rsn>00005050</rsn>
</mbr>
<mbr name="IMS3 ">
<typ>IMS </typ>
<styp>DBDC </styp>
<rc>00000014</rc>
<rsn>00005050</rsn>
</mbr>
</cmderr>
<cmd>
<master>SYS3 </master>
<userid>USRT005 </userid>
<verb>STA </verb>
<kwd>DB </kwd>
<input>/STA DB BANKATMS BANKTERM BANKLDGR BE3ORDER </input>
</cmd>
<msgdata>
<mbr name="SYS3 ">
<msg>DFS0488I STA COMMAND COMPLETED. DBN= BANKATMS RC=04</msg>
<msg>DFS0488I STA COMMAND COMPLETED. DBN= BANKTERM RC=04</msg>
<msg>DFS0488I STA COMMAND COMPLETED. DBN= BANKLDGR RC=04</msg>
<msg>DFS0488I STA COMMAND COMPLETED. DBN= BE3ORDER RC=08</msg>
</mbr>
<mbr name="IMS3 ">
<msg>DFS0488I STA COMMAND COMPLETED. DBN= BANKATMS RC=04</msg>
<msg>DFS0488I STA COMMAND COMPLETED. DBN= BANKTERM RC=04</msg>
<msg>DFS0488I STA COMMAND COMPLETED. DBN= BANKLDGR RC=04</msg>
<msg>DFS0488I STA COMMAND COMPLETED. DBN= BE3ORDER RC=08</msg>
</mbr>
</msgdata>
</imsout>

Explanation: The START DB command is routed from OM to the two active IMSs - SYS3 and IMS3. The response from both IMSs is returned to OM. The databases BANKATMS, BANKTERM, BANKLDGR, and BE3ORDER are started at both IMSs.
Example 4 for /START Command
Entry ET:
/START CLASS ALL

Response ET:
DFS058I  START COMMAND COMPLETED

Explanation: All classes of transactions are made available for scheduling into message processing regions.

Example 5 for /START Command
Entry ET:
/START DATABASE TREEFARM

Response ET:
DFS058I  (time stamp) START COMMAND IN PROGRESS
DFS0468I  START COMMAND COMPLETED. DBN=TREEFARM RC=0.

Explanation: Database TREEFARM is started.

Example 6 for /START Command
Entry ET:
/START LINE 4 PTERM 1, 2

Response ET:
DFS058I  START COMMAND COMPLETED

Response RT:
DFS059I  TERMINAL STARTED

Explanation: Physical terminals 1 and 2 on line 4 are started.

Example 7 for /START Command
Entry ET:
/START LINE 4,5,6,7,8,9,10,11

Response ET:
DFS058I  START COMMAND COMPLETED

Response RT:
DFS059I  TERMINAL STARTED

Explanation: Lines 4,5,6,7,8,9,10, and 11 are started.

Example 8 for /START Command
Entry ET:
/START LINE 4 5 6 700

Response ET:
DFS058I  START COMMAND COMPLETED EXCEPT LINE 5 700

Response RT:
Explanation: Lines 4 and 6 are started. The /DISPLAY LINE command can be used to determine why line 5 did not start successfully. (700 is an invalid line number.)

Example 9 for /START Command

Entry ET:
/START LTERM APPLE, TREE, FRUIT

Response ET:
DFS058I START COMMAND COMPLETED

Response RT:
DFS059I TERMINAL STARTED

Explanation: Logical terminals APPLE, TREE, and FRUIT are started.

Example 10 for /START Command

Entry ET:
/START MSNAME CHICAGO

Response ET:
DFS058I START COMMAND COMPLETED

Explanation: A logical link path associated with the name CHICAGO is started.

Example 11 for /START Command

Entry ET:
/START NODE HARRY

Response ET:
DFS058I START COMMAND COMPLETED

Explanation: The physical terminal associated with the node HARRY is started.

Example 12 for /START Command

Entry ET:
/STARTA OTMA

Response ET:
DFS2360I 14:02:53 XCF GROUP JOINED SUCCESSFULLY. SYS3
DFS058I 14:02:53 START COMMAND COMPLETED SYS3
DFS996I *IMS READY* SYS3

Example 13 for /START Command

Entry ET:
/START OLDS 09

Response ET:
DFS058I START COMMAND IN PROGRESS

Explanation: OLDS data set DFSOLP09 (DFSOLS09) will be started for logging.
Example 14 for /START Command

Entry ET:
/START PROGRAM ALL

Response ET:
DFS058I START COMMAND COMPLETED

Explanation: All application programs are started.

Example 15 for /START Command

Entry ET:
/START PROGRAM APPLETRE

Response ET:
DFS058I START COMMAND COMPLETED

Explanation: Application program APPLETRE is started.

Example 16 for /START Command

Entry ET:
/START REGION

Response ET:
DFS058I START COMMAND IN PROGRESS

Response ET:
DFS551I IFP|MESSAGE|BATCH REGION XXXXXXXX STARTED. ID=yy TIME=zzzz
CLASSES=xxx,xxx,xxx,xxx

Explanation: One message region or batch region (ID=yy) is started at TIME=zzzz. The transactions associated with the classes listed in the response can now be scheduled.

Example 17 for /START Command

Entry ET:
/START REGION IMSWT000

Response ET:
DFS058I START COMMAND IN PROGRESS

Explanation: The JCL stored as member IMSWT000 is used to start the spool SYSOUT utility for the data sets associated with the spool line corresponding to the IMSWT000 procedure.

Example 18 for /START Command

Entry ET:
/START REGION MEMABC

Response ET:
DFS058I START COMMAND IN PROGRESS

Response ET:
DFS551I IFP|MESSAGE|BATCH REGION XXXXXX STARTED. ID=yy TIME=zzzz
CLASSES=xxx,xxx,xxx,xxx

Explanation: The JCL stored as member XXXXXX is used to start a message
processing region or batch message processing region with the classes specified by
the EXEC statement parameters in MEMABC.

Example 19 for /START Command
Entry ET:
/START RTCODE ALL

Response ET:
DFS058I  START COMMAND COMPLETED

Explanation: All the Fast Path routing codes are activated. Transactions associated
with these routing codes can now be processed.

Example 20 for /START Command
Entry ET:
/START S8

Response ET:
DFS058I  START COMMAND COMPLETED

Entry ET:
/DISPLAY POOL DBAS

Response ET:
SEQUENTIAL BUFFERING:  STATUS = NOT-STopped
MAX N.A. FREE N.A. Curr 160K HIGH 320K
DATABASE BUFFER POOL:  SIZE 67584
REQ1 0 REQ2 0 READ 0 BISAM 0 WRITES 0
KEYC 0 LCYL 0 PURG 0 OWNRR 0 ERRORS 00/00
DATABASE BUFFER POOL:  BSIZE 12288
RRBA 0 RKEY 0 BFALT 0 NREC 0 SYN PTS 0
NMBUFS 29 VRDS 0 FOUND 0 VNTS 0 ERRORS 00/00
DATABASE BUFFER POOL:  BSIZE 356352
RRBA 0 RKEY 0 BFALT 0 NREC 0 SYN PTS 0
NMBUFS 29 VRDS 0 FOUND 0 VNTS 0 ERRORS 00/00
*86253/104547*

Explanation: Sequential buffering is started.

Example 21 for /START Command
Entry ET:
/START SUBSYS ABC

Response ET:
DFS058I  START COMMAND COMPLETED

Explanation: IMS has established a connection to the requested subsystem. It is
likely that an external subsystem (not CCTL) connection message will be received
at this time. If this is not the case, the /DISPLAY command can be used.
Example 22 for /START Command

Entry ET:
/sta tmember client1 tp pipe tpipesy

Response ET:
DFS058I 15:39:40 START COMMAND COMPLETED  SYS3
DFS996I *IMS READY*  SYS3

Example 23 for /START Command

Entry ET:
/START TRANSACTION ALL CLASS 6

Response ET:
DFS058I START COMMAND COMPLETED

Explanation: All transactions associated with class 6 are started.

Example 24 for /START Command

Entry ET:
/START TRANSACTION PIT, SEED

Response ET:
DFS058I START COMMAND COMPLETED

Explanation: Transactions PIT and SEED are started.

Example 25 for /START Command

Entry ET:
/DISPLAY USER IMSUS01 IMSUS02

Response ET:

<table>
<thead>
<tr>
<th>USER</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSUS01</td>
<td>0</td>
<td>0</td>
<td>STOPPED</td>
</tr>
<tr>
<td>IMSUS02</td>
<td>0</td>
<td>0</td>
<td>STOPPED</td>
</tr>
</tbody>
</table>

*91091/111727*

Entry ET:
R 38,/START USER IMSUS01

Response ET:
DFS058I 11:19:05 START COMMAND COMPLETED

Entry ET:
/DISPLAY USER IMSUS01 IMSUS02

Response ET:

<table>
<thead>
<tr>
<th>USER</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSUS01</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>IMSUS02</td>
<td>0</td>
<td>0</td>
<td>STOPPED</td>
</tr>
</tbody>
</table>

*91091/113038*

Entry ET:
/START USER APPLE*
Response ET:
DFS3633 11:19:35 GENERIC PARAMETER RESOURCES NOT FOUND, NO ACTION TAKEN

Example 26 for /START Command

Entry ET (at the active site):
/START SERVGRP

Response ET (to the active subsystem):
DFS058 START COMMAND COMPLETED

Explanation: Communications between the subsystem at the active site and the subsystem at the RSR tracking site are started.
Chapter 58. /STOP

Format

/STOP Command: ADS through MADSIOT

STOP Command: MSNAME through SURVEILLANCE
STOP Command: THREAD through XRCTRACK
Environments and Keywords

Table 137 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/STOP</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>ABDUMP</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>ADS</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>APPC</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>AREA</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>AUTOARCH</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>BACKUP</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>CANCEL</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>CLASS</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>DATABASE</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DATAGROUP</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DESCRIPTOR</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>DC</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>GLOBAL</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>INPUT</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>JOBNAME</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>LINE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LOCAL</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
### Table 137. Valid Environments for the /STOP Command and Keywords (continued)

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTERM</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LUNAME</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MADIOT</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>MSNAME</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NOPFA</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NODE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>OLDS</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>OTMA</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>OUTPUT</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PROGRAM</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PTERM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>REGION</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>RTCODE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SB</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SERVGRP</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SLDSREAD</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SUBSYS</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>SURVEILLANCE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>THREAD</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TMEMBER</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TPIPE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TPNAME</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TRANSACTION</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>USER</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>VGRS</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>WADS</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>XRCTRACK</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

### Usage

The /STOP command stops:

- The sending, receiving, or queuing of output messages to a particular communication line, terminal, user, or logical path
- The scheduling or queuing of messages containing a specific transaction code
- The execution of a specific program
- The use of a given database

For VTAM nodes, the currently connected terminal is disconnected. All further logons are rejected until the node is the subject of a /START or /RSTART command.

The /STOP command can be used on HALDBs. For more information see Appendix H, "High Availability Large Database Commands," on page 805.
/STOP validity checks all parameters entered by the terminal operator. If an error is detected on parameters that are independent of one another, only the invalid parameters are indicated as being in error and the /STOP command processes the rest of the parameters.

/STOP can be used to reset conditions previously established by the /START, /RESTART, /PSTOP, /PURGE, or /MONITOR commands.

**ADS**

Specifies the area data set to be closed and deallocated. The AREA is not stopped as long as at least one data set in the AREA remains open. /STOP ADS is rejected if the specified ADS is the last data set available in the AREA.

Although the /STOP ADS command has no option of LOCAL/GLOBAL, if the DEDB area is shared at the block level, the response is the same as if GLOBAL were specified.

The output of the /STOP ADS command is changed when the command is entered through the OM API. In this case, the DFS058I message is not returned to OM. The command response returned to OM contains one or more of the following messages as appropriate.

Fast Path messages: DFS140I, DFS0488I, DFS0666I, DFS1407I, DFS3720I, DFS3721I, DFS3771I

**APPC**

Instructs IMS to stop scheduling transactions from LU 6.2 devices. /STOP APPC can be used in a transient stopped state. It causes remote LU 6.2 devices to receive a sense code of TP_Not_Available_No_Retry. This is likely to lead to further attempts to access IMS.

/STOP APPC sets the desired status to STOPPED. The current status is set to STOPPED or FAILED according to the response from APPC/MVS.

**CANCEL**

Causes APPC/MVS to initiate a shutdown request when a long stopped period is anticipated, for example, at the end of the day’s processing. All remote LU 6.2 devices receive a sense code of TP_Not_Available_No_Retry. The remote LU 6.2 devices stop trying to access this application.

/STOP APPC CANCEL sets the desired status to CANCEL according to responses from APPC/MVS. If the desired status is DISABLED, then IMS rejects /STOP APPC CANCEL when it is entered.

**AREA**

Specifies that the data sets associated with this area are closed. Use the /DISPLAY AREA command to determine if the area is stopped or closed. If the area is stopped, the area must be made available using the /START AREA command. In MVS/ESA, all the data sets are deallocated. If the system processes a /STOP AREA command during HSSP processing, the area will be released after the current commit processing completes. Any image copy option in effect at /STOP time can affect the continued system operation. All virtual storage option (VSO) DEDB areas that are being stopped and that are in an MVS data space are removed from the data space and updates are written out to DASD.

---

2. The sense code returned to the LU 6.2 remote device for an incoming ATTACH to a stopped APPC/IMS system is determined by APPC/MVS, and it might differ from release to release. In general, the remote LU 6.2 application should wait for a period of time after rejection before any attempts to reestablish a session with IMS.
The output of the /STOP AREA command is changed when the command is entered through the OM API. In this case, the DFS058I message is not returned to OM. For commands that specify GLOBAL, only the command master returns the asynchronous messages to OM. When a command is processed with the LOCAL keyword, all IMSs are able to return the asynchronous messages to OM. The command response returned to OM contains one or more of the following messages as appropriate.

Fast Path messages: DFS140I, DFS170I, DFS0488I, DFS0666I, DFS1407I, DFS3062I, DFS3342I, DFS3720I, DFS3824I

/STOP AREA is not supported on an RSR tracking subsystem.

GLOBAL

Specifies when an IRLM is active and that the command applies to all subsystems sharing the database or area.

The GLOBAL keyword and the ALL parameter are mutually exclusive. If both keywords are specified, the command is rejected. The GLOBAL keyword requires that IRLM be active. If IRLM is not active, the command is rejected. DBRC is informed that the database or area has been stopped and will update the RECON data set to indicate the stopped condition.

The GLOBAL keyword is not supported on an RSR tracking subsystem.

If the GLOBAL keyword on a command is entered from an OM API, the command should only be routed to one IMS system in the IMSplex. The IMS that receives the command from OM will make DBRC calls to update the RECON with GLOBAL status. It will also request IRLM NOTIFY to route and process the command on sharing IMS systems, and then process the command locally.

Messages produced on the NOTIFIED systems will appear only on the system console and will not be routed back to the OM API which originally entered the command.

If multiple IMS systems have been explicitly specified in the route list, the master IMS system will process the command as described above. However, the non-master IMS systems, to which OM routes the command, will reject the command with the following return and reason code listed in Table 138:

Table 138. Return and reason code for GLOBAL keyword issued from the OM API

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Reason Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>X'00000004'</td>
<td>X'00001000'</td>
<td>The command contained the GLOBAL keyword and was routed to more than one IMS system in the IMSPLEX. The non-master IMS systems will reject this command when OM routes the command to them. The master IMS system will process this command and use IRLM NOTIFY to route and process the command on the non-master IMS systems. See the discussion under the GLOBAL keyword.</td>
</tr>
</tbody>
</table>

LOCAL

Specifies that the command only applies to the subsystem in which the command is entered. This command does not affect any other subsystem sharing the database or area. LOCAL is the default.
NOPFA
Specifies that DBRC is not notified that the database or area has changed status. You can use this keyword when you need to authorize the database for use after it is offline, for example, for offline utilities. By using this keyword, DBRC does not prevent further authorizations for the database or area.

Recommendation: Before restarting the database or area, issue this command without the NOPFA keyword to inform DBRC of the change in status for the database or area.

AUTOARCH
Specifies that automatic archiving is to be stopped.

BACKUP
Terminates the alternate system in an XRF environment. This command must be entered on the alternate system. The ABDUMP keyword results in a dump of the alternate system.

CLASS
Prevents further scheduling of application programs for the designated class.

All regions currently handling transactions assigned to the specific class are allowed to run until the limit count is reached (MPPs) or the input queue contains no more messages (BMPs and MPPs).

The region is not allowed to wait for the next message (wait-for-input mode). Instead a QC status code (no more messages) is returned to the application (MPPs).

If the region is already scheduled and waiting for the next message (wait-for-input mode) when the command is entered, the region is notified and a QC status code is returned to the application (MPPs).

A batch message processing region (BMP) scheduled against wait-for-input (WFI) transactions returns a QC status code (no more messages) for /PSTOP REGION, /DB0, /DBR, or /STA commands only.

DATABASE
Prevents subsequently scheduled programs from accessing the database, without affecting currently scheduled programs or closing the database.

If the database is a DEDB or MSDB, programs using the database will not be scheduled. For other databases, the programs will still be scheduled but a call against the database will result in either a 3303 pseudoabend, or a BA status code, if the INIT call was issued.

If the database is stopped after the region is scheduled, the region is not allowed to wait for the next message (wait-for-input mode). If there are no more messages available for the region to process, a QC status (no more messages) will be returned to the application (MPPs). If the region is already scheduled and waiting for the next message (wait-for-input mode) when the command is entered, the region is notified and a QC status code is returned to the application (MPPs).

A batch message processing region (BMP) scheduled against wait-for-input (WFI) transactions returns a QC status code (no more messages) for /PSTOP REGION, /DB0, /DBR, or /STA commands only.

In an IFP region, the /STOP command has no effect until the region is started again.
See the AREA keyword for a description of the LOCAL, GLOBAL, and NOPFA keywords.

For DBCTL, when CCTL schedules a PSB, the DBCTL thread SCHED request defines the thread as LONG or SHORT. If the database is currently scheduled to a LONG thread, the command is rejected; otherwise, the thread is allowed to complete before the database is acted upon. This results in either a commit point or transaction termination.

For the results of issuing this command on a shared secondary index, see Appendix D, “Shared Secondary Index Database Commands,” on page 787.

/STOP DATABASE is not supported on an RSR tracking subsystem.

The output of the /STOP DATABASE command is changed when the command is entered through the OM API. In this case, the DFS058I message is not returned to OM. The command response returned to OM contains one or more of the following messages as appropriate to the database type and the command completion.

Full Function Database messages: DFS132, DFS160, DFS216, DFS0488I, DFS1407, DFS2026, DFS3318I, DFS3466I

Fast Path Database messages: No unique messages are returned.

DATAGROUP
Specifies groups of DL/I databases, Fast Path DEDBs, and Fast Path areas to be stopped. Data groups are logical groupings of databases and areas; they allow simplified command processing for databases and areas. You define a database group in the RECON data set using the INIT.DBDSGRP command with parameters GRPNAME and DBGRP. DATAGROUP is not valid on RSR tracking subsystems.

Related Reading: See “Group Parameters” on page 19 for more information on defining data groups.

During /STOP DATAGROUP processing, all virtual storage option (VSO) DEDBs that are in an MVS data space are removed from the data space and updates are written out to DASD.

Recommendation: Although you can use DBDS groups as well as database groups for this command, you should use database groups whenever possible to eliminate the overhead of converting the DBDS group to a database group.

DESCRIPTOR
Defines the LU62 descriptors from DFS62DTx PROCLIB member to IMS.

DC
Prohibits you from logging on to VTAM and ensures that all VTAM node sessions have terminated before IMS issues the DFS2111 VTAM ACB CLOSED message. The /STOP DC command can be used either before or after the /CLSDST NODE or /STOP NODE command, the only difference being that logons can still occur if the /STOP DC command is not entered. However, the command cannot start or complete processing if the VTAM ACB is not open or the VTAM nodes remain active. If the nodes are active, the /CLSDST NODE or /STOP NODE command must be issued to close the nodes; in some cases, a /IDLE NODE command can be issued to cause an OS VTAM VARY command to be issued against any nodes that remain connected.

LINE
Stops message queuing for lines and stops the sending and receiving of
messages over the lines. However, lines are not considered stopped unless they are stopped and idle. Use /DISPLAY LINE to verify line status.

/STOP LINE PTERM ensures that no input messages from any of the specified terminals assigned to the specified lines will be received by IMS after the command is issued.

/STOP LINE resets preset mode, test mode, response mode, lock pterm, lock lterm, pstop lterm, and purge lterm because these statuses are not significant and therefore are not kept after a /START LINE or restart.

LTERM
Specifies the LTERM that is to be stopped. The /STOP LTERM command with a logical terminal that is in a QLOCKED state does not reset the QLOCK state, but puts the LTERM in a STOPPED and QLOCKED state.

If IMS internally resets the QLOCK condition, the LTERM remains in a STOPPED state. (QLOCK indicates that the LTERM is locked from sending any further output or from receiving input that can create additional output for the same LTERM until the state is reset by a specific request received on the session.)

/STOP LTERM is rejected for remote logical terminals.

The LTERM parameter can be generic where the generic parameter specifies LTERMs that already exist.

If global resource information is kept in Resource Manager, the /STOP LTERM command stops messages from being queued to the lterm anywhere in the IMSplex and the change is reflected both in Resource Manager and in the local IMS system.

LUNAME TPNAME
Specifies a particular LU name that is to be stopped.

Specifying the keyword INPUT with the LUNAME TPNAME keyword stops an luname for any input and synchronous outbound activities. Specifying the parameter ALL with INPUT causes all future LU 6.2 input and synchronous outbound activities to be stopped as well.

Specifying the keyword OUTPUT with the LUNAME TPNAME keyword stops an luname for any asynchronous outbound activities. Specifying the parameter ALL with OUTPUT causes all future LU 6.2 asynchronous outbound activities to be stopped as well.

Specifying neither INPUT nor OUTPUT is the same as specifying both INPUT and OUTPUT. The LU name is stopped for any input, and both synchronous and asynchronous outbound activities. Specifying the parameter ALL in this case stops all future LU 6.2 inbound activities, synchronous and asynchronous outbound activities.

A network-qualified LU name is optional for the LUNAME keyword. If the LU name is not network-qualified and no TP name is specified, all network-qualified LU names whose LU names match the LU name specified are also stopped.

/STOP LUNAME TPNAME stops a particular TP name of the LU name specified.

If the specified resource does not exist, a structure is created to retain the status.

MADSIOT
Allows users to disable the MADS I/O timing function in a MADS I/O timing
enabled environment. When /STOP MADS IOT completes normally, the following message is returned to the operator’s console:
DFS12761 MADS I/O TIMING FUNCTION STOPPED SUCCESSFULLY

/START MADS IOT allows users to resume the MADS I/O timing function.

If MADS I/O Timing list structure is not defined in DFSVSMxx, the command will be rejected. If MADS I/O Timing function is already disabled, the command will be ignored. If MADS I/O Timing function is enabled and all sharing partners successfully disconnect from MADS I/O Timing list structure on the coupling facility, the command will complete successfully; if any sharing partners fails to disconnect to MADS I/O Timing list structure, the command will fail.

The output of the /STOP MADS IOT command is changed when the command is entered through the OM API. In this case, the DFS058I message is not returned to OM. The command response returned to OM contains one or more of the following messages as appropriate.

Fast Path messages: DFS0023I, DFS0008I, DFS1271I, DFS1276I, DFS1275E, DFS1219E

MSNAME
Stops the sending of all messages (primary requests) from a terminal except those continuing a conversation. This includes all messages destined for remote transactions with the SYSID of the MSNAME and for remote logical terminals associated with this MSNAME.

NODE
Specifies the VTAM node to be stopped and logged off. The NODE parameter can be generic if the USER keyword is not specified and applies to nodes that already exist.

The /STOP NODE command prevents future logons until a /START NODE command is issued.

/STOP NODE without the USER keyword is supported for nodes that do not yet exist. It causes the node to be created and stopped which prevents the dynamic node from logging on. /STOP NODE without the USER keyword affects all half-sessions of the specified node.

/STOP NODE USER is valid for ISC and non-ISC nodes and users; however the user must still be allocated or signed on to the node. /STOP NODE USER for ISC nodes stops the named half-session defined in USER username for NODE nodename.

/STOP NODE resets preset mode, test mode, response mode, lock node, lock lterm, pstop lterm, and purge lterm because these statuses are not significant and therefore are not kept after a logon or restart. /STOP NODE also takes other actions depending on the recovery settings for the node:

RCVYSTSN=NO
/STOP NODE acts like a /CHANGE NODE COLDSESS command for FINANCE and SLUP nodes by setting the session status to 'cold'. /STOP NODE acts like a /QUIESCE NODE command for ISC (LU6.1) nodes by initiating the shutdown and deallocating the user for the specified node. This action changes the session status to 'cold'. With these actions taken by the /STOP NODE command, the next session initiation request for this node is allowed to again attempt a session cold start (after a /START NODE command has been entered).
RCVYCONV=NO

/STOP NODE causes any IMS conversations (active and held) to be terminated. Any conversational message that is queued or being processed will have its output response message delivered asynchronously.

RCVYFP=NO

/STOP NODE causes Fast Path status and messages to be discarded.

If global resource information is kept in Resource Manager, the /STOP NODE command sets a global stop status for the node and prevents the node from logging on anywhere in the IMSplex. If global resource information is not kept in Resource Manager, /STOP NODE creates the node, if it does not exist in an ETO environment, and sets stop status for the local node. If the node does not exist in a non-ETO environment, the /STOP NODE command is rejected.

OLDS

indicates that IMS is to stop using an OLDS log data set. olds# identifies an OLDS that is defined by JCL and/or a DFSMDA macro and is currently started. olds# must be 00 through 99. The stopped OLDS will be dynamically deallocated when it is no longer possible for it to be accessed for dynamic backout.

If in dual mode, both primary and secondary OLDSs are stopped. If there are only two OLDS data sets available, or if the specified OLDS is the one currently being used for output, the /STOP OLDS command will be rejected.

OTMA

Causes IMS to leave the XCF group for IMS Open Transaction Manager Access (OTMA).

/STOP OTMA command processing is as follows:
1. IMS leaves the XCF group.
2. For any IMS OTMA output awaiting an ACK message, IMS aborts the message. For Commit-then-Send transactions, the output remains enqueued to the transaction pipe. For Send-then-Commit transactions, IMS aborts the transaction.

PROGRAM

Specifies the application program that is to be stopped.

/STOP PROGRAM does not stop CPI Communications driven transaction programs.

REGION

Is used to stop IMS regions, application programs, or both. /STOP REGION is not mirrored on the XRF alternate system. You must enter this command on the alternate system if you want it to affect the alternate system.

REGION reg#

Is used to terminate one or more message processing regions at the conclusion of processing the current transaction. The region identifier is reg#.

/STOP REGION reg# can also be used to terminate Fast Path regions. /STOP REGION reg# cannot be used to terminate batch regions.

A Fast Path utility region is terminated at the next system checkpoint of the utility.
/STOP

REGION reg#–reg#
Is used to terminate a range of message processing regions at the conclusion of processing the current transaction.

REGION reg# ABDUMP tranname
Causes abnormal termination of an application program.

The region identifier is reg# and the transaction code is tranname.

If the transaction indicated by tranname is currently running in REGION reg#, an error message is received at the master terminal, indicating an application program abend. The region remains active but the transaction stops. The command is ignored if the transaction is not currently scheduled in region reg#.

/STOP REGION reg# ABDUMP should be used only for a region that appears to be looping or in a wait state. If this command does not abnormally terminate the application running in a region, then the /STOP REGION reg# CANCEL command can be used. This might cause the control region to terminate with abend 113 if parallel DL/I is being used. See /STOP REGION reg# CANCEL for further warnings.

If the /CHECKPOINT command cannot shut down IMS because a message processing region appears to be active, but in actuality is no longer active in the system (a condition commonly referred to as a phantom region), the /STOP REGION reg# ABDUMP command can be used to correct the situation. In this case, the /STOP REGION reg# ABDUMP command detects that the region is no longer active and cleans the internal IMS entries for the non-existent region, which allows the shut down process to proceed normally.

If a message processing region experiences a catastrophic failure and abnormally terminates and a /DISPLAY ACTIVE REGION shows the region is still defined to IMS, the /STOP REGION reg# ABDUMP command can be used to correct the situation. In this case, the /STOP REGION reg# ABDUMP command detects the region is no longer active and cleans the internal IMS entries for the none-existent region.

The tranname variable is not valid for batch, IFP, or Fast Path utility regions.

REGION reg# TRANSACTION tranname
Stops a message processing program in wait-for-input (WFI) mode from processing within the specified region.

The region identifier is reg# and the transaction code is tranname.

If the transaction indicated by tranname is currently running in region reg#, the IMS message DFS0569I is received at the master terminal, indicating that a QC status code (no more messages) was returned to the application program (MPPs). The region that contained the application is still active and the transaction is not stopped. A batch message processing program in WFI mode must be stopped using the /PSTOP command.

A batch message processing region (BMP) scheduled against wait-for-input (WFI) transactions returns a QC status code (no more messages) for, /PSTOP REGION, /DBD, /DBR, or /STA commands only.

REGION reg# CANCEL
Is used if the region cannot be stopped with a /STOP REGION ABDUMP command and must be preceded by a /STOP REGION ABDUMP command.
The region identifier is `reg#`.

Using the /STOP REGION CANCEL command can cause the IMS control region to terminate with user abend 113 if parallel DL/I is being used. An MVS CANCEL command will be rejected.

**REGION JOBNAME**
Identifies regions to be stopped by their job names. The job name must be 1-8 alphanumeric or national (\$,\#,\@) characters. The first character of the job name must be either alphabetic or national.

**RTCODE**
Specifies that transactions associated with this routing code are not processed.

**SB**
Disallows further use of sequential buffering. /STOP SB does not affect sequential buffering applications scheduled before this command was issued.

**SERVGRP**
Stops communications between the service group in an RSR complex at which the command was entered and the service group at the other site. /STOP SERVGRP also severs the relationship between the IMS subsystem and the TMS subsystem.

Once communications are stopped, the logger stops sending log data to the RSR tracking subsystem. No more attempts to re-establish failed conversations are made at OLDS switch. /STOP SERVGRP is normally not needed. /STOP SERVGRP is valid from an active subsystem and a tracking subsystem.

Successful completion of the syntax checking of the /STOP SERVGRP command results in the DFS058 STOP COMMAND COMPLETED message, although processing of the command continues asynchronously.

**SLDSREAD**
Indicates whether IMS is enabled to retrieve records from both a system log data set (SLDS) and OLDS or OLDS only. The default is that SLDSREAD is enabled.

**SUBSYS**
Specifies the name of the external subsystem whose connection is to be terminated. /STOP SUBSYS does allow application programs currently accessing external resources to complete normally. When those applications have terminated, the connection to the subsystem will also terminate. The application must complete all message processing before actual connection termination. The next occurrence of an external subsystem call will receive a nonzero return code, indicating the connection is not available. A /START command is then necessary to reestablish the connection.

/STOP SUBSYS can also be used to dynamically reconfigure existing subsystem definitions. The operator can issue the /STOP SUBSYS command, change or add to the PROCLIB member, and then issue the /START SUBSYS command. IMS attempts to connect those subsystems defined in the PROCLIB member.

If system failure occurs after /STOP SUBSYS is processed, the stopped status is still set.

**SURVEILLANCE**
Is used in an XRF environment to stop the operation of the IMS surveillance function. The SURVEILLANCE keyword parameters are:

- **LNK** ISC link
- **RDS** Restart data set
/STOP

LOG
System log.

ALL
The same as specifying LNK, RDS, and LOG. This is the default.

THREAD
Starts an inactive CCTL thread. The DEDB utility region is terminated at the next system checkpoint.

The /STOP THREAD command is not valid for:

- Active CCTL threads
- BMPs

THREAD ABDUMP
Abends BMPs and DEDB utilities. If this command is used with CCTL threads, a U0474 abend results.

TMEMBER
Causes IMS to send an Open Transaction Manager Access (OTMA) command to OTMA clients to request that input be suspended for the specified transaction pipe name. IMS then stops sending output to the OTMA client and prevents any further output from being sent to the client.

TPIPE
When used with the /STOP command, TPIPE causes IMS to suspend sending output to OTMA clients.

While processing the /STOP TMEMBER TPIPE command, IMS creates a temporary transaction pipe (if one does not already exist) with the stopped status. IMS sets the synchronization status for this transaction pipe when it sends or receives the first message for the transaction pipe.

After a /STOP TMEMBER xxx TPIPE ALL command is issued, newly created tpipes will not be stopped for either input or output.

TRANSACTION
Stops the queuing and scheduling of messages destined for a transaction or class of transactions, or stops transaction scheduling by class. However, output can still be queued if it originates from the application program.

If the region is already scheduled and waiting for the next message (wait-for-input mode) when the command is entered, a QC status (no more messages) is returned to the application (MPPs). If there are no more messages available for the region to process, the region is not allowed to wait for the next message. Instead, a QC status is returned to the application (MPPs).

A batch message processing region (BMP) scheduled against wait-for-input (WFI) transactions returns a QC status code (no more messages) for /PSTOP REGION, /DBD, /DBR, or /STA commands only.

In a shared-queues environment, if you issue a /STOP TRANSACTION command for a transaction that is not defined on that IMS subsystem, IMS creates an SMB if the Output Creation user exit routine indicates the destination is a valid transaction. The SMB is marked as “dynamic”.

A dynamic SMB created by a /STOP TRANSACTION command can only be used to queue messages for the transaction and place the messages on the shared queues. The transaction cannot be scheduled or assigned. IMS does process checkpoints for the transaction, but does not save them across an IMS restart if they do not have a valid status.
The TRANSACTION parameter can be generic, when the generic parameter specifies a transaction that already exists.

**USER**
Requires the ISC user to stop or the signed on user to stop and sign off. The USER parameter can be generic and applies only to users that already exist.

For ISC users, /STOP USER specifies the ISC user that is to be made unavailable for allocation until a /START USER command is issued.

For signed on users, the /STOP USER command prevents future signons until a /START USER command is issued.

/STOP USER is supported for users that do not yet exist. It causes the user to be created and stopped, which prevents the dynamic user from signing on.

/STOP USER will not cause the user to be signed off if the associated node is not active or the associated node is not in session.

The /STOP USER command for an ETO user session resets status that is not significant such as preset mode, test mode, response mode, lock lterm, pstop lterm, and purge lterm.

/STOP USER for ETO users also takes other actions depending on the recovery settings for the user:

**RCVYCONV=NO**
/STOP USER causes any IMS conversations (active and held) for an ETO user to be terminated. Any conversational message that is queued or being processed will have its output response message delivered asynchronously.

**RCVYFP=NO**
/STOP USER causes Fast Path status and messages for an ETO user to be discarded.

If global resource information is kept in Resource Manager, the /STOP USER command sets a global stop signon status for the user and prevents the user from signing on anywhere in the IMSplex. If global resource information is not kept in Resource Manager, /STOP USER creates the user, if it does not exist in an ETO environment, and sets stop status for the local user. If the user does not exist in a non-ETO environment, the /STOP USER command is rejected.

**VGRS**
Causes the IMS subsystem to drop out of a generic resources group. This command is rejected if the VTAM ACB is closed (usually the result of a /STOP DC command).

While this command prevents VTAM from routing new sessions using a generic resource name to the IMS subsystem, it does not affect existing sessions, and affinities remain (until terminated through normal processing).

**WADS**
Indicates that a WADS is to be removed from the pool of available WADS. IMS does not allow the active WADS (if WADS mode is single), or the active WADS pair (if WADS mode is dual), to be stopped. wads# must be 0 through 9.

**XRCTRACK**
Results in calls to the log router to initiate or terminate XRC tracking. It is only valid on a tracking IMS system.
Examples

Example 1 for /STOP Command

Entry ET:
/STOP AREA DB1AREA0 DB1AREA1

Response ET:
DFS058I  STOP COMMAND IN PROGRESS
DFS0488I  STOP COMMAND COMPLETED. AREA=DB1AREA0
DFS0488I  STOP COMMAND COMPLETED. AREA=DB1AREA1

Explanation: The DEDB areas DB1AREA0 and DB1AREA1 are stopped for processing.

Example 2 for /STOP Command

Entry ET:
/STOP AUTOARCH

Response ET:
DFS058I  STOP COMMAND COMPLETED

Explanation: Automatic archiving is stopped.

Example 3 for /STOP Command

Entry ET:
/STOP CLASS 3

Response ET:
DFS058I  STOP COMMAND COMPLETED

Explanation: No further scheduling of application programs for class 3 transactions occurs. All message processing programs currently handling class 3 transactions are allowed to run until the processing limit count is reached or the input queue contains no more messages.

Example 4 for /STOP Command

Entry ET:
/STOP DATABASE TREEFARM

Response ET:
DFS058I  STOP COMMAND IN PROGRESS
DFS0488I  STOP COMMAND COMPLETED. DBN=TREEFARM RC=0

Explanation: Database TREEFARM is stopped.

Example 5 for /STOP Command

TSO SPOC input:
STO DB BANKATMS BANKTERM BANKLDGR BE3ORDER

TSO SPOC output:
OM API input:
CMD ( STO DB BANKATMS BANKTERM BANKLDGR BE3ORDER)

OM API output:
<?xml version="1.0"?>
<!DOCTYPE imsout SYSTEM "imsout.dtd">
<imsout>
<ctl>
<omname>OM1OM</omname>
<omvsn>1.1.0</omvsn>
<xmlvsn>1</xmlvsn>
<staseq>B7EFC16AF6B13F26</staseq>
<stoseq>B7EFC16AFFC40D8C</stoseq>
<rqsttkn1>USRT005 10150521</rqsttkn1>
<rc>00000000</rc>
<rsn>00000000</rsn>
</ctl>
<cmd>
<master>SYS3</master>
<userid>USRT005</userid>
<verb>STO</verb>
<kwd>DB</kwd>
<input>STO DB BANKATMS BANKTERM BANKLDGR BE3ORDER</input>
</cmd>
<msgdata>
<mbr name="SYS3">
<msg>DFS0488I STO COMMAND COMPLETED. DBN= BANKATMS RC= 0</msg>
<msg>DFS0488I STO COMMAND COMPLETED. DBN= BANKTERM RC= 0</msg>
<msg>DFS0488I STO COMMAND COMPLETED. DBN= BANKLDGR RC= 0</msg>
<msg>DFS0488I STO COMMAND COMPLETED. DBN= BE3ORDER RC= 0</msg>
</mbr>
<mbr name="IMS3">
<msg>DFS0488I STO COMMAND COMPLETED. DBN= BANKATMS RC= 0</msg>
<msg>DFS0488I STO COMMAND COMPLETED. DBN= BANKTERM RC= 0</msg>
<msg>DFS0488I STO COMMAND COMPLETED. DBN= BANKLDGR RC= 0</msg>
<msg>DFS0488I STO COMMAND COMPLETED. DBN= BE3ORDER RC= 0</msg>
</mbr>
</msgdata>
</imsout>

Explanation: The STOP command is routed from OM to the two active IMSs - SYS3 and IMS3. The response from both IMSs is returned to OM. The databases BANKATMS, BANKTERM, BANKLDGR, and BE3ORDER are stopped at both IMSs.

Example 6 for /STOP Command
Entry ET:
/STOP LINE 4,5,6,7,8,9,10,11

Response ET:
DFS058I STOP COMMAND COMPLETED
/STOP

Response RT:
DFS059I TERMINAL STOPPED

Explanation: Lines 4, 5, 6, 7, 8, 9, 10, and 11 and their associated physical terminals are stopped.

Example 7 for /STOP Command

Entry ET:
/STOP LINE 4 8 900

Response ET:
DFS058I STOP COMMAND COMPLETED EXCEPT LINE 900

Response RT:
DFS059I TERMINAL STOPPED

Explanation: Lines 4 and 8 and their associated physical terminals are stopped. 900 is an invalid line number.

Example 8 for /STOP Command

Entry ET:
/STOP LINE 4 PTERM 1, 2

Response ET:
DFS058I STOP COMMAND COMPLETED

Response RT:
DFS059I TERMINAL STOPPED

Explanation: Physical terminals 1 and 2 on line 4 are stopped.

Example 9 for /STOP Command

Entry ET:
/STOP LTERM APPLE, TREE, FRUIT

Response ET:
DFS058I STOP COMMAND COMPLETED

Response RT:
DFS059I TERMINAL STOPPED

Explanation: Logical terminals APPLE, TREE, and FRUIT are stopped.

Example 10 for /STOP Command

Entry ET:
/STOP MSNAME BOSTON

Response ET:
DFS058I STOP COMMAND COMPLETED

Explanation: The logical link path associated with the name BOSTON is stopped.
Example 11 for /STOP Command

Entry ET:
/STOP NODE HARRY

Response ET:
DFS058I STOP COMMAND COMPLETED

Explanation: The physical terminal associated with node HARRY is disconnected (/CLS DST) and further logons are prevented.

Example 12 for /STOP Command

Entry ET:
/STOP OTMA

Response ET:
DFS2361I 14:02:05 XCF GROUP CLOSED SUCCESSFULLY. SYS3
DFS058I 14:02:06 STOP COMMAND COMPLETED SYS3
DFS996I *IMS READY* SYS3

Example 13 for /STOP Command

Entry ET:
/STOP OLDS 09

Response ET:
DFS058I STOP COMMAND IN PROGRESS
DFS2500I DATASET DFSOLP09 SUCCESSFULLY DEALLOCATED
DFS3257I OLDS DEALLOCATED ON DFSOLP09

Explanation: The subject OLDS, DFSOLP09 (DFSOLS09), will be stopped.

Example 14 for /STOP Command

Entry ET:
/STOP PROGRAM APPLETRE

Response ET:
DFS058I STOP COMMAND COMPLETED

Explanation: Application program APPLETRE is stopped.

Example 15 for /STOP Command

Entry ET:
/DISPLAY A

Response ET:

<table>
<thead>
<tr>
<th>REGID</th>
<th>JOBNAME</th>
<th>TYPE</th>
<th>TRAN/STEP</th>
<th>PROGRAM</th>
<th>STATUS</th>
<th>CLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 MPP</td>
<td>TP</td>
<td>TXCDRN24</td>
<td>DDLTRN24</td>
<td>1, 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 BMP</td>
<td>BMP</td>
<td>BMP</td>
<td>BMP255</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 IFPN</td>
<td>FPM</td>
<td>NO MSG.</td>
<td>DDLTJN26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OBR1CT13</td>
<td>DBRC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

VTAM ACB CLOSED
LINE ACTIVE-IN - 1 ACTIV-OUT - 0
NODE ACTIVE-IN - 0 ACTIV-OUT - 0
LINK ACTIVE-IN - 0 ACTIV-OUT - 0
*89041/142004*
Explanation: Fast Path message-driven region 3 currently has no messages to process.

Entry ET:
/STOP REG 3

Response ET:
DFS058I STOP COMMAND IN PROGRESS

Entry ET:
/DISPLAY A

Response ET:
REGID JOBNAME TYPE TRAN/STEP PROGRAM STATUS CLASS
2 MPP TP TXCDRN24 DDLTRN24 1, 2
1 BMP BMP BMP BMP255
FPRGN FP NONE
DBR1CT13 DBRC
VTAM ACB CLOSED
LINE ACTIVE-IN - 1 ACTIV-OUT - 0
NODE ACTIVE-IN - 0 ACTIV-OUT - 0
LINK ACTIVE-IN - 0 ACTIV-OUT - 0
*89041/142102*

Explanation: Fast Path region 3 has been stopped. If region 3 had been processing a message, IMS would have terminated the region on completion of the transaction.

Example 16 for /STOP Command

Entry ET:
/DISPLAY A

Response ET:
REGID JOBNAME TYPE TRAN/STEP PROGRAM STATUS CLASS
2 MPP TP TXCDRN24 DDLTRN24 1, 2
1 BMP BMP BMP BMP255
FPRGN FP NONE
DBR1CT13 DBRC
VTAM ACB CLOSED
LINE ACTIVE-IN - 1 ACTIV-OUT - 0
NODE ACTIVE-IN - 0 ACTIV-OUT - 0
LINK ACTIVE-IN - 0 ACTIV-OUT - 0
*89041/142102*

Entry ET:
/STOP REG 1

Response ET:
DFS058I STOP COMMAND IN PROGRESS
DFS0557I STOP REGION ID NOT VALID- REGION 0001 IS BMP.

Explanation: /STOP REGION (with no keywords) is not valid for batch regions.

Example 17 for /STOP Command

Entry ET:
/DISPLAY A

Response ET:
Example 18 for /STOP Command

Explanation: Fast Path utility region 3 has been stopped. The Fast Path utility DBF#FPU0 was terminated at the next system checkpoint.

Entry ET:
/STOP REG 3

Response ET:
DFS058I STOP COMMAND IN PROGRESS

Explanation: Transaction TXCDRN24 in region 2 is looping or in a wait state.

Entry ET:
/STOP REG 2 ABDUMP TXCDRN24

Response ET:
DFS058I STOP COMMAND IN PROGRESS
DFS555I TRAN TXCDRN24 ABEND S000,U0474 SYS ID 220 MSG IN PROGRESS
Explanation: The application program has been terminated with a U0474 ABEND. This abend indicates termination in response to a user request (/STOP REGION ABDUMP).

Entry ET:
/DISPLAY A

Response ET:

<table>
<thead>
<tr>
<th>REGID</th>
<th>JOBNAM</th>
<th>TYPE</th>
<th>TRAN/STEP</th>
<th>PROGRAM</th>
<th>STATUS</th>
<th>CLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>MPP</td>
<td>TP</td>
<td>WAITING</td>
<td>1, 2</td>
<td>1, 2</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>BMP</td>
<td>BMP</td>
<td>BMP255</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPRGN</td>
<td>FP</td>
<td>NONE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DBR1CT13 DBRC
VTAM ACB CLOSED
LINE ACTIVE-IN - 1 ACTIV-OUT - 0
NODE ACTIVE-IN - 0 ACTIV-OUT - 0
LINK ACTIVE-IN - 0 ACTIV-OUT - 0
*89041/143420*

Explanation: The application has been terminated but the region remains active.

Entry ET:
/DISPLAY PROG DDLTRN24

Response ET:

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>TRAN</th>
<th>TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDLTRN24</td>
<td>TXCDRN24</td>
<td>TP</td>
</tr>
</tbody>
</table>

*90340/143749*

Explanation: The program has not been stopped.

Entry ET:
/DISPLAY TRANSACTION TXCDRN24

Response ET:

<table>
<thead>
<tr>
<th>TRAN</th>
<th>CLS</th>
<th>ENQCT</th>
<th>QCT</th>
<th>LCT</th>
<th>PLCT</th>
<th>CP</th>
<th>LP</th>
<th>SEGSZ</th>
<th>SEGNO</th>
<th>PARLM</th>
<th>RC</th>
</tr>
</thead>
<tbody>
<tr>
<td>TXCDRN24</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>65535</td>
<td>65535</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

PSBNAME: DDLTRN24
STATUS: STOP
*90340/143802*

Explanation: The transaction has been stopped.

Example 19 for /STOP Command

Entry ET:
/DISPLAY A

Response ET:

<table>
<thead>
<tr>
<th>REGID</th>
<th>JOBNAM</th>
<th>TYPE</th>
<th>TRAN/STEP</th>
<th>PROGRAM</th>
<th>STATUS</th>
<th>CLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>MPP</td>
<td>TP</td>
<td>WAITING</td>
<td>1, 2</td>
<td>1, 2</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>BMP</td>
<td>BMP</td>
<td>BMP255</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>FPU</td>
<td>FPU</td>
<td>IFP</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DBR1CT13 DBRC
VTAM ACB CLOSED
LINE ACTIVE-IN - 1 ACTIV-OUT - 0
NODE ACTIVE-IN - 0 ACTIV-OUT - 0
LINK ACTIVE-IN - 0 ACTIV-OUT - 0
*89041/144240*
Entry ET:
/STOP REG 3 ABDUMP

Response ET:
DFS058I STOP COMMAND IN PROGRESS

Explanation: A transaction code is not entered when terminating a Fast Path utility with a /STOP REGION ABDUMP command.

Example 20 for /STOP Command

Entry ET:
/DISPLAY A

Response ET:

<table>
<thead>
<tr>
<th>REGID</th>
<th>JOBNAMES</th>
<th>TYPE</th>
<th>TRAN/STEP</th>
<th>PROGRAM</th>
<th>STATUS</th>
<th>CLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>MPP</td>
<td>TP</td>
<td>TXCDRN24</td>
<td>DDLTRN24</td>
<td>WAIT-INPUT</td>
<td>1, 2</td>
</tr>
<tr>
<td>1</td>
<td>BMP</td>
<td>BMP</td>
<td>BMP</td>
<td>BMP255</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FPRGN</td>
<td>FP</td>
<td>NONE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OBR1CT13</td>
<td>DBRC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

VTAM ACB CLOSED
LINE ACTIVE-IN - 1 ACTIV-OUT - 0
NODE ACTIVE-IN - 0 ACTIV-OUT - 0
LINE ACTIVE-IN - 0 ACTIV-OUT - 0
*89041/150141*

Explanation: Message processing program DDLTRN24 is waiting for an input message.

Entry ET:
/STOP REGION 2 TRANSACTION TXCDRN24

Response ET:
DFS058I STOP COMMAND IN PROGRESS
DFS0589I PSTOP OR STOP COMPLETE FOR REGION0002 TRAN TXCDRN24.

Explanation: A QC status code was returned to the WFI application program DDLTRN24.

Entry ET:
/DISPLAY A

Response ET:

<table>
<thead>
<tr>
<th>REGID</th>
<th>JOBNAMES</th>
<th>TYPE</th>
<th>TRAN/STEP</th>
<th>PROGRAM</th>
<th>STATUS</th>
<th>CLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>MPP</td>
<td>TP</td>
<td>WAITING</td>
<td></td>
<td>1, 2</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>BMP</td>
<td>BMP</td>
<td>BMP</td>
<td>BMP255</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FPRGN</td>
<td>FP</td>
<td>NONE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OBR1CT13</td>
<td>DBRC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

VTAM ACB CLOSED
LINE ACTIVE-IN - 1 ACTIV-OUT - 0
NODE ACTIVE-IN - 0 ACTIV-OUT - 0
LINK ACTIVE-IN - 0 ACTIV-OUT - 0
*89041/150206*

Explanation: The WFI application has been terminated but the region is still active.

Entry ET:
/DISPLAY TRANSACTION TXCDRN24
Response ET:

```
TRN  CLS  ENQCT  QCT  LCT  PLCT  CP  LP  NP  SEGSZ  SEGNO  PARLM  RC
TXCDRN24  2  4  0  65535  65535  1  1  1  0  0  0  0
PSBNAME: DDLTRN24
*90340/150219*
```

Explanation: The transaction is not stopped.

**Example 21 for /STOP Command**

Entry ET:

```
/DISPLAY A
```

Response ET:

```
REGID  JOBNAME  TYPE  TRAN/STEP  PROGRAM  STATUS  CLASS
2   MPP   TP   TXCDRN24   DDLTRN24   WAIT-INPUT   1, 2
1   BMP   BMP   BMP255   BMP255   BMP255   BMP255
FPRGN  FP   NONE   DBCRTI3  DBRC
VTAM  ACB  CLOSED
LINE  ACTIVE-IN  1   ACTIV-OUT  0
NODE  ACTIVE-IN  0   ACTIV-OUT  0
LINK  ACTIVE-IN  0   ACTIV-OUT  0
*89041/150813*
```

Entry ET:

```
/STOP REGION 2 TRANSACTION TRAN255
```

Response ET:

```
DFS058I  STOP  COMMAND  IN  PROGRESS
DFS058I  TRAN  TRAN255  NOT  SCHEDULED
```

Explanation: TRAN255 is a valid transaction for the IMS system but it is not currently scheduled in region 2. If TRAN255 had not been a valid transaction for the IMS system, only message DFS230I (TRAN SPECIFIED WITH ABDump OR TRAN KEYword IS NOT VALID) would have been issued.

**Example 22 for /STOP Command**

Entry ET:

```
D A, L
```

Response ET:

```
JOBS  M/S  TS  USERS  SYSA5  INITS  ACTIVE/MAX  VTAM  OAS
00001  00010  00001  00019  00020  00001/00020  00000
LLA  LLA  LLA  NSW  S  VLF  VLF  VLF  NSW  S
JES2  JES2  IEFPproc  NSW  S  RMF  RMF  IEFProc  NSW  S
IMSVTAM  IMSVTAM  IEFProc  NSW  S  TSO  TSO  STEP1  NSW  S
CQS  CQS  IEFProc  NSW  S  IMSECTA9  IMSECTA9  IEFProc  NSW  S
DLIECTA9  DLIECTA9  DLISAS  NSW  S  DBRECTA9  DBRECTA9  DBRC  NSW  S
MPP610C  MPP  MPP  NSW  J
USRT001  OWT
```

Explanation: MPP610C is an IMS message processing region.

Entry ET:

```
/STOP REGION JOBNAME MPP610C
```

Response ET:
Example 23 for /STOP Command

Entry ET:
/STOP SB

Response ET:
DFS058I STOP COMMAND COMPLETED

Entry ET:
/DISPLAY POOL DBAS

Response ET:
SEQUENTIAL BUFFERING: STATUS = STOPPED
MAX N.A. FREE N.A. CURR OK HIGH 320K
DATABASE BUFFER POOL: SIZE = 67584
REQ 0 REQ2 0 READ 0 BISAM 0 WRITES 0
KEYC 0 LCYL 0 PURG 0 OWNRR 0 ERRORS 00/00
DATABASE BUFFER POOL: BSIZE = 12288
RRBA 0 RKEY 0 BFALT 0 NREC 0 SYN PTS 0
NMBUS 29 VRDS 0 FOUND 0 VNTS 0 ERRORS 00/00
DATABASE BUFFER POOL: BSIZE = 356352
RRBA 0 RKEY 0 BFALT 0 NREC 0 SYN PTS 0
NMBUS 29 VRDS 0 FOUND 0 VNTS 0 ERRORS 00/00
*90253/104547*

Explanation: Sequential buffering is stopped.

Example 24 for /STOP Command

Entry ET:
/STOP SUBSYS ALL

Response ET:
DFS058I STOP COMMAND IN PROGRESS

Explanation: IMS has initiated the termination of the connection. When all dependent regions have terminated their connections, IMS will complete the termination. It is likely that an external subsystem message indicating connection termination will be received at this time.

Example 25 for /STOP Command

Entry ET:
/STOP SUBSYS XXX1 XXX3

Response ET:
DFS058I STOP COMMAND IN PROGRESS

Explanation: IMS has initiated the termination of the connection. When all dependent regions have terminated their connections, IMS will complete the termination. It is likely that an external subsystem message indicating connection termination will be received at this time.
Example 26 for /STOP Command

Entry ET:
/DISPLAY A THREAD

Response ET:

<table>
<thead>
<tr>
<th>REGID</th>
<th>JOBNAME</th>
<th>TYPE</th>
<th>TRAN/STEP</th>
<th>PROGRAM</th>
<th>STATUS</th>
<th>CLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BATCHREG</td>
<td>BMP</td>
<td>NONE</td>
<td>BMP255</td>
<td>ACTIVE</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>CICS1A</td>
<td>DBT</td>
<td>IEFPROC</td>
<td>BMP255</td>
<td>ACTIVE</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>CICS1A</td>
<td>DBT</td>
<td>IEFPROC</td>
<td>PLVAPZ12</td>
<td>ACTIVE</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>CICS1A</td>
<td>DBT</td>
<td>IEFPROC</td>
<td></td>
<td>AVAILABLE</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DBRCHTA1 DBRC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DLICHTA1 DLS</td>
</tr>
</tbody>
</table>

*00082/142907*

Entry ET:
/STOP THREAD 2

Response ET:

DFS058I STOP COMMAND IN PROGRESS
DFS0566I COMMAND REJECTED; DBCTL THREAD IS ACTIVE

Example 27 for /STOP Command

Entry ET:
/DISPLAY A THREAD

Response ET:

<table>
<thead>
<tr>
<th>REGID</th>
<th>JOBNAME</th>
<th>TYPE</th>
<th>TRAN/STEP</th>
<th>PROGRAM</th>
<th>STATUS</th>
<th>CLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BATCHREG</td>
<td>BMP</td>
<td>NONE</td>
<td>BMP255</td>
<td>ACTIVE</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>CICS1A</td>
<td>DBT</td>
<td>IEFPROC</td>
<td>BMP255</td>
<td>ACTIVE</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>CICS1A</td>
<td>DBT</td>
<td>IEFPROC</td>
<td>PLVAPZ12</td>
<td>ACTIVE</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>CICS1A</td>
<td>DBT</td>
<td>IEFPROC</td>
<td></td>
<td>AVAILABLE</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DBRCHTA1 DBRC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DLICHTA1 DLS</td>
</tr>
</tbody>
</table>

*00082/143027*

Entry ET:
/STOP THREAD 1

Response ET:

DFS058I STOP COMMAND IN PROGRESS

Entry ET:
/DISPLAY A THREAD

Response ET:

<table>
<thead>
<tr>
<th>REGID</th>
<th>JOBNAME</th>
<th>TYPE</th>
<th>TRAN/STEP</th>
<th>PROGRAM</th>
<th>STATUS</th>
<th>CLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BATCHREG</td>
<td>BMP</td>
<td>NONE</td>
<td>BMP255</td>
<td>ACTIVE</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>CICS1A</td>
<td>DBT</td>
<td>IEFPROC</td>
<td>BMP255</td>
<td>ACTIVE</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>CICS1A</td>
<td>DBT</td>
<td>IEFPROC</td>
<td>PLVAPZ12</td>
<td>ACTIVE</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>CICS1A</td>
<td>DBT</td>
<td>IEFPROC</td>
<td></td>
<td>AVAILABLE</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DBRCHTA1 DBRC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DLICHTA1 DLS</td>
</tr>
</tbody>
</table>

*00082/143055*
Example 28 for /STOP Command

Entry ET:
/DISPLAY A THREAD

Response ET:

<table>
<thead>
<tr>
<th>REGID</th>
<th>JOBNAME</th>
<th>TYPE</th>
<th>TRAN/STEP</th>
<th>PROGRAM</th>
<th>STATUS</th>
<th>CLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BATCHREG</td>
<td>BMP</td>
<td>NONE</td>
<td>BMP255</td>
<td>ACTIVE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPRGN</td>
<td>FP</td>
<td>NONE</td>
<td>BMP255</td>
<td>ACTIVE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 CICSIA</td>
<td>DBT</td>
<td>IEFPROC</td>
<td>BMP255</td>
<td>ACTIVE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 CICSIA</td>
<td>DBT</td>
<td>IEFPROC</td>
<td>PLVAPZ12</td>
<td>ACTIVE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DSRCHTA1</td>
<td>DBRC</td>
<td>BMP255</td>
<td>DBRC</td>
<td>ACTIVE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DLICHTA1</td>
<td>DLS</td>
<td>BMP255</td>
<td>DLS</td>
<td>ACTIVE</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*00082/144731*

Entry ET:
/STOP THREAD 2 ABDUMP

Response ET:
/DFS058I STOP COMMAND IN PROGRESS

Response ET:

DFS554A CICSIA 00002 IEFPROC BMP255 (3) 000,0474 20
/082 14:49:11 RTKN= CICS1 B3C81C87B9F4BE83

Entry ET:
/DISPLAY A THREAD

Response ET:

<table>
<thead>
<tr>
<th>REGID</th>
<th>JOBNAME</th>
<th>TYPE</th>
<th>TRAN/STEP</th>
<th>PROGRAM</th>
<th>STATUS</th>
<th>CLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BATCHREG</td>
<td>BMP</td>
<td>NONE</td>
<td>BMP255</td>
<td>ACTIVE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPRGN</td>
<td>FP</td>
<td>NONE</td>
<td>BMP255</td>
<td>ACTIVE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 CICSIA</td>
<td>DBT</td>
<td>IEFPROC</td>
<td>PLVAPZ12</td>
<td>ACTIVE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DSRCHTA1</td>
<td>DBRC</td>
<td>BMP255</td>
<td>DBRC</td>
<td>ACTIVE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DLICHTA1</td>
<td>DLS</td>
<td>BMP255</td>
<td>DLS</td>
<td>ACTIVE</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*00082/145038*

Example 29 for /STOP Command

Entry ET:
/STOP TMEMBER CLIENT1 TPIPE TPIPESY

Response ET:
DFS058I 15:38:03 STOP COMMAND COMPLETED SYS3
DFS996I *IMS READY* SYS3

Example 30 for /STOP Command

Entry ET:
/STOP TRANSACTION ALL CLASS 6

Response ET:
DFS058I STOP COMMAND COMPLETED

Explanation: All transactions associated with class 6 will be marked as stopped and all class 6 transactions are no longer available for scheduling. All messages
processing regions currently processing class 6 transactions are allowed to run until
the processing limit count is reached or the input queue contains no more
messages.

Example 31 for /STOP Command
Entry ET:
/STOP TRANSACTION PIT, SEED

Response ET:
DFS058I STOP COMMAND COMPLETED

Explanation: Transaction codes PIT and SEED are stopped.

Example 32 for /STOP Command
Entry ET:
/DISPLAY USER IMS*

Response ET:

<table>
<thead>
<tr>
<th>USER</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
<th>SYS3</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSUS06</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>ALLOC(DTSLU602)</td>
</tr>
<tr>
<td>IMSUS04</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>ALLOC(DTSLU603)</td>
</tr>
<tr>
<td>IMSUS03</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>ALLOC(DTSLU601)</td>
</tr>
<tr>
<td>IMSUS02</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>ALLOC(DTSLU202)</td>
</tr>
<tr>
<td>IMSUS01</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>ALLOC(DTSLU201)</td>
</tr>
<tr>
<td>IMSUS09</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>ALLOC(ENDSU02 ) STATIC</td>
</tr>
<tr>
<td>IMSUS08</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>ALLOC(ENDSU01 ) STATIC</td>
</tr>
<tr>
<td>IMSUS11</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>ALLOC(ENDSU03 ) STATIC</td>
</tr>
<tr>
<td>IMSUS10</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>ALLOC(OMSSLU2A) STATIC</td>
</tr>
</tbody>
</table>

Entry ET:
/STOP USER IMSUS01 IMSUS02

Response ET:
DFS058I 11:16:24 STOP COMMAND COMPLETED

Entry ET:
/STOP USER HELLO%

Response ET:
DFS3633 11:18:25 GENERIC PARAMETER RESOURCES NOT FOUND, NO ACTION TAKEN

Entry ET:
/DISPLAY USER IMSUS01 IMSUS02

Response ET:

<table>
<thead>
<tr>
<th>USER</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSUS01</td>
<td>0</td>
<td>0</td>
<td>0    STopped</td>
</tr>
<tr>
<td>IMSUS02</td>
<td>0</td>
<td>0</td>
<td>0    STopped</td>
</tr>
</tbody>
</table>

*91091/111454*
Chapter 59. /SWITCH

Format

/SWITCH for an Active XRF Subsystem

/SWITCH for an Alternate XRF Subsystem

Environments and Keywords

Table 139 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 139. Valid Environments for the /SWITCH Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/SWITCH</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>ABDUMP</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACTIVE</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BACKUP</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHECKPOINT</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>FORCE</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OLDS</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SYSTEM</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WADS</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

The /SWITCH command is used to switch active data sets or change between the active and alternate systems. Certain combinations of keywords are valid only in the active or alternate systems, as shown in the format in the syntax diagram. For a list of the commands recovered, see "Commands Recovered During Emergency Restart" on page 24.

SYSTEM

Requests a takeover by the alternate system from the current active system in an XRF environment.
/SWITCH

/SWITCH SYSTEM without the FORCE keyword causes the active system to attempt to gracefully quiesce before the alternate system becomes active. System activity currently in progress is allowed to complete. New activity is queued. This disables surveillance on the active system, but not the alternate. Therefore, surveillance (if enabled) will eventually trigger a takeover if it does not eventually quiesce.

Unless the optional FORCE keyword is specified, the command is only operable when entered on the active system.

FORCE
Causes an immediate termination of the active system, forcing the alternate system to become the active.

ABDUMP
Results in a diagnostic dump of the active system when entered from either the active system or the alternate system (if it is on the same processor as the active system).

ACTIVE, BACKUP
Indicates the system on which the command is being entered. The keyword ACTIVE is required when the command is entered on a active system. The keyword BACKUP is optional when the command is entered on an alternate system. /SWITCH SYSTEM FORCE, without the ACTIVE keyword, can only be entered on an alternate system. This prevents the inadvertent abend of a newly created active system that is mistakenly assumed to still be the alternate system.

OLDS, CHECKPOINT
Causes switching of the active log data set. This log switch capability is identical to that provided with /DBDUMP and /DBRECOVERY commands. You can specify the CHECKPOINT keyword to take a simple checkpoint after the active log data set has been switched to the next OLDS. The /SWITCH OLDS CHECKPOINT command operates in all IMS environments.

WADS
Causes switching of the active write-ahead log data set. If you are using dual logging for the WADS, this command causes IMS to use the next available WADS pair.

This command is rejected if no unused WADS is available, or for dual logging, if no unused pair of WADS is available.

Examples

Example 1 for /SWITCH Command

Entry ET:
/SWITCH OLDS

Response ET:
DFS3257I ONLINE LOG NOW SWITCHED
DFS058I 17:10:51 SWITCH COMMAND COMPLETED

Entry ET:
/SWITCH OLDS CHECKPOINT

Response ET:
Example 2 for /SWITCH Command

Entry ET (Master Terminal for active system IMSA):
/SWITCH SYSTEM FORCE

Response ET:

A response message is not returned for the /SWITCH SYSTEM FORCE command. Any further input to the master terminal of the active system is inhibited.

Response RT (MVS/ESA console for active system IMSA):

The MVS/ESA console for the active system will show a user 0604 abend in progress for IMSA. If the ABDUMP keyword had been included on the above /SWITCH command, the 0604 abend would be accompanied by a diagnostic dump of the active system.

Response RT (master terminal for alternate system IMSB):

Figure 6 is a screen that shows some of the messages associated with the beginning of takeover on the alternate system.

02/05/15 15:28:27 RENAME: DFSRSENM BACKUP TAKEOVER IN PROGRESS IMSB
DFS3800I 15:27:18 TAKEOVER REQUESTED
DFS9701 15:28:05 UNEXPECTED STATUS ,NODE APPLA ,USER N/A ,SEND ,RC =14,FD82=13,NSECIT =29,SENSE=00000000,REASON=00
DFS3257I ONLINE LOG CLOSED ON DFSOLP00
DFS3891I 15:28:18 TAKEOVER IN PROGRESS

DFS2591I NO MSDB HEADERS FOUND, IMAGE COPY LOAD IGNORED
DFS3839I 14:26:46 XRF INITIAL DB PRE-OPEN COMPLETE.
DFS3838I 14:28:41 XRF INITIAL DC PRE-OPEN COMPLETE.

Figure 6. Alternate System at Start of Takeover

Intermediate screens are not shown. They would indicate such takeover functions as:

- Enabling of dependent region processing
- IRLM takeover
- Backout processing
• Draining of suspend queue
• Session switching

Figure 7 is a screen that show takeover is complete.

02/05/15 15:30:59 RENAME: DFSRSENM ACTIVE AWAITING I/O PREVENTION IMSB
DFS2716I NO MSDBS FOUND - NO MSDB CHECKPOINT TAKEN
DFS994I +CHKPT 85135/152931++SIMPLE++
DFS3499I LOCAL ON NAME: MODBLKSA IMSACBA FORMATA MODSTAT ID: 11
DFS3804I LAST CHKPT ID VALID FOR RESTART: 85135/152931-BUILDQ: 85135/142629

DFS994I TAKEOVER COMPLETED.
DFS3859I 15:29:19 PRIORITY 4 SESSIONS SWITCHED.
DFS3860I 15:29:19 ALL TERMINAL SESSIONS SWITCHED.

Figure 7. Newly Created Active System after Takeover

Takeover is complete and the alternate system is now an active system. The XRF environment status line indicates that the newly created active system is running in I/O toleration mode (awaiting I/O prevention). For a more complete description of I/O toleration and I/O prevention, see the IMS Version 8: Operations Guide.
Chapter 60. TERMINATE

Format

```
TERMINATE OLC
```

Environments and Keywords

Table 140 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command can be issued.

Table 140. Valid Environments for the TERMINATE OLC Command

<table>
<thead>
<tr>
<th>Command</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>TERMINATE OLC</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

Usage

The TERMINATE OLC (stop online change) command terminates a global online change across an IMSplex.

A TERMINATE OLC command that aborts a global online change is similar to the /MODIFY ABORT command, except that it applies to all of the IMSs in an IMSplex that are participating in the global online change.

This command may be specified only through the OM API. OM sends the TERMINATE OLC command to an IMS in the IMSplex.

TERMINATE OLC can be used to abort an IMSplex-wide global online change initiated by a INITIATE OLC PHASE(PREPARE) command, before the online change is successfully committed with a INITIATE OLC PHASE(COMMIT) command.

TERMINATE OLC can be used to abort an online change after an INITIATE OLC PHASE(COMMIT) failure that occurs before the OLCSTAT data set is updated. Once the commit process has updated the OLCSTAT data set, the online change is considered to be successful and cannot be aborted.

TERMINATE OLC is not supported if local online change is enabled. The TERMINATE OLC command is rejected if the IMS to which the command is routed does not support global online change. If this occurs and there is an IMS that supports global online change, the user must route the command to a specific IMS that supports global online change.

The TERMINATE OLC command is invalid on the XRF alternate, RSR tracker, and FDR system.

The OM command time-out default of 300 seconds (5 minutes) may not be enough time for the online change phase to complete. It may be required to specify a time-out value on the command based on the needs of the installation.

The command syntax for this command is defined in XML and is available to automation programs which communicate with OM.
TERMINATE OLC Output Fields

Table 141 contains information about the output fields, such as the short label of the output field, the TERMINATE keyword to specify to produce the output field, and the meaning of the output field. The keyword N/A (not applicable) appears for output fields that are always returned.

Table 141. Output Fields for the TERMINATE Command

<table>
<thead>
<tr>
<th>SHORT LABEL</th>
<th>KEYWORD</th>
<th>MEANING</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBR</td>
<td>N/A</td>
<td>IMSplex member that built the line of output. IMS identifier of the IMS that was master of the abort phase. IMS identifier is always returned.</td>
</tr>
<tr>
<td>IMSMBR</td>
<td>N/A</td>
<td>IMS member that performed the global online change phase. The IMS member name is always returned.</td>
</tr>
<tr>
<td>CC</td>
<td>N/A</td>
<td>Completion code from the IMS member that performed the online change phase. Completion code is always returned.</td>
</tr>
<tr>
<td>ERRT</td>
<td>N/A</td>
<td>Error text associated with a nonzero completion code returned by the IMS member that performed the online change phase. Error text may be returned if the completion code is nonzero.</td>
</tr>
</tbody>
</table>
Return, Reason, and Completion Codes for TERMINATE OLC

The OM return and reason codes that may be returned as a result of this command are standard for all commands entered through the OM API. Refer to the OM CSLOMCMDO Return and Reason code section for the list of codes and their meanings.

An IMS return and reason code is returned to OM by the TERMINATE OLC command.

Some reason codes are accompanied by a complete list of IMSs and completion codes. The reason code meaning indicates whether a list is returned. A partial list of IMSs and completion codes may be returned with any TERMINATE OLC error reason code, if any output was built before the error was detected.

Table 142 contains the return and reason codes that can be returned to OM by the TERMINATE OLC command.

Table 142. Return and Reason Codes for the TERMINATE Command

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Reason Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>X'00000000'</td>
<td>X'00000000'</td>
<td>The TERMINATE OLC command completed successfully. The TERMINATE OLC command is applied to all of the IMSs listed in the OLCSTAT data set. All of the IMSs in the IMSplex are no longer in an online change state. An output line is built for each IMS listed in the OLCSTAT data set. Each output line contains the IMS member name and a completion code of zero.</td>
</tr>
<tr>
<td>X'00000004'</td>
<td>X'0000100C'</td>
<td>The TERMINATE OLC command completed successfully, but was not applicable to one or more IMSs for acceptable reasons. The TERMINATE OLC command applies to all of the IMSs listed in the OLCSTAT data set. An output line is built for each IMS listed in the OLCSTAT data set. Each output line contains the IMS member name and a completion code. A nonzero completion code may be accompanied by error text. One or more of the IMSs contain a completion code indicating the terminate online change did not apply to this IMS, such as the IMS state is abended, the IMS state is shutdown, or this IMS is already in the correct online change state. The TERMINATE OLC completion code table contains the list of completion codes and error text that can be returned by the TERMINATE OLC command.</td>
</tr>
<tr>
<td>X'0000000C'</td>
<td>X'00003000'</td>
<td>The TERMINATE OLC command is successful for at least one IMS but not all IMSs. The TERMINATE OLC command applies to all IMSs listed in the OLCSTAT data set. An output line is built for each IMS listed in the OLCSTAT data set. Each output line contains the IMS member name and a completion code. A nonzero completion code may be accompanied by error text. One or more of the IMSs returned an error completion code. The TERMINATE OLC completion code table contains the list of completion codes and error text that can be returned by the TERMINATE OLC command. If the TERMINATE OLC command fails for one or more IMSs, correct the problem and issue the TERMINATE OLC command again. See ‘TERMINATE OLC error handling’ for more details.</td>
</tr>
</tbody>
</table>
Table 142. Return and Reason Codes for the TERMINATE Command (continued)

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Reason Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>X'0000000C'</td>
<td>X'00003004'</td>
<td>The TERMINATE OLC command failed for all of the IMSs. The TERMINATE OLC command applies to all of the IMSs listed in the OLCSTAT data set. An output line is built for each IMS listed in the OLCSTAT data set. Each output line contains the IMS member name and a completion code. A nonzero completion code may be accompanied by error text. All of the IMSs returned an error completion code. The TERMINATE OLC completion code table contains the list of completion codes and error text that can be returned by the TERMINATE OLC command. If the TERMINATE OLC command fails for one or more IMSs, correct the problem and issue the TERMINATE OLC command again. See ‘TERMINATE OLC error handling’ for more details.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004004'</td>
<td>The TERMINATE OLC command failed because there is no CQS. RM attempted to access the process resource on the resource structure, but it failed because CQS is not available. The online change phase may have succeeded on one or more IMSs. See ‘TERMINATE OLC error handling’ for more details.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'0000400C'</td>
<td>The TERMINATE OLC command failed because it is invalid for an XRF alternate.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004014'</td>
<td>The TERMINATE OLC command failed because it is invalid for an RSR tracker.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004018'</td>
<td>The TERMINATE OLC command failed because the RM resource structure is not available. One or more IMSs in the IMSplex may still be in an online change state.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'0000401C'</td>
<td>The TERMINATE OLC command failed because it is invalid for an FDR region.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004100'</td>
<td>The TERMINATE OLC command is rejected because the resource structure is full. RM failed trying to create the process resource on the resource structure. One or more IMSs may still be in an online change state.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004104'</td>
<td>The TERMINATE OLC command failed because RM is not available. The online change phase may have succeeded on one or more IMSs'. Either there is no RM address space, or RM is active but not registered to SCI because CQS or the resource structure is not available. See ‘TERMINATE OLC error handling’ for more details.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004108'</td>
<td>The TERMINATE OLC command failed because SCI is not available. One or more IMSs may still be in an online change state. See ‘TERMINATE OLC error handling’ for more details.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'0000410C'</td>
<td>The TERMINATE OLC command is rejected, because global online change is not enabled. Local online change is enabled. Use the /MODIFY command for local online change. If your IMSplex is made up of some IMSs that support global online change and some that support local online change, route the TERMINATE OLC command to an IMS that is enabled for global online change.</td>
</tr>
</tbody>
</table>
Table 142. Return and Reason Codes for the TERMINATE Command (continued)

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Reason Code</th>
<th>Meaning</th>
</tr>
</thead>
</table>
| X'00000010'   | X'00004110' | The TERMINATE OLC command is rejected, because the command does not apply to the online change state of the command master.  
TERMINATE OLC is rejected if the command master is not in an online change state.  
TERMINATE OLC is rejected if the command master has already committed the online change.  
See 'TERMINATE OLC error handling' for more details. |
| X'00000010'   | X'00004114' | The TERMINATE OLC command failed because of an error accessing the OLCSTAT data set. One or more IMSs in the IMSplex may still be in an online change state.  
A DFS2843 message is sent to the OM output exit as unsolicited output.  
See 'TERMINATE OLC error handling' for more details. |
| X'00000010'   | X'00004118' | The TERMINATE OLC command failed because of an error allocating the OLCSTAT data set. One or more IMSs in the IMSplex may still be in an online change state.  
A DFS2848 message is sent to the OM output exit as unsolicited output.  
See 'TERMINATE OLC error handling' for more details. |
| X'00000010'   | X'0000411C' | The TERMINATE OLC command failed because of an error in the OLCSTAT data set contents. One or more of the values is invalid.  
A DFS2844 message is sent to the OM output exit as unsolicited output. |
| X'00000010'   | X'00004120' | The TERMINATE OLC command is rejected because an online change phase is already in progress on this IMS, which may be INITIATE OLC, TERMINATE OLC, or /DISPLAY MODIFY. |
| X'00000014'   | X'00005000' | The TERMINATE OLC command failed because a DFSOCMD response buffer could not be obtained. One or more IMSs in the IMSplex may still be in an online change state.  
See 'TERMINATE OLC error handling' for more details. |
| X'00000014'   | X'00005004' | The TERMINATE OLC command failed because of an SCI error. One or more IMSs in the IMSplex might still be in an online change state.  
See 'TERMINATE OLC error handling' for more details. |
| X'00000014'   | X'00005100' | The TERMINATE OLC command failed because of an RM error. One or more IMSs in the IMSplex may still be in an online change state.  
See 'TERMINATE OLC error handling' for more details. |
| X'00000014'   | X'00005104' | The TERMINATE OLC command failed because of a CQS error. One or more IMSs in the IMSplex may still be in an online change state.  
See 'TERMINATE OLC error handling' for more details. |
| X'00000014'   | X'00005108' | The TERMINATE OLC command failed because of an internal IMS error. One or more IMSs in the IMSplex might still be in an online change state.  
See 'TERMINATE OLC error handling' for more details. |
| X'00000014'   | X'00005FFF' | The TERMINATE OLC command failed because of an internal IMS error. One or more IMSs in the IMSplex might still be in an online change state.  
See 'TERMINATE OLC error handling' for more details. |
**TERMINATE OLC Error Handling**

Errors unique to the processing of this command are returned as a completion code. A completion code is returned for each action against an individual resource.

The **TERMINATE OLC** command may result in an error that leaves IMSs in various online change states. Correct the error. Issue the **QUERY MEMBER TYPE(IMS) SHOW(STATUS)** command to display the online change state of all the IMSs in the IMSplex. Evaluate the **QUERY MEMBER TYPE(IMS) output** to help you determine what to do:

- **None of the IMSs in an online change state**
  The **TERMINATE OLC** command succeeded or was not applicable. No further action needs to be taken.

- **Some of the IMSs in a prepare complete state**
  The online change is not committed. Correct the problem that caused **TERMINATE OLC** to fail, then retry the **TERMINATE OLC** command again.
  The IMSs that are in an online change state remain in an online change state until you abort the online change.

- **All IMSs in a prepare complete state**
  The online change is not committed. Correct the problem that caused **TERMINATE OLC** to fail, then retry the **TERMINATE OLC** command again.
  The IMSs that are in an online change state remain in an online change state until you abort the online change.

- **Some IMSs in prepare complete and commit phase 1 complete state**
  The commit phase failed before the master updated the **OLCSTAT** data set, so the online change is not committed. Correct the problem that caused **TERMINATE OLC** to fail and retry the **TERMINATE OLC** command.
  The IMSs that are in an online change state remain in an online change state until you abort the online change.

- **All IMSs in commit phase 1 complete state.**
  If the commit phase failed before the master updated the **OLCSTAT** data set, the online change is not committed. Correct the problem that caused **TERMINATE OLC** to fail and retry the **TERMINATE OLC** command.
  If the commit phase failed after the master updated the **OLCSTAT** data set, the online change is committed. The **TERMINATE OLC** command is not permitted. You must correct the problem that caused the commit command to fail and retry **INITIATE OLC PHASE(COMMIT)**.
  The IMSs that are in an online change state remain in an online change state until you abort the online change or commit the online change.
  You can determine whether the **OLCSTAT** data set has been updated by the modify id. Issue the **QUERY OLC LIBRARY(OLCSTAT) SHOW(MODID)** command. Check if the modify id returned is different from the modify id returned by the **INITIATE OLC PHASE(PREPARE)** command, or the modify id returned by a **QUERY OLC LIBRARY(OLCSTAT) SHOW(MODID)** command issued before the **INITIATE OLC PHASE(COMMIT)** command.

- **Some IMSs in commit phase 1 complete state and some in commit phase 2 complete state**
  The online change is committed. The **TERMINATE OLC** command is not permitted. You must correct the problem that caused the commit command to fail and retry **INITIATE OLC PHASE(COMMIT)**.
The IMSs that are in an online change state remain in an online change state until you finish the online change with an INITIATE OLC PHASE(COMMIT) command.

- All IMSs in commit phase 2 complete state
  The online change is committed. The TERMINATE OLC command is not permitted. You must correct the problem that caused the commit command to fail and retry INITIATE OLC PHASE(COMMIT).
  The IMSs that are in an online change state remain in an online change state until you finish the online change with an INITIATE OLC PHASE(COMMIT) command.

- Some IMSs in commit phase 2 complete state and some not in online change state.
  The online change is committed. The TERMINATE OLC command is not permitted. You must correct the problem that caused the commit command to fail and retry INITIATE OLC PHASE(COMMIT).
  The IMSs that are in an online change state remain in an online change state until you finish the online change with an INITIATE OLC PHASE(COMMIT) command.

Errors unique to the processing of this command are returned as a completion code. A completion code is returned for an IMS participating in the online change phase.

Table 143 contains the completion codes that can be returned on a TERMINATE OLC command, the meaning of the completion code, and any error text associated with the code.

Table 143. Completion Codes for the TERMINATE Command

<table>
<thead>
<tr>
<th>Completion Code</th>
<th>Meaning</th>
<th>ERROR TEXT (upper case)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The online change commit or abort phase completed successfully.</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>The online change type does not apply to this IMS. For example, an ACBLIB online change does not apply to a DCCTL IMS. This IMS does nothing.</td>
<td></td>
</tr>
</tbody>
</table>
| 2               | The online change phase was not attempted by this IMS for one of the following reasons:  
  - The online change phase master encountered an error and did not direct this IMS to perform the online change phase. |
| 3               | This IMS is already in the correct online change state. This IMS does not have to do anything. |
| 60              | IMODULE GETMAIN storage error. |
| 61              | BCB storage error. |
| 62              | HIOP storage error. |
| 63              | WKAP storage error. |
Table 143. Completion Codes for the TERMINATE Command (continued)

<table>
<thead>
<tr>
<th>Completion Code</th>
<th>Meaning</th>
<th>ERROR TEXT (upper case)</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>Data set error.</td>
<td>Function (8 char), ddname (8 char), return code (8 bytes), and error detail (8 char). Function can be one of the following: • OPEN Data set open error. • READ Data set read error. DDname can be OLCSTAT. Return code is the data set service return code. Reason code is the data set service reason code.</td>
</tr>
<tr>
<td>90</td>
<td>Internal error.</td>
<td>Module name that detected internal error (8 char), unused (8 char), return code or function code (8 bytes), and error detail (8 char).</td>
</tr>
<tr>
<td>91</td>
<td>The online change commit phase 2 or abort phase timed out before this IMS responded to the online change commit phase 2 or abort phase. The commit phase 2 or abort may have succeeded on this IMS. Issue QUERY MEMBER TYPE(IMS) to determine the online change state of this IMS.</td>
<td></td>
</tr>
</tbody>
</table>
Table 143. Completion Codes for the TERMINATE Command (continued)

<table>
<thead>
<tr>
<th>Completion Code</th>
<th>Meaning</th>
<th>ERROR TEXT (upper case)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2</td>
<td>IMS state error.</td>
<td>IMS state error (32 char). The IMS state can be one of the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <strong>ABENDED</strong>&lt;br&gt;This IMS abended since the last successful online change. Online change is terminated on this IMS.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <strong>NOT-REACHABLE</strong>&lt;br&gt;The online change phase is rejected because this IMS is NOT-REACHABLE. The SCI on the OS image where this IMS is active is down. Restart the SCI and re-issue the <strong>INITIATE OLC</strong> or <strong>TERMINATE OLC</strong> command.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <strong>OLC ALREADY COMMITTED</strong>&lt;br&gt;The online change terminate is rejected because online change is already committed. All IMSs have completed commit phase 1 and the OLCSTAT data set was updated.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <strong>OLC NOT IN PROGRESS</strong>&lt;br&gt;The IMS is not in an online change state. The request to terminate the online change does not apply to this IMS.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <strong>OLC PHASE IN PROGRESS</strong>&lt;br&gt;The online change phase is rejected because this IMS has an online change phase already in progress.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <strong>RESTART NOT COMPLETE</strong>&lt;br&gt;This IMS initialized before the online change was initiated, but has not completed restart. The online prepare or abort phase is rejected as long as this IMS is in this state. Cancel this IMS, then abort the online change before attempting the online change prepare phase again.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <strong>SHUTDOWN</strong>&lt;br&gt;This IMS shut down normally since the last successful online change. Online change is terminated on this IMS.</td>
</tr>
</tbody>
</table>

Example for TERMINATE OLC Command

**TSO SPOC input:**

`TERMINATE OLC`

**TSO SPOC output:**

```
  MbrName Member CC
IMS3  IMS2  0
IMS3  IMS3  0
IMS3  SYS3  0
```

**OM API input:**

`CMD (TERMINATE OLC)`

**OM API output:**
<?xml version="1.0"?><!DOCTYPE imsout SYSTEM "imsout.dtd">
<imsout>
<ctl>
<omname>OM1OM</omname>
<omvsn>1.1.0</omvsn>
<xmlvsn>1</xmlvsn>
<statime>2002.163 15:49:27.197919</statime>
<stotime>2002.163 15:49:27.712209</stotime>
<staseq>B7C4ADFC0D4DF841</staseq>
<stoseq>B7C4ADFC8ADD1F45</stoseq>
<rqsttkn1>USRT011 10084927</rqsttkn1>
<rc>0200000C</rc>
<rsn>00003000</rsn>
</ctl>
<cmderr>
<mbr name="IMS2">
<typ>IMS</typ>
<styp>DBDC</styp>
<rc>02000004</rc>
<rsn>00001008</rsn>
</mbr>
<mbr name="SYS3">
<typ>IMS</typ>
<styp>DBDC</styp>
<rc>02000004</rc>
<rsn>00001008</rsn>
</mbr>
</cmderr>
<cmd>
<master>IMS3</master>
<userid>USRT011</userid>
<verb>TERM</verb>
<kwd>OLC</kwd>
<input>TERMINATE OLC</input>
</cmd>
<cmdrsphdr>
<hdr slbl="MBR" llbl="MbrName" scope="LCL" sort="n" key="0" scroll="yes" len="8"
dtype="CHAR" align="left"/>
<hdr slbl="IMSMBR" llbl="Member" scope="LCL" sort="a" key="1" scroll="no" len="8"
dtype="CHAR" align="left"/>
<hdr slbl="CC" llbl="CC" scope="LCL" sort="n" key="0" scroll="yes" len="4"
dtype="INT" align="right"/>
</cmdrsphdr>
<cmdrspdata>
<rsp>MBR(IMS3 ) IMSMBR(SYS3 ) CC( 0 )</rsp>
<rsp>MBR(IMS3 ) IMSMBR(IMS2 ) CC( 0 )</rsp>
<rsp>MBR(IMS3 ) IMSMBR(IMS3 ) CC( 0 )</rsp>
</cmdrspdata>
</imsout>

Explanation: Global online change was aborted for the IMSplex after a successful INITIATE OLC PHASE(PREPARE) command. Global online change was successfully terminated.
Environments and Keywords

Table 144 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 144. Valid Environments for the /TEST Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/TEST</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LINE</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>NODE</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>PTERM</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>USER</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Usage

The /TEST command places a terminal or user into either test mode or MFSTEST mode.

In test or echo mode, any input from the terminal is sent back. Input and output errors are not checked, and IMS error notification procedures are bypassed. Echo mode continues until reset with an /END, /IAM, /STOP LINE, /STOP LINE PTERM, or a /STOP NODE command. The /DISPLAY command identifies a terminal or user in test mode or MFSTEST mode. If no keywords are supplied, the terminal entering the command is placed into test mode or MFSTEST mode.

Test mode is not a command significant status, so the commands to set test mode are not recoverable nor are they kept after signons and can only be set by the end user or terminal, not remotely by an operator. The /TEST LINE, /TEST NODE, and /TEST USER commands, which set test mode remotely, are no longer supported.

In MFSTEST mode, terminals supported by message format service use format blocks from a special test library if the requested format block is in the test library; otherwise, the blocks are obtained from the production library. MFSTEST mode continues until reset with an /END command. Certain error conditions can occur that cause MFSTEST mode to terminate. If an error condition occurs, the terminal operator receives an error message.

MFSTEST mode is a command significant status, is recoverable and is remembered across logons and signons. For example, if a /TEST MFS NODE command is entered at a node, the node logs off and logs back on at another
/TEST

terminal, MFSTEST mode is still in effect. If a dynamic user issues a /TEST MFS USER command, signs off, and then signs on again at another terminal, MFSTEST mode is still in effect.

/TEST MFS NODE applies to dynamic nodes in addition to static nodes because MFSTEST mode is associated with dynamic nodes as well as dynamic users. /TEST MFS NODE and /TEST MFS NODE USER set MFSTEST mode at the node level. /TEST MFS USER sets MFSTEST at the user level. /TEST MFS with no keywords sets MFSTEST at the node level for static terminals (they have no user level) and at the user level for dynamic terminals.

The /TEST NODE USER command is supported for static and dynamic ISC sessions. For ISC, /TEST MFS NODE USER is required. You cannot use /TEST MFS NODE (without USER) for ISC and have it apply to all of the half-sessions.

If global resource information is kept in Resource Manager, MFSTEST mode is set globally. If global resource information is not kept in Resource Manager, the resource does not exist, and ETO is enabled, the resource (node or user) is created and MFSTEST mode is set. If a temporary node is dynamically created to hold command status, and the temporary node has MFSTEST status, then, when a logon occurs for the node, the MFSTEST status is set for the logged-on node. If the node logging on is an ISC parallel session, MFSTEST is set only for the first half-session that is logged on. Subsequent ISC half-sessions will not be put into MFSTEST mode.

MFS
Specifies MFS test mode for the terminal or user. The MFS parameter is valid only for terminals supported by Message Format Service (MFS). When the /TEST MFS USER command is issued for a dynamic user, it is not possible to determine if the MFSTEST mode is valid until the user signs on to a terminal. Once the user signs on to a terminal, a check is made to determine whether that terminal supports MFSTEST mode. If the terminal does not support MFSTEST mode, the mode is not propagated to the terminal and is removed from the USER unless another /TEST MFS USER command is issued.

LINE, PTERM
Specifies the BTAM line and pterm to place into MFSTEST mode.

NODE
Specifies the VTAM node to place into MFSTEST mode.

The /TEST MFS NODE form of the command is valid only for statically defined nodes.

The /TEST MFS NODE USER command is valid for ISC, LUP, and 3600. For ISC, the /TEST MFS NODE nodename USER username form of the command is supported for ISC nodes and applies to the half-session allocated to the USER username.

USER
When specified without the NODE keyword, USER specifies the dynamic user to place into MFSTEST mode. MFSTEST mode status is kept from one signon to another. For example, if a user issues a /TEST MFS command, signs off, and then signs on again at another terminal, the MFSTEST mode is still in effect. If the user does not exist, it is created and MFSTEST mode is set.
Examples

Example 1 for /TEST Command

Entry ET:
/TEST

Response ET:
DFS058I TEST COMMAND COMPLETED

Entry ET:
NOW IS THE TIME TO COME TO THE AID

Response ET:
NOW IS THE TIME TO COME TO THE AID

Explanation: The entering terminal is placed in echo mode and continues to receive message input as output until test mode is terminated.

Example 2 for /TEST Command

Entry ET:
/TEST MFS

Response ET:
DFS058I TEST COMMAND COMPLETED

Explanation: The entering terminal is placed into MFSTEST mode.
Chapter 62. /TRACE

Format

/TRACE Command: EXIT through PSB
A:

```
MODULE DDM MFS ALL
TAKEOVER
```

B:

```
APDB ALL

dbname
areaname
partitionname

APMQ LA SCHED

REGION reg# reg#-reg# regionname

INTERVAL #seconds
```

/TRACE Command: TABLE through UNITYPE

```
/TRACE SET ON
/TRA SET OFF
```
## Environments and Keywords

Table 145 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 145. Valid Environments for the /TRACE Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/TRACE</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>AUTO</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COMP</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>EXIT</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>INPUT</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Table 145. Valid Environments for the /TRACE Command and Keywords (continued)

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEVEL</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LINE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LINK</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LUNAME</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>MODULE</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MONITOR</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>MSG</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NOCOMP</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NODE</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>OPTION</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>OSAMGTF</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>OUTPUT</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PI</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PROGRAM</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PSB</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SET™</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>TABLE</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>TAKEOVER</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TCO</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>TIMEOUT</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TMember</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TPIPE</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TPNAME</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TRANSACTION</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TRAP</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>UNITYPE</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>USER</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>VOLUME</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/TRACE directs and controls the IMS capabilities for tracing internal IMS events. It also starts, stops, and defines the activity to be monitored by the IMS Monitor.

The information developed by the LINE, LINK, NODE, UNITYPE, TRANSACTION, PROGRAM, PSB, and TCO keywords is written on the IMS system log (type X’5F’ for PSB, and type X’67’ records for the other keywords mentioned.) PI (program isolation) and TABLE trace information is kept in storage or logged (type X’67’ records), depending on specification of additional keywords. The MONITOR keyword provides no such output on the system log; it only controls the IMS Monitor. The monitor develops its own output data and writes it on a separate data set. For an explanation of the output reports provided by the monitor, refer to the [IMS Version 8: Utilities Reference: System](#).
The status and options of the current IMS traces can be displayed with the /DISPLAY TRACE command.

**DFSMSCE0**

The TM and MSC Message Routing and Control user exit. When this keyword is used on the /TRACE EXIT command, the traces causes IMS to write type 6701-MSEA and 6701-MSEB log records to the log data set when the exit routine is called. A 6701-MSEA record is logged when the exit is called if the trace is active for the entry point. A 6701-MSEB record is logged when the exit returns to IMS. For more information on the user exit, see the [IMS Version 8: Customization Guide](#). For information on printing and interpreting the trace records from the user exit, see the [IMS Version 8: Diagnosis Guide and Reference](#).

**EXIT**

Identifies user exit tracing. When using the EXIT keyword, you must specify one of the following parameters to turn on or off:

- **ALL** The trace is turned on or off for all entry points.
- **LRDI** Calls the Link Receive Direct Routing exit entry point.
- **LRIN** Calls the Link Receive Intermediate exit entry point.
- **LRLT** Calls the Link Receive LTERM exit entry point.
- **LRTR** Calls the Link Receive Transaction exit entry point.
- **PRCH** Calls the Program Routing CHNG Call exit entry point.
- **PRIS** Calls the Program Routing ISRT Call exit entry point.
- **TR62** Calls the Terminal Routing LU62 exit entry point.
- **TRBT** Calls the Terminal Routing BTAM exit entry point.
- **TROT** Calls the Terminal Routing OTMA exit entry point.
- **TRVT** Calls the Terminal Routing VTAM exit entry point.

**LEVEL**

Expands the LINE, LINK, NODE, or UNITYPE trace functions. The LEVEL specification is for the entire IMS system and is changed only by reissuing /TRACE with different values or by restarting the IMS control region.

LEVEL indicates the extent of the control block trace information desired. The indicated control blocks are only traced at relevant times. All levels are inclusive of numerically lower levels. The following list displays the levels and their associated blocks.

<table>
<thead>
<tr>
<th>Level</th>
<th>Blocks</th>
</tr>
</thead>
</table>
| 1     | CLB (DECB) or LLB(MSC)  
        | CTB or LTB(MSC)  
        | IOB (for BTAM lines) or IOSB (MSC for channel-to-channel links) |
| 2     | CNT or LNB(MSC)  
        | CXB  
        | CRB  
        | CIB  
        | CCB |
PD stack

3 queue manager buffers
   Input/output line buffers
   LXB (for channel-to-channel links and processor storage to processor storage)

4 save area sets (IMS dispatching)

If the first /TRACE SET ON command does not specify LEVEL, a default of 4 will be used. Specifying LEVEL on subsequent commands will change the defaults.

**LINE**

Enter this keyword (and the associated parameters) to cause events related to the lines to be traced.

**LINK**

Enter this keyword (and the associated parameters) to cause events related to the logical links to be traced.

**LUNAME TPNAME**

Activates and deactivates tracing for a particular LU name or TP name of the LU name. Specifying this command causes trace entries to be written to the LUMI trace table. For this reason, the /TRACE SET ON TABLE LUMI command must be entered first in order to create the table for trace entries that will be created by subsequent /TRACE SET ON LUNAME commands. A trace entry is written:

- On LU 6.2 module entries/exits
- When APPC calls are made
- When errors are encountered

The INPUT and OUTPUT keywords provide the operator with the flexibility to control the volume of trace data for LU 6.2 devices.

Specifying the keyword INPUT with the LUNAME keyword indicates tracing is activated or deactivated for input and synchronous outbound activities. Specifying the parameter ALL with the INPUT keyword causes all future LU 6.2 input and synchronous outbound activities to be traced as well.

Specifying the keyword OUTPUT with the LUNAME keyword indicates tracing is activated or deactivated for asynchronous outbound activities. Specifying the parameter ALL with OUTPUT causes all future LU 6.2 asynchronous outbound activities to be traced as well.

Specifying neither INPUT or OUTPUT is the same as both INPUT and Tracing is activated or deactivated for input and both synchronous and asynchronous outbound activities. Specifying the parameter ALL in this case causes all future LU 6.2 inbound activities, synchronous and asynchronous outbound activities to be traced as well.

The network-qualified LU name is optional for the LUNAME keyword. If the LU name is not a network-qualified LU name and no TP name is specified, tracing is activated or deactivated for all the network-qualified LU names in the system whose LU name matches the LU name specified.

If the specified resource does not exist and tracing is activated, a structure is created to retain the status.

**MODULE**

Is used to expand the LINE, LINK, NODE, or UNITYPE trace functions. The
MODULE specification is for the entire IMS system and is changed only by reissuing /TRACE with different values or by restarting the IMS control region. MODULE indicates which modules are to have their control blocks traced.

**ALL** Both DDM and MFS

**DDM** Communication analyzer and device-dependent module interfaces

**MFS** Communication analyzer and message format service module interfaces

If the first /TRACE SET ON command does not specify MODULE, a default of ALL will be used. Specifying MODULE on subsequent commands will change the defaults.

**MONITOR**

Enter this keyword to activate or deactivate the IMS Monitor.

When activating the monitor, you must specify one or more of the following MONITOR parameters to indicate the events to be monitored:

**ALL** Monitor all of the activity in this list.

**APDB** Monitor activity between application programs and databases, including Fast Path activity. Monitoring includes all application program requests to external subsystem databases. Monitoring can optionally be limited to a subset of full-function databases or partitions, Fast Path DEDBs and MSDBs, and the areas comprising those DEDBs by specifying database names or area names.

You can specify the ALL parameter to indicate all databases, areas, and partitions, or you can explicitly enter database names, area names, and partition names.

**APMQ** Monitor activity between application programs and message queues, including Fast Path activity.

**INTERVAL** Monitor events for a fixed interval of time, entered in seconds. INTERVAL defines the period of time after which no monitor log records will be written.

The duration of the monitoring must be less than twenty-four hours (86,400 seconds). When INTERVAL is not specified, monitoring will continue until the /TRACE SET MONITOR OFF command is issued, or until IMS shuts down.

INTERVAL does not define when the Monitor will be turned off, because the IMS Monitor will not be turned off until the first attempt is made to write a monitor log record after the defined interval has expired.

**LA** Monitor line and logical link events.

**REGION** Monitor events related to specific dependent regions. The regions might or might not currently be active. Each region can be specified as:

- A region number from 1 to 999 (reg#). The number cannot exceed the MAXPST with which IMS was brought up.
- A range of region numbers from 1 to 999 (reg#–reg#). The number cannot exceed the MAXPST with which IMS was brought up.
- A region name (regionname).
If REGION is not specified, or when REGION ALL is specified, the activities of all dependent regions are monitored.

**SCHD**

Monitor scheduling and termination events, including Fast Path activities.

You can specify any combination of ALL, APDB, APMQ, INTERVAL, LA, REGION, and SCHD parameters on the MONITOR keyword, as shown in Table 146.

Table 146 lists the environments (DB/DC, DBCTL, and DCCTL) from which the MONITOR keyword parameters can be issued.

### Table 146. MONITOR Keyword Parameter Environments

<table>
<thead>
<tr>
<th>Keyword Parameter</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALL</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>APDB</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>APMQ</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>INTERVAL</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>LA</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REGION</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SCHD</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

The IMS Monitor report output varies depending upon which keywords or parameters you specify. Sections of the report can be misleading if required records are excluded. For example, if you specify the APDB parameter without the SCHD parameter, PSB/PCB relationships will not be correctly represented. To get the total DL/I call reports without the IMS line activity, the correct parameters to specify are APDB, APMQ, and SCHD.

The monitor writes log records until one of the following occurs:

- /TRACE SET OFF MONITOR is entered.
- The time interval specified by the INTERVAL parameter is reached.
- IMS is shut down.

When deactivating the monitor, no parameters are required. Any parameters that are entered, other than ALL, are ignored. ALL is the default. If the monitor is to be reactivated, a new set of MONITOR keyword parameters must be selected.

**NODE**

Causes events related to the node or nodes to be traced.

The NODE parameter can be generic if the USER keyword is not specified and applies to nodes that already exist. Generic NODE parameters do not cause any dynamic nodes to be created.

For ISC nodes, the /TRACE NODE nodename without the USER applies to all half-sessions for NODE nodename, including dynamic ISC sessions that are dynamically allocated later.

For nodes that do not exist, /TRACE SET ON NODE nodename without the USER keyword causes the dynamic NODE nodename to be created to maintain knowledge of the trace request when the node becomes active. Until the node
becomes active, /DISPLAY NODE shows a type of UNK (unknown). If the trace is subsequently turned off and the temporary node still exists, it is deleted at the next checkpoint.

/TRACE NODE nodename USER username is valid:
- For ISC nodes and dynamic nodes with signed on users
- Only if the USER username is still allocated to NODE nodename
- For non-ISC nodes only if the USER username is still signed on to NODE nodename

If global resource information is kept in Resource Manager, /TRACE NODE sets a global trace status for the node and sets the trace status locally. If global resource information is not kept in Resource Manager, /TRACE NODE sets the trace status locally. If the node does not exist in an ETO environment, IMS creates the node and sets trace status for the local node.

OSAMGTF
Causes the OSAMGTF keyword to activate or deactivate the OSAM GTF (Generalized Trace facility).

PI
Causes program isolation trace entries to be written to a trace table. PI trace entries are written in the same trace table as DL/I and lock activity trace entries. A PI trace entry contains information about program isolation ENQ/DEQ calls and DL/I calls. The trace entry created by /TRACE TABLE DLI contains different information about DL/I calls and is written as a separate entry in the same trace table. Starting the LOCK trace also causes PI tracing to occur.

If PI is entered without the OPTION keyword, the program isolation trace is kept in storage without being logged. If you are using the program isolation trace to provide statistics and performance data, you should enter OPTION(ALL).

Table 147 lists various /TRACE command formats and shows whether the command influences tracing, logging, and the additional time field.

<table>
<thead>
<tr>
<th>Command</th>
<th>Tracing</th>
<th>Logging</th>
<th>Additional Time Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>/TRACE SET ON PI</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>/TRACE SET OFF PI</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>/TRACE SET ON PI OPT ALL</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>/TRACE SET OFF PI OPT ALL</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>/TRACE SET ON PI OPT TIME</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>/TRACE SET OFF PI OPT TIME</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>/TRACE SET ON PI OPT ALL</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>/TRACE SET OFF PI OPT ALL</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Note:
1. This is the same command as /TRACE SET ON/OFF PI OPTION LOG.

OPTION
Indicates a request for one of the following program isolation trace options:

ALL Both LOG and TIME.
LOG Requests that traced data be written to the system log. If
SET OFF, tracing continues but no buffers are transferred to the system log. LOG is the default.

The log option includes the possibility of externally tracing to a data set other than the IMS OLDS. If specified, DASD external tracing has first priority, TAPE external tracing has second priority, and IMS OLDS has third priority. External tracing to the OLDS is not done without operator approval. EXTERNAL trace is available to the alternate system only for DASD/TAPE type, but not for OLDS. For more information, see [IMS Version 8: Diagnosis Guide and Reference](#) and [IMS Version 8: Operations Guide](#).

**TIME**

Requests that an additional time field be included in each ENQ/DEQ request trace record if a WAIT was needed. This field will contain elapsed wait time. If set OFF, tracing continues but only the time of day is recorded.

Entries for Fast Path have no elapsed wait time.

**VOLUME**

Specifies the volume of entries to be written to the PI trace table: LOW volume, MEDIUM volume (default), or HIGH volume.

**PROGRAM**

Is used to trace the DL/I portion of Data Communications (DC) for a specific program. Each DL/I call to a TPPCB, issued by the user application program, is traced on entry to and exit from the DC call handler DFSDLA30. On entry to DFSDLA30 a type 6701-LA3A record is written, on exit from DFSDLA30 a type 6701-LA3B record is written.

Each record will contain the following items if applicable:

- TPPCB
- Up to 64 bytes of the I/O area
- SMB
- PST

If the batch message program (BMP) being traced is the Queue Control Facility (QCF) program product 5697-E99, a 6701-MRQB record is logged by the QCF module DFSQMRQ0. The default program name for the QCF BMP is MRQPSB, and can be overridden on the MSGQUEUE SYSGEN macro.

Items logged in the 6701-MRQB record, if applicable, are:

- TPPCB
- AIB
- I/O AREA
- PST
- QTPDST
- QSAPWKAD
- QMBA
- PSTDCA
- REG14-12

For more information about the QCF module DFSQMRQ0 and the 6701-MRQB trace, refer to [IMS Version 8: Diagnosis Guide and Reference](#) For more
/TRACE

information about the QCF product, refer to *IMS Queue Control Facility for z/OS, User’s Guide V1R2 (SC26-9685-02).*

When CPI Communications driven transaction programs issue the DL/I APSB call specifying a PSB that contains alternate PCBs, only the PROGRAM keyword is applicable.

**PSB**

Records all full function IMS DL/I database calls issued for the named PSB. FP/DC/SAA calls are not captured when /TRACE SET ON PSB initiated tracing of PSBs.

For LU 6.2, the PSB keyword is applicable only if the CPI Communications driven transaction program has issued a DL/I APSB call to allocate a PSB.

**COMP**

Used with the /TRACE SET PSB command to generate PCB and data-compare statement images.

The /TRACE SET PSB psbname COMP command only applies to BMPs in a DBCTL environment.

**NOCOMP**

Prevents PCB and data-compare statement images from being generated. NOCOMP is the default.

The information resulting from the use of this keyword is written on the X’5F’ log record.

**SET**

This keyword turns ON or OFF one of the following:

- The control block trace for particular LINE, LINK, NODE, or UNITYPE
- The program isolation trace
- The IMS Monitor
- The DL/I call trace for a specific PSB
- Tracing into a specific trace table
- Tracing of the DL/I portion of DC for programs and transactions
- Traps that enable MFS serviceability aids
- The VTAM I/O Detection facility
- The TCO trace
- The OSAMGTF trace
- Tracing for a particular LUNAME

**TABLE**

Is used with the SET keyword to start or stop online tracing into the specified trace tables. The TABLE keyword parameter indicates the specific trace that is to be activated or deactivated. The DL/I, LOCK, and PI traces share the same trace tables. However, turning on the DL/I trace does not turn on the LOCK trace, and vice versa.

The following trace into trace tables can be turned on or off with the online /TRACE command.

Table 148 shows the environments in which the trace tables are valid.

<table>
<thead>
<tr>
<th>Trace Table</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALL</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>CSLT</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Table 148. Trace Tables and Environments in Which They Are Valid

### Table 148. Trace Tables and Environments in Which They Are Valid (continued)

<table>
<thead>
<tr>
<th>Trace Table</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISP</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>DL/I</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>DLOG</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>FAST</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>IDC0</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LATC</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>LOCK</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LRTT</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>LUMI</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>MSCT</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>OCMD</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>ORTT</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>OTMT</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>QMGR</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>RETR</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>RRST</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCHD</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SQTT</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STRG</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SUBS</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

| ALL         | Indicates that traces into all trace tables are to be enabled or disabled. This is the default. |
| CSLT        | Indicates that the CSL trace is to be activated or deactivated. |
| DISP        | Indicates that the dispatcher trace is to be activated or deactivated. |
| DL/I        | Indicates that DL/I tracing is to be activated or deactivated. |
| DLOG        | Indicates that the logging trace is to be activated or deactivated. |
| FAST        | Indicates that the Fast Path trace is to be activated or deactivated. |

Fast Path Trace is activated by including the FPTRACE DD statement in the dependent region JCL to define the destination of the trace output and by issuing the operator command `/TRACE SET ON TABLE FAST.`

**Recommendation:** Only run this trace in a test environment because the FPTRACE output is very large.

| IDC0        | Indicates that tracing of errors in modules DFSCNXA0 and DFSIDC00 is to be activated or deactivated. |
| LATC        | Indicates that the latch trace is to be activated or deactivated. |
| LOCK        | Indicates that LOCK and PI tracing is to be activated or deactivated. |
LRTT Indicates that the log router trace table is to be activated or deactivated. LRTT is only valid for an RSR tracking subsystem.

LUMI Indicates that the LU 6.2 manager trace is to be activated or deactivated. /TRACE SET ON TABLE LUMI must be entered first before entering any /TRACE SET ON LUNAME command in order to create the LUMI trace table for trace entries.

LUMI is not valid for an RSR tracking subsystem.

MSCT Indicates that the MSC trace is to be activated or deactivated.

OCMD Indicates that the OM command trace is to be activated or deactivated.

ORTT Indicates that the Online Recovery System trace is to be activated or deactivated.

OTMT Indicates that the IMS Open Transaction Manager Access (OTMA) trace is to be activated or deactivated.

QMGR Indicates that the queue manager trace is to be activated or deactivated.

RETR Indicates that the DL/I retrieve trace is to be activated or deactivated. RETR is not valid for an RSR tracking subsystem.

RRST Indicates that the Resource Recovery trace is activated or deactivated.

SCHD Indicates that the scheduler trace is to be activated or deactivated. SCHD is not valid for an RSR tracking subsystem.

SQTT Indicates that the shared queues trace is to be activated or deactivated. SQTT is only valid in a shared-queues environment.

STRG Indicates that the storage manager trace is to be activated or deactivated.

SUBS Indicates that the external subsystem trace is to be activated or deactivated. SUBS is not valid for an RSR tracking subsystem.

OPTION Is used to indicate whether or not the trace tables are to be logged.

The meaning of the OPTION parameters are:

LOG Requests that the trace tables be written to the system log before they are reused (wrapped).

The log option includes the possibility of externally tracing to a data set other than the IMS OLDS. If specified, DASD external tracing has first priority, TAPE external tracing has second priority, and IMS OLDS has third priority. External tracing to the OLDS is not done without operator approval. This option is ignored for the retrieve trace and the Fast Path trace, (default).

FPTRACE has its own SYSOUT. EXTERNAL trace is available to the alternate system only for DASD/TAPE type, but not for OLDS. For more information, see IMS Version 8: Diagnosis Guide and Reference and IMS Version 8: Operations Guide.
NOLOG Indicates that the trace tables are not logged. This means that there will be no record of trace tables that have been reused. NOLOG is the default.

The same trace table is used for DL/I, LOCK, and PI trace information. Whether or not this table is logged will depend on the logging option of the last /TRACE command that was entered for DL/I, PI, or LOCK.

VOLUME Specifies the volume of entries to be written to the specified trace table: LOW volume, MEDIUM volume (default), or HIGH volume.

The VOLUME keyword is valid on active and RSR tracking subsystems.

TAKEOVER Controls tracing during takeover only, and is separate from regular tracing. TAKEOVER tracing can be set for LINE, LINK, NODE, and UNITYPE keywords.

TAKEOVER only applies in an XRF environment.

When TAKEOVER is used with SET OFF, the trace is turned off before takeover.

When an output message is dequeued for a terminal, takeover tracing will stop for that terminal.

If both regular and takeover tracing are entered, the most recent setting will override any previous settings; for example, takeover tracing will override regular tracing if regular tracing was entered first. This means that either regular or TAKEOVER tracing can be in effect, but not both.

/TRACE TAKEOVER can be issued only from an XRF active system. It is rejected if entered from an alternate or non-XRF system. It is recovered across restart and takeover, and only needs to be entered once until cold start. Tracing occurs only if the session was active at the time of the takeover.

TCO Is used to trace TCO (Time Controlled Operation) activity. For the first /TRACE command with the TCO keyword, the default module and level information is used. TCO trace is basically a DC LINE or NODE trace, and the information developed is also written on the type X’67’ log record.

TIMEOUT Is used to start or stop the I/O Timeout Detection facility.

time# is the number of minutes used to determine if the I/O response is overdue. After this number of minutes, time has run out for the response. The range is from 1 through 60; the default value is 0.

If time# is 0, or not specified, then when I/O is initiated for a node, the node will be placed on a queue, so that its status can be displayed with the /DISPLAY TIMEOVER command. You will not be notified if the node does not receive a response and the time elapses, and the node will not be reactivated.

If time# is not 0, then the following keywords can be used.

MSG Indicates that a message is issued to the master terminal when I/O takes longer than time# minutes. The message indicates that the time has elapsed.
AUTO  
IMS issues a message to the master terminal, then perform a VTAM VARY NET,INACT and a VARY NET,ACT, if I/O takes longer than time# minutes. An /OPNDST is performed for operable devices that are not shared. For ISC nodes, a message is issued, but there is no automatic (AUTO) restart of any sessions and no VTAM VARY commands issued.

If you wish to change the time period or the action to be taken if timeout occurs, you can enter the /TRACE SET ... TIMEOUT command while the Timeout Detection facility is already active. However, if nodes are receiving or sending input or output, they will function according to the previous settings of the /TRACE ... TIMEOUT command. If this is undesirable, then you should enter the /TRACE SET OFF TIMEOUT command before reentering /TRACE SET ... TIMEOUT.

If the timeout trace facility failed during IMS initialization, the /TRACE SET ... TIMEOUT command is rejected with an error message.

The VTAM TIMEOUT I/O facility is automatically started during IMS shutdown. It is set for 1 minute and AUTO.

TMEMBER  
Is used to trace IMS Open Transaction Manager Access (OTMA) client activity for OTMA clients.

TPipe  
Is used to trace transaction pipe activity for OTMA clients.

While processing the /TRACE TMEMBER TPIPE command, IMS creates a temporary transaction pipe (if one does not already exist) with the trace status. IMS sets the synchronization status for this transaction pipe when it sends or receives the first message for the transaction pipe.

TRANSACTION  
Is used to trace the DL/I portion of Data Communications (DC) for a specific transaction. Each DL/I call to a TPCB, issued by the user application program, is traced on entry to and exit from the DC call handler DFSDLA30. Upon entry to DFSDLA30, a type 6701-LA3A record is written; upon exit from DFSDLA30, a type 6701-LA3B record is written.

Each record will contain the following items, if applicable:
- TPCB
- Up to 64 bytes of the I/O area
- SMB
- PST

For more information about this trace, see the discussion of the DLA3LOG trace in [IMS Version 8: Diagnosis Guide and Reference].

TRAP  
Is used to detect overwrites of MFS blocks. When /TRACE is used, IMS attempts to detect overwrites in the MFS blocks. If an overwrite occurs, IMS sends a warning message. See [IMS Version 8: Diagnosis Guide and Reference] for a description of trace records.

UNITYPE  
Causes events related to the physical terminals of specified type to be traced.

The UNITYPE keyword is used to trace all terminals of a specific type. Parameters (unitypename) are similar to the identifiers displayed in the TYPE
column by the /DISPLAY NODE and /DISPLAY LINE/TERM commands. Table 149 shows the terminal types for UNITYPE parameters.

Table 149. UNITYPE Parameters and Terminal Types

<table>
<thead>
<tr>
<th>UNITYPE Parameter</th>
<th>Terminal Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>2260R</td>
<td>2260/2265 REMOTE</td>
</tr>
<tr>
<td>3286</td>
<td>3284/3286</td>
</tr>
<tr>
<td>SYSTEM/7</td>
<td>SYSTEM 7</td>
</tr>
<tr>
<td>2980</td>
<td>2980</td>
</tr>
<tr>
<td>3270R</td>
<td>3270 REMOTE</td>
</tr>
<tr>
<td>3270I</td>
<td>3270 LOCAL</td>
</tr>
<tr>
<td>RDR/PTR</td>
<td>LOCAL SYSIN/SYSOUT</td>
</tr>
<tr>
<td>SYSTEM/3</td>
<td>SYSTEM 3</td>
</tr>
<tr>
<td>FIN</td>
<td>3600</td>
</tr>
<tr>
<td>3277</td>
<td>3270 VTAM</td>
</tr>
<tr>
<td>SYS/7BS</td>
<td>SYSTEM 7 BSC</td>
</tr>
<tr>
<td>SLU1</td>
<td>SLU TYPE 1</td>
</tr>
<tr>
<td>SLU2</td>
<td>SLU TYPE 2</td>
</tr>
<tr>
<td>SLUP</td>
<td>SLU TYPE P</td>
</tr>
<tr>
<td>LU 6</td>
<td>LU TYPE 6</td>
</tr>
<tr>
<td>NTO</td>
<td>NTO</td>
</tr>
<tr>
<td>CONSOLE</td>
<td>MVS/ESA SYSTEM CONSOLE</td>
</tr>
<tr>
<td>TWX</td>
<td>TWX SWITCHED</td>
</tr>
<tr>
<td>3275SW</td>
<td>3270 SWITCHED</td>
</tr>
<tr>
<td>MSCBSC</td>
<td>Binary Synchronous Communication</td>
</tr>
<tr>
<td>MSCMTM</td>
<td>Memory to Memory Communication</td>
</tr>
<tr>
<td>MSCCTC</td>
<td>Channel to Channel Adapter</td>
</tr>
<tr>
<td>MSCVTAM</td>
<td>MSC VTAM</td>
</tr>
</tbody>
</table>

If global resource information is kept in Resource Manager, /TRACE UNITYPE sets a global trace status for all of the nodes of a specific type. This requires that the inactive static nodes be processed on every IMS system. The UNITYPE keyword is similar to specifying a generic parameter. If global resource information is not kept in Resource Manager, /TRACE UNITYPE sets the trace status locally.

Examples

Example 1 for /TRACE Command

To turn on message format service module and communication analyzer level 4 control block tracing for all physical terminals on line 4.

Entry ET:

/TRACE SET ON LINE 4 LEVEL 4 MODULE MFS

Response ET:
Example 2 for /TRACE Command
To turn on tracing for a logical link:

Entry ET:
/TRACE SET ON LINK 2 LEVEL 4 MODULE ALL

Response ET:
DFS058I TRACE COMMAND COMPLETED

Example 3 for /TRACE Command
Entry ET:
/TRACE SET ON MONITOR ALL

Response ET:
DFS058I TRACE COMMAND COMPLETED
DFS2500I DATASET DFSDCMON SUCCESSFULLY ALLOCATED
DFS2212I DC MONITOR STARTED

Explanation: The monitor is activated and all events will be monitored.

Entry ET:
/TRACE SET OFF MONITOR

Response ET:
DFS058I TRACE COMMAND COMPLETED
DFS2500I DATASET DFSDCMON SUCCESSFULLY DEALLOCATED
DFS2212I DC MONITOR STOPPED

Explanation: The monitor is deactivated.

Entry ET:
/TRACE SET ON MONITOR LA

Response ET:
DFS058I TRACE COMMAND COMPLETED

Explanation: The monitor is activated. Line and logical link activities will be monitored. The monitoring of events from the previous activation of the monitor no longer apply.

Example 4 for /TRACE Command
To turn on program isolation tracing, include the additional time field in the trace record and have the trace information logged:

Entry ET:
/TRACE SET PI OPTION ALL

Response ET:
DFS058I TRACE COMMAND COMPLETED
Example 5 for /TRACE Command
To turn off logging of program isolation trace data but continue the trace in storage:

Entry ET:
/TRACE SET OFF PI OPTION LOG

Response ET:
DFS058I TRACE COMMAND COMPLETED

Example 6 for /TRACE Command
To stop program isolation tracing.

Entry ET:
/TRACE SET OFF PI

Response ET:
DFS058I TRACE COMMAND COMPLETED

Example 7 for /TRACE Command
To trace all DL/I calls issued for PSB AALST:

Entry ET:
/TRACE SET ON PSB AALST COMP

Response ET:
DFS058I TRACE COMMAND COMPLETED

Example 8 for /TRACE Command
To turn on online tracing into the DL/I trace table:

Entry ET:
/TRACE SET ON TABLE DL/I

Response ET:
DFS058I TRACE COMMAND COMPLETED

Example 9 for /TRACE Command
To turn on the dispatcher's trace tables and have them written to the system log:

Entry ET:
/TRACE SET ON TABLE DISP OPTION LOG

When the dispatcher's trace tables are no longer required:

Entry ET:
/TRACE SET OFF TABLE DISP

Response ET:
DFS058I TRACE COMMAND COMPLETED
Example 10 for /TRACE Command
To turn on storage manager trace tables:

Entry ET:
/TRACE SET ON TABLE STRG

Response ET:
DFS058I TRACE COMMAND COMPLETED

When the storage manager trace tables are no longer needed:

Entry ET:
/TRACE SET OFF TABLE STRG

Response ET:
DFS058I TRACE COMMAND COMPLETED

Example 11 for /TRACE Command
Entry ET:
/TRA SET ON TMEMBER CLIENT1 TPIPE TPIPESY

Response ET:
DFS058I 15:45:05 TRACE COMMAND COMPLETED SYS3
DFS996I *IMS READY* SYS3

Example 12 for /TRACE Command
To log the PCB, I/O area, and PST whenever module DFSDLA30 is invoked to process transaction APPLE:

Entry ET:
/TRACE SET ON TRANSACTION APPLE

Response ET:
DFS058I TRACE COMMAND COMPLETED

Example 13 for /TRACE Command
To trace all 2740 model 2 terminals:

Entry ET:
/TRACE SET ON UNITYPE 2740II

Response ET:
DFS058I TRACE COMMAND COMPLETED

Note: The control blocks and modules traced depend on the last LEVEL and MODULE specifications entered before the above command. If the LEVEL and MODULE keywords have not yet been entered, the defaults of 4 and ALL will be used.
Example 14 for /TRACE Command

This is an example of temporary nodes created to retain trace status data.

Entry ET:
/TRACE SET ON NODE DTSLU607

Response ET:
DFS058 TRACE COMMAND COMPLETED

Entry ET:
/DISPLAY NODE DTSLU607

Response ET:

<table>
<thead>
<tr>
<th>NODE-USR</th>
<th>TYPE</th>
<th>CID</th>
<th>RECD</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
<th>SENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTSLU607</td>
<td>UNK</td>
<td>00000000</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>TRA</td>
</tr>
<tr>
<td><em>90127/091634</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Entry ET:
/DISPLAY NODE DTSLU607

Response ET:

<table>
<thead>
<tr>
<th>NODE-USR</th>
<th>TYPE</th>
<th>CID</th>
<th>RECD</th>
<th>ENQCT</th>
<th>DEQCT</th>
<th>QCT</th>
<th>SENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTSLU607</td>
<td>UNK</td>
<td>00000000</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>TRA</td>
</tr>
<tr>
<td>-N/A</td>
<td>UNK</td>
<td>00000000</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>TRA</td>
</tr>
<tr>
<td>-IMSUS01</td>
<td></td>
<td>01000002</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>SIGN(IMSUS01 )</td>
</tr>
<tr>
<td>-IMSUS02</td>
<td></td>
<td>01000004</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>SIGN(IMSUS02 ) IDLE CON TRA PRI</td>
</tr>
<tr>
<td><em>90127/091432</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Explanation: The /TRACE command is issued for a dynamic ISC NODE that does not yet exist, DTSLU607, causing a temporary node to be created to retain the trace status. Once the ISC parallel sessions IMSUS01 and IMSUS02 are allocated, the trace status is applied to them both.
Chapter 63. /UNLOCK

Format

```
/UNLOCK
/DATABASE dbname (password)
/LTERM ltermname (password)
/ALL
/NODE (password)
/PROGRAM pgmname (password)
/PTERM (password)
/SYSTEM (password)
/TRANSACTION tranname (password)
```

Environments and Keywords

Table 150 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

Table 150. Valid Environments for the /UNLOCK Command and Keywords

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/UNLOCK</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>DATABASE</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LTERM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NODE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PROGRAM</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PTERM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SYSTEM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TRANSACTION</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Usage

/UNLOCK releases resources that, in most cases, have been previously locked by a /LOCK command.

The /UNLOCK command can be used on HALDBs. For more information see Appendix H, “High Availability Large Database Commands,” on page 805.
If the terminals are on a switched communication network and a physical or logical terminal disconnection occurs, an implied /UNLOCK is processed against the physical terminal and inquiry logical terminal.

When using ISC, the /UNLOCK command can only be used with logical terminals assigned to allocated users.

/UNLOCK LTERM, NODE, and PTERM apply only to the entering physical terminal.

The /UNLOCK command with the LTERM, NODE, or PTERM keyword is not allowed from the OM API.

/UNLOCK DATABASE, PROGRAM, and TRANSACTION are only valid if entered from the master terminal, the system console, a TCO script, or from an AOI application program. /UNLOCK SYSTEM is only valid if it is entered from the master terminal or from the system console on an XRF system.

DATABASE
   Specifies the database to be unlocked.
   
   For the results of issuing this command on a shared secondary index, see Appendix D, “Shared Secondary Index Database Commands,” on page 787.
   
The output of the /UNLOCK DB command is changed when the command is entered through the OM API. In this case, the DFS058I message is not returned to OM. The command response returned to OM contains one or more of the following messages: DFS0488I, DFS3466I, DFS132

LTERM
   Specifies the logical terminal to be unlocked. This keyword applies only to the entering physical terminal and to logical terminals assigned to that physical terminal.
   
   Any password specified with the /UNLOCK LTERM command is ignored for ACF/VTAM nodes created dynamically. Password support on the /UNLOCK command uses the Security Maintenance Utility, which is not supported for dynamic terminals.
   
The /UNLOCK LTERM ALL command can only be used when all of the logical terminals associated with the entering physical terminal do not have passwords.

NODE
   Specifies the VTAM node to be unlocked. This keyword applies only to the entering physical terminal and to logical terminals assigned to that physical terminal.
   
   Any password specified with the /UNLOCK NODE command is ignored for ACF/VTAM nodes created dynamically. Password support on the /UNLOCK command uses the Security Maintenance Utility, which is not supported for dynamic terminals.

PROGRAM
   Specifies the application program to be unlocked.

PTERM
   Specifies the physical terminal to be unlocked. This keyword applies only to the entering physical terminal and to logical terminals assigned to that physical terminal.

SYSTEM
   Notifies a newly created active system in an XRF complex that I/O prevention is
complete. I/O prevention is initiated at takeover to ensure that the failing active system cannot write to the databases. The alternate system then initiates I/O toleration to ensure database integrity and to enable new transaction processing as soon as possible. /UNLOCK SYSTEM ends the I/O toleration phase of processing. See the [IMS Version 8: Operations Guide](#) for a more detailed description of I/O prevention, I/O toleration, and the /UNLOCK SYSTEM command.

**TRANSACTION**

Specifies the transaction code to be unlocked.

/UNLOCK TRANSACTION cannot be used for Fast Path exclusive or CPI Communications driven transaction programs.

---

### Examples

**Example 1 for /UNLOCK Command**

Entry ET:

```
/UNLOCK DATABASE TREEFARM
```

Response ET:

```
DFS058I UNLOCK COMMAND COMPLETED
```

Explanation: Database TREEFARM is unlocked and can be used.

**Example 2 for /UNLOCK Command**

Entry ET:

```
/UNLOCK PROGRAM APPLETRE
```

Response ET:

```
DFS058I UNLOCK COMMAND COMPLETED
```

Explanation: Application program APPLETRE is unlocked and can be executed.

**Example 3 for /UNLOCK Command**

Entry ET:

```
/UNLOCK PTERM
```

Response ET:

```
DFS058I UNLOCK COMMAND COMPLETED
```

Explanation: The physical terminal from which the command is entered is unlocked.

**Example 4 for /UNLOCK Command**

Entry ET:

```
/UNLOCK TRANSACTION SEED
```

Response ET:

```
DFS058I UNLOCK COMMAND COMPLETED
```

Explanation: Transaction SEED is unlocked and can be scheduled.
Example 5 for /UNLOCK Command

The following three figures illustrate the use of the /UNLOCK SYSTEM command on a newly created active system. Each figure is a formatted master screen for the newly created active system IMSB.

Figure 8 shows a screen of a newly created active system in the I/O toleration phase of processing (awaiting I/O prevention). Database DD41M803 has an I/O toleration EEQE.

```
02/05/15 16:19:03 RENAME: DFSRSENM ACTIVE Awaiting I/O prevention IMSB
DFS2716I NO MSDBS FOUND - NO MSDB CHECKPOINT TAKEN
DFS3994I +CHECKPT 85135/152931**SIMPLE**
DFS3499I ACTIVE DDNAMES: MODBLKSA IMSACBA FORMATA MODSTAT ID: 11
DFS3804I LAST CHKPT ID VALID FOR RESTART: 85135/161847-BUILDQ: 85135/161213

DFS994I TAKEOVER COMPLETED.
DFS3859I 16:18:29 PRIORITY 4 SESSIONS SWITCHED.
DFS3860I 16:18:29 ALL TERMINAL SESSIONS SWITCHED.

DATABASE
DD41M803
ERROR DD TYPE BLOCK
DD41M803 IOT 0000003F
+85135/161902*

PASSWORD:
```

/lock db dd41m803 bkerr

Figure 8. I/O Toleration Phase of Processing

Figure 9 shows a screen of the use of the /UNLOCK SYSTEM command to notify the newly created active system that I/O prevention is complete (the XRF system status line now indicates that processing is no longer degraded by I/O toleration).

```
02/05/15 16:34:14 RENAME: DFSRSENM ACTIVE IMSB
DFS2716I NO MSDBS FOUND - NO MSDB CHECKPOINT TAKEN
DFS3994I +CHECKPT 85135/161847**SIMPLE**
DFS3499I ACTIVE DDNAMES: MODBLKSA IMSACBA FORMATA MODSTAT ID: 11
DFS3804I LAST CHKPT ID VALID FOR RESTART: 85135/161847-BUILDQ: 85135/161213

DFS058 16:34:14 UNLOCK COMMAND IN PROGRESS
DFS0488I - UNLOCK COMMAND COMPLETED. RC = 00
DFS3860I 15:29:19 ALL TERMINAL SESSIONS SWITCHED.

PASSWORD:
```

/unlock system

Figure 9. /UNLOCK SYSTEM Command
Figure 10 is a screen that shows that the I/O toleration EEQE for database DD41M803 has been deleted as part of /UNLOCK SYSTEM processing.

```
02/05/15 16:35:00 RSENAME: DFSRSENM ACTIVE IMSB
DFS2716I NO MSDBS FOUND - NO MSDB CHECKPOINT TAKEN
DFS994I *CHKPT 85135/161847**SIMPLE**
DFS3499I ACTIVE DDNAMES: MODBLKSA IMSACBA FORMATA MODSTAT ID: 11
DFS3804I LAST CHKPT ID VALID FOR RESTART: 85135/161847 - BUILDQ: 85135/161213

DFS058 16:34:14 UNLOCK COMMAND IN PROGRESS
DFS0488I - UNLOCK COMMAND COMPLETED. RC = 00
DFS3860I 16:18:29 ALL TERMINAL SESSIONS SWITCHED.

DATABASE
DD41M803
  NO EEQE OR INCOMPLETE BACKOUT INFORMATION AVAILABLE
  *85135/163500*

/dis db dd41m803 bkerr
```

Figure 10. EEQE Deleted as Part of /UNLOCK SYSTEM Processing
Chapter 64. UPDATE

Format

UPDATE LE:

```
UPDATE LE:

SET(LEOPT( NO YES ))

TERM(tranname) SET(LERUNOPTS(runtimeparameters))

PGM(programname)

TRAN(tranname)

USERID(userid)
```

UPDATE TRAN:

```
UPDATE TRAN:

SET(TRANNAME( tranname tranname*))

CLASS(current_class_number)

SCOPE(ALL)

SCOPE(ACTIVE)
```

A:

```
START(Q)

SCHD
SUSPEND
TRACE
```

B:

```
STOP(Q)

SCHD
TRACE
```
Environments and Keywords

Table 151 and Table 152 lists the environments (DB/DC, DBCTL, and DCCTL) from which the UPDATE command and keywords can be issued.

**Table 151. Valid Environments for the UPDATE LE Command and Keywords**

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPDATE LE</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>LTERM</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PGM</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SET</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>TRAN</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>USERID</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

The following table lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keywords can be issued.

**Table 152. Valid Environments for the UPDATE TRAN Command and Keywords**

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPDATE TRAN</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>CLASS</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>CPRI</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LCT</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>LPRI</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>MAXRGN</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NAME</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NPRI</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PARLIM</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PLCT</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SCOPE</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SEGNO</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SEGSZ</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SET</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Table 152. Valid Environments for the UPDATE TRAN Command and Keywords (continued)

<table>
<thead>
<tr>
<th>Command / Keywords</th>
<th>DB/DC</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>START</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STOP</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**UPDATE LE**

The UPDATE LE command allows the user to define Language Environment (LE) runtime parameter overrides or to change the system option to enable/disable LE override processing. The parameters can be filtered by a transaction code, LTERM name, userid, or program name for MPP and JMP regions. The parameters may be filtered by a program name for IFB, BMP, and JBP regions. Message driven BMP regions can also filter on a transaction code. Any combination of parameters may be used to qualify the application instance to which the runtime parameters are applied. The first available entry in the table is used. The new entry may be added before or after existing entries, depending on where free space exists in the table.

This command may be specified only through the Operations Manager API. The command syntax for this command is defined in XML and is available to automation programs that communicate with OM.

OM overrides the routing on the command and routes the command to all IMS systems in the IMSplex. The user specified route list is ignored.

At least one of the resource filters--TRAN, LTERM, USERID, or PGM--must be specified.

- **LTERM()**
  Specifies the 1-8 character name of the LTERM to which the parameters are to be defined.

- **PGM()**
  Specifies the 1-8 character name of the program to which the parameters are to be defined.

- **SET()**
  Specifies the updates to attributes or parameters.

- **LEOPT()**
  Specifies whether or not LE runtime parameters can be overridden dynamically for all active IMS systems in the IMSplex. YES indicates that the IMS systems allow overrides which enables the DL/I INQY call to retrieve runtime parameters. NO indicates that the IMS systems do not allow dynamic overrides to the parameters.

  This option allows the user to override the LEOPT=Y|N option that is specified in the DFSCGxxx proclib member without having to bring down the IMS system.

  When runtime overrides are disabled (IMS is started with LEOPT=N or the UPD LE SET(LEOPT(NO)) command is issued) the runtime parameter table continues to be updated as UPD LE SET(LERUNOPTS()) or DEL LE commands are issued. If the UPD LE SET(LEOPT(YES)) command is then specified, all changes that were made during the time overrides were disabled are available.

  This command is automatically routed to all IMS systems that are active in the IMSplex. The user can not override the OM routing to route to a single IMS.
LERUNOPTS()

Specifies the LE dynamic runtime parameters. If an existing set of parameters is found for the specified TRAN, LTERM, USERID, and/or PGM, the new parameter string completely replaces the existing parameter string. The parameters are not appended to the existing string. The string is only replaced when the specified filters are an exact match for the existing entry.

If there is no existing entry, then the first unused entry that is large enough to contain the parameters is used for the update. An unused entry is one that was previously deleted by the DEL LE command. If there are no unused entries or none that are large enough, storage is allocated for a new entry and the entry is added to the top of the table.

The UPDATE LE SET(LERUNOPTS()) command is processed regardless of the LEOPT system option. This means that IMS continues to build the runtime parameter table entries even though they will not be retrieved through the DL/I INQY call.

This command is automatically routed to all IMS systems that are active in the IMSplex. The user cannot override the parameters on a single IMS.

TRAN()

Specifies the 1-8 character name of the transaction to which the parameters are to be defined.

USERID()

Specifies the 1-8 character name of the userid to which the parameters are to be defined.

UPDATE LE Output Fields

Table shows the UPDATE LE output fields and includes the short label, keyword and explanation of the output field.

<table>
<thead>
<tr>
<th>Short Label</th>
<th>Keyword</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC</td>
<td>N/A</td>
<td>Completion code for the line of output. Completion code is always returned.</td>
</tr>
<tr>
<td>MBR</td>
<td>N/A</td>
<td>IMSplex member (IMS identifier) that built the output line. Member name is always returned.</td>
</tr>
</tbody>
</table>

Return, Reason, and Completion Codes for UPDATE LE

The OM return and reason codes that may be returned as a result of this command are standard for all commands entered through the OM API. An IMS return and reason code is returned to OM by the UPDATE LE command. In Table the return and reason code for the UPDATE LE command are displayed.

Table 154. Return and Reason Codes for the UPDATE LE Command

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Reason Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>X’00000000’</td>
<td>X’00000000’</td>
<td>The UPDATE LE command completed successfully.</td>
</tr>
</tbody>
</table>
Table 154. Return and Reason Codes for the UPDATE LE Command (continued)

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Reason Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>X'00000008'</td>
<td>X'00002008'</td>
<td>No keywords were specified on the command. At least one keyword is required. When SET(LERUNOPTS()) is specified, at least one resource name must be specified.</td>
</tr>
<tr>
<td>X'00000008'</td>
<td>X'00002010'</td>
<td>An asterisk or percentage sign was specified in the filter name. Wildcards are not supported on the command.</td>
</tr>
<tr>
<td>X'00000008'</td>
<td>X'00002014'</td>
<td>An invalid character was specified in the filter name.</td>
</tr>
<tr>
<td>X'00000008'</td>
<td>X'00002040'</td>
<td>An invalid filter was specified on the command. When SET(LOOPT()) is specified, no other resource names can be specified.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004040'</td>
<td>The parameter override header has not been initialized. Retry the command after restart is complete.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'00005000'</td>
<td>Unable to get storage from IMODULE GETSTOR.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'00005010'</td>
<td>Unable to obtain latch.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'00005FFF'</td>
<td>Internal IMS error - should not occur.</td>
</tr>
</tbody>
</table>

Table 155 contains the completion code that can be returned on a UPDATE LE command.

Table 155. Completion Code for the UPDATE LE Command

<table>
<thead>
<tr>
<th>Completion Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The UPDATE LE command completed successfully for the specified resource.</td>
</tr>
</tbody>
</table>

**UPDATE TRAN**

The UPDATE TRAN command changes the status of transaction resources for in an IMSplex.

This command may be specified only through the OM API.

The UPDATE TRAN command is not valid on the RSR tracker.

The UPDATE TRAN SET(MAXRGN) and UPDATE TRAN STARTISTOP(TRACE) commands are valid on the XRF alternate. All other instances of the UPDATE TRAN command are not valid on the XRF alternate.

The UPDATE TRAN command with START(Q,SCHD,SUSPEND), STOP(Q,SCHD), or SET(CLASS,CPRI,LCT,LPRI,MAXRGN,NPRI,PARLIM,PLCT,SEGNO,SEGSZ) is recoverable over an IMS restart. The UPDATE TRAN command with START(TRACE), or STOP(TRACE) is not recoverable over an IMS restart.

A new X'22' log record is written during the processing of the UPDATE TRAN command with START(Q,SCHD,SUSPEND), STOP(Q,SCHD), or SET(CLASS,CPRI,LCT,LPRI,MAXRGN,NPRI,PARLIM,PLCT,SEGNO,SEGSZ). A log record is not written for the UPDATE TRAN command with START(TRACE) or STOP(TRACE).
The command syntax for this command is defined in XML and is available to automation programs that communicate with OM.

**CLASS()**
Selects the transactions associated with the specified class or classes to be updated.

**NAME()**
Specifies the names of the specific transactions that are to be updated or a group of transactions whose names match a generic wild card parameter.

**SCOPE()**
Specifies where IMS should apply the change. The default is ALL. When ALL is specified, the changes are applied to the active IMS systems. When ACTIVE is specified, the changes are applied to the IMS systems currently active. ACTIVE and ALL produce the same result.

**SET()**
Specifies the attribute values to be changed.

**CLASS**
Specifies a new processing class for the transaction. The new class takes effect the next time the transaction is scheduled. Valid CLASS parameters are numeric values from 1 to 255.

**CPRI**
Specifies a new value for the current priority of a transaction. The CPRI keyword is not allowed for BMP transactions, because BMP transactions should always have a priority of 0. The new CPRI value takes effect the next time the transaction is scheduled. Valid CPRI parameters are numeric values from 0 to 14.

**LCT**
Specifies a new value for the limit count of a transaction. The new LCT value takes effect during execution of the transaction. Valid LCT parameters are numeric values from 1 to 65535.

**LPRI**
Specifies a new value for the limit priority of a transaction. The LPRI keyword is not allowed for BMP transactions, because BMP transactions should always have a priority of 0. The new LPRI value takes effect the next time the transaction is scheduled. Valid LPRI parameters are numeric values from 0 to 14.

**MAXGRN**
Specifies a new value for the maximum number of regions that can be simultaneously scheduled for a given transaction. The transaction must be eligible for parallel scheduling (load balancing). The value of the MAXRGN parameter must be between 0 and the number specified on the MAXPST=region parameter.

**NPRI**
Specifies a new value for the normal priority of a transaction. The NPRI keyword is not allowed for BMP transactions, because BMP transactions should always have a priority of 0. The new NPRI value takes effect the next time the transaction is scheduled. Valid NPRI parameters are numeric values from 0 to 14.

**PARLIM**
Specifies a new value for the parallel processing limit count of a transaction. PARLIM is the maximum number of messages that can currently be queued, but not yet processed, by each active message region currently scheduled for this transaction. An additional region is scheduled whenever the transaction queue count exceeds the PARLIM value multiplied by the number of regions currently scheduled for this transaction. Valid PARLIM
parameters are numeric values from 0 to 32767 and 65535, where
65535 disables transaction load balancing.

PARLIM can not be specified for CPI Communications driven
transactions.

**PLCT**
Specifies a new value for the processing limit count of a
transaction. The PLCT is the number of messages of this
transaction code that a program can process in a single scheduling.
The new PLCT values take effect the next time the transaction is
scheduled. Valid PLCT parameters are numeric values from 0 to
65535.

PLCT can not be specified for CPI Communications driven
transactions.

**SEGNO**
Specifies a new value for the limit on the number of application
program output segments allowed in message queues for each GU
call. Segment limits are established by transaction code, thereby
allowing specification of more than one value for each application
program. The new SEGNO value takes effect during execution of
the transaction. Valid SEGNO parameters are numeric values from
0 to 65535.

SEGNO can not be specified for CPI Communications driven
transactions.

**SEGSZ**
Specifies a new value for the size of application program output
segments allowed in message queues for each GU call. The new
SEGSZ value takes effect during execution of the transaction. Valid
SEGSIZE parameters are numeric values from 0 to 65535.

SEGSZ can not be specified for CPI Communications driven
transactions.

**START()**
Specifies the attributes to be started.

**Q** Starts the queueing of messages.

**SCHD** Starts the scheduling of messages.

**SUSPEND**
If the transaction has messages on the suspend queue, that
suspend queue is automatically transferred to the ready queue.

**TRACE**
Starts the transaction trace, which captures the DL/I portion of Data
Communications (DC) for the specified transaction. The information
is written as a 6701 log record to the IMS log. For more information
about this trace, see the discussion of the DLA3LOG trace in

**STOP()**
Specifies the attributes to be stopped.

**Q** Stops the queueing of messages. However, output can still be
queued if it originates from the application program.

**SCHD** Stops the scheduling of messages.
TRACE
Stops the transaction trace.

Return, Reason, and Completion Codes for UPDATE TRAN

Table 156 contains the return and reason codes for the UPDATE TRAN command.

**Table 156. Return and Reason Codes for the UPDATE TRAN Command**

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Reason Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>X'00000000'</td>
<td>X'00000000'</td>
<td>The UPDATE TRAN command completed successfully.</td>
</tr>
<tr>
<td>X'00000004'</td>
<td>X'00001000'</td>
<td>The UPDATE TRAN command was not processed on the IMS system as the IMS system is not the command master. No resource information is returned.</td>
</tr>
<tr>
<td>X'00000008'</td>
<td>X'0000200C'</td>
<td>No resources were found to be updated. The resource name(s) specified may be invalid or there were no resources that match the filter specified. Confirm that the UPDATE TRAN command is issued with valid resources.</td>
</tr>
<tr>
<td>X'00000008'</td>
<td>X'00002040'</td>
<td>More than one filter value is specified on the UPDATE TRAN command. Confirm that only one of SET or START</td>
</tr>
<tr>
<td>X'00000008'</td>
<td>X'00002044'</td>
<td>The UPDATE TRAN command is not processed because the same attribute value was specified for the START and STOP filters. The attribute “Q,SCHD” can be specified only on START or STOP but not both. For example, UPDATE TRAN START(Q) STOP(Q) is not valid but UPDATE TRAN START(Q) STOP(SCHD) is valid. Confirm that only one START</td>
</tr>
<tr>
<td>X'00000008'</td>
<td>X'00002048'</td>
<td>The UPDATE TRAN command is not processed because an invalid SET attribute is specified. Confirm that the correct SET attribute is specified on the command.</td>
</tr>
<tr>
<td>X'00000008'</td>
<td>X'00002050'</td>
<td>The UPDATE TRAN command is not processed because a CLASS value specified is invalid. Confirm that the correct CLASS value is specified on the command.</td>
</tr>
<tr>
<td>X'00000008'</td>
<td>X'00002054'</td>
<td>The UPDATE TRAN command is not processed because the LCT (limit count) value specified is invalid. Confirm that the correct LCT value is specified on the command.</td>
</tr>
<tr>
<td>X'00000008'</td>
<td>X'00002058'</td>
<td>The UPDATE TRAN command is not processed because the LPRI value specified is invalid. Confirm that the correct LPRI value is specified on the command.</td>
</tr>
<tr>
<td>X'00000008'</td>
<td>X'00002064'</td>
<td>The UPDATE TRAN command is not processed because the PARLIM value is invalid. Confirm that the PARLIM value is specified on the command.</td>
</tr>
</tbody>
</table>
Table 156. Return and Reason Codes for the UPDATE TRAN Command  (continued)

<table>
<thead>
<tr>
<th>Return Code</th>
<th>Reason Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>X'00000008'</td>
<td>X'00002068'</td>
<td>The UPDATE command is not processed because the PLCT value is invalid. Confirm that the correct PLCT value is specified on the command.</td>
</tr>
<tr>
<td>X'00000008'</td>
<td>X'0000206C'</td>
<td>The UPDATE command is not processed because the SEGNO value specified is invalid. Confirm that the correct SEGNO value is specified on the command.</td>
</tr>
<tr>
<td>X'00000008'</td>
<td>X'00002070'</td>
<td>The UPDATE command is not processed because the SEGSZ value specified is invalid. Confirm that the correct SEGSZ value is specified on the command.</td>
</tr>
<tr>
<td>X'0000000C'</td>
<td>X'00003000'</td>
<td>The UPDATE command was successful for at least one resource name. The UPDATE command was not successful for one or more resource names. The completion code indicates the reason for the error with the resource name. The completion codes that can be returned by the UPDATE TRAN command are listed in the UPDATE TRAN Completion Code table.</td>
</tr>
<tr>
<td>X'0000000C'</td>
<td>X'00003004'</td>
<td>The UPDATE command was not successful for all the resource names specified. The completion code indicates the reason for the error with the resource name. The completion code that can be returned by the UPDATE TRAN command is listed in the UPDATE TRAN Completion Code table.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'0000400C'</td>
<td>The UPDATE command is not processed as the flavor entered is not valid on the XRF alternate.</td>
</tr>
<tr>
<td>X'00000010'</td>
<td>X'00004014'</td>
<td>The UPDATE command is not processed as the TRAN keyword is not valid on the RSR tracker.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'00005004'</td>
<td>The UPDATE command processing terminated because a DFSOCMD response buffer could not be obtained.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'00005008'</td>
<td>The UPDATE command processing terminated as DFSPOOL storage could not be obtained.</td>
</tr>
<tr>
<td>X'00000014'</td>
<td>X'0000500C'</td>
<td>The UPDATE command processing terminated an AWE could not be obtained.</td>
</tr>
</tbody>
</table>

Errors unique to the processing of the UPDATE TRAN command are returned as a completion code. A completion code is returned for each action against an individual resource. The following completion codes in Table 157 may be returned on an UPDATE TRAN command.

Table 157. Completion Code for the UPDATE TRAN Command

<table>
<thead>
<tr>
<th>Completion Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The UPDATE TRAN command completed successfully for the resource.</td>
</tr>
<tr>
<td>10</td>
<td>The resource name is unknown to the client that is processing the request. The resource name may have been typed in error or the resource may not be active at this time. If this is a wildcard request there were no matches for the name. Confirm that the correct spelling of the resource name is specified on the command.</td>
</tr>
<tr>
<td>30</td>
<td>The UPDATE TRAN command is invalid for the resource because the transaction is a dynamic transaction that was created during shared queues processing.</td>
</tr>
</tbody>
</table>
Table 157. Completion Code for the UPDATE TRAN Command (continued)

<table>
<thead>
<tr>
<th>Completion Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>34</td>
<td>The UPDATE TRAN command is invalid for the resource because the transaction is a CPIC transaction.</td>
</tr>
<tr>
<td>38</td>
<td>The UPDATE TRAN command is invalid for the resource because the PSB associated with the transaction is a BMP.</td>
</tr>
<tr>
<td>3C</td>
<td>The MAXRGN can not be changed for the resource because the transaction does not have parallel limits specified.</td>
</tr>
<tr>
<td>40</td>
<td>The PARLIM can not be changed for the resource because the PSB associated with the transaction is defined as does not have parallel scheduling.</td>
</tr>
<tr>
<td>44</td>
<td>The UPDATE TRAN command can not be processed for the resource because the transaction is currently being scheduled.</td>
</tr>
<tr>
<td>45</td>
<td>The UPDATE TRAN command could not be completed for the resource because the SID number is invalid.</td>
</tr>
</tbody>
</table>

UPDATE TRAN Compared to Other Commands

Table 158 shows different instances of the UPDATE TRAN command and other IMS commands that perform similar functions.

Table 158. UPDATE TRAN Compared to Other Commands

<table>
<thead>
<tr>
<th>UPDATE Command</th>
<th>Similar IMS Command</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPDATE TRAN(name) START(Q) STOP(SCHD)</td>
<td>/PSTOP TRAN name</td>
</tr>
<tr>
<td>UPDATE TRAN NAME(name) START(SCHD) STOP(Q)</td>
<td>/PUR TRAN name</td>
</tr>
<tr>
<td>UPDATE TRAN NAME(name) START(Q,SCHD,SUSPEND)</td>
<td>UPDATE TRAN NAME(name)</td>
</tr>
<tr>
<td>UPDATE TRAN NAME(name) STOP(Q,SCHD)</td>
<td>/STOP TRAN name</td>
</tr>
<tr>
<td>UPDATE TRAN NAME(name) START(TRA)</td>
<td>/TRA SET ON TRAN name</td>
</tr>
<tr>
<td>UPDATE TRAN NAME(name) STOP(TRA)</td>
<td>/TRA SET OFF TRAN name</td>
</tr>
<tr>
<td>UPDATE TRAN NAME(name) SET(CLASS(new_class_number))</td>
<td>/ASSIGN TRAN name TO CLS new_class_number</td>
</tr>
<tr>
<td>UPDATE TRAN NAME(name) SET(CPRI(new_current_priority))</td>
<td>/ASSIGN CPRI new_current_priority TO TRAN name</td>
</tr>
<tr>
<td>UPDATE TRAN NAME(name) SET(LCT(new_limit_count))</td>
<td>/ASSIGN LCT new_lmc_number TO TRAN name</td>
</tr>
<tr>
<td>UPDATE TRAN NAME(name) SET(LPRI(new_limit_priority))</td>
<td>/ASSIGN LPRI new_lpri_number TO TRAN name</td>
</tr>
<tr>
<td>UPDATE TRAN NAME(name) SET(NPRI(new_normal_priority))</td>
<td>/ASSIGN NPRI new_npri_number TO TRAN name</td>
</tr>
<tr>
<td>UPDATE TRAN NAME(name) SET(PARLIM(new_parallel_limit))</td>
<td>/ASSIGN PARLIM new_parlim_number TO TRAN name</td>
</tr>
<tr>
<td>UPDATE TRAN NAME(name) SET(PLCT(new_processing_limit))</td>
<td>/ASSIGN PLCT new_plmct_number TO TRAN name</td>
</tr>
<tr>
<td>UPDATE TRAN NAME(name) SET(SEGNO(new_segment_number))</td>
<td>/ASSIGN SEGNO new_segno_number TO TRAN name</td>
</tr>
<tr>
<td>UPDATE TRAN NAME(name) SET(SEGSZ(new_segment_size))</td>
<td>/ASSIGN SEGSZ new_segsize_number TO TRAN name</td>
</tr>
</tbody>
</table>
Table 158. UPDATE TRAN Compared to Other Commands (continued)

<table>
<thead>
<tr>
<th>UPDATE Command</th>
<th>Similar IMS Command</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPDATE TRAN NAME(name) SET(MAXRG(new_max_regions))</td>
<td>/CHA TRAN name MAXRGN new_maxrgn_number</td>
</tr>
</tbody>
</table>

Examples

Example 1 for UPDATE LE command

Assume the following filters and parameters are specified on UPD LE SET(LERUNOPTS()) commands that are processed in the order listed.
1. TRAN(PART) LTERM(TERM2) SET(LERUNOPTS(hhhh))
2. TRAN(PART) LTERM(TERM2) SET(LERUNOPTS(iiii))
3. LTERM(TERM2) USERID(BETTY) SET(LERUNOPTS(gggg))
4. TRAN(PART) LTERM(TERM1) USERID(BOB) SET(LERUNOPTS(ffff))
5. TRAN(PART) LTERM(TERM1) USERID(BARBARA) SET(LERUNOPTS(eeee))
6. PGM(DFSSAM02) SET(LERUNOPTS(dddd))
7. TRAN(PART) LTERM(TERM1) SET(LERUNOPTS(cccc))
8. TRAN(PART) USERID(BETTY) SET(LERUNOPTS(bbbb))
9. TRAN(PART) PGM(DFSSAM02) SET(LERUNOPTS(aaaa))

Rules for matching an entry which results in an update of an existing entry:
- The number of filters defined on the UPDATE LE must match the number of filters defined in the entry.
- The filter values defined on the UPDATE LE must be an exact match for those defined in the entry.

Table 159 is a logical representation of the parameter override table entries at the end of the command processing. The table includes the transaction name, LTERM, USERID, Program, and LERUNOPTS for each entry.

Table 159. Parameter Override Table Entries for UPDATE LE Example 1

<table>
<thead>
<tr>
<th>Entry#</th>
<th>TRAN</th>
<th>LTERM</th>
<th>USERID</th>
<th>PROGRAM</th>
<th>LERUNOPTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PART</td>
<td></td>
<td></td>
<td>DFSSAM02</td>
<td>aaaa</td>
</tr>
<tr>
<td>2</td>
<td>PART</td>
<td></td>
<td>BETTY</td>
<td></td>
<td>bbbb</td>
</tr>
<tr>
<td>3</td>
<td>PART</td>
<td>TERM1</td>
<td></td>
<td></td>
<td>cccc</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>DFSSAM02</td>
<td>dddd</td>
</tr>
<tr>
<td>5</td>
<td>PART</td>
<td>TERM1</td>
<td>BARBARA</td>
<td></td>
<td>eeee</td>
</tr>
<tr>
<td>6</td>
<td>PART</td>
<td>TERM1</td>
<td>BOB</td>
<td></td>
<td>ffff</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>TERM2</td>
<td>BETTY</td>
<td></td>
<td>gggg</td>
</tr>
<tr>
<td>8</td>
<td>PART</td>
<td>TERM2</td>
<td></td>
<td></td>
<td>iii</td>
</tr>
</tbody>
</table>

Example 2 for UPDATE LE Command

TSO SPOC input:

UPD LE TRAN(IAPMDI26) USERID(USRT001)
SET(LERUNOPTS(RPTOPTS=((ON),NOOVR),RPTSTG=((OFF),NOOVR)))

TSO SPOC output:
OM API input:
CMD(UPD LE TRAN(IAPMDI26) USERID(USRT001) SET(LERUNOPTS(RPTOPTS=((ON),NOOVR),RPTSTG=((OFF),NOOVR))))

OM API output:
<imsout>
<ctl>
<omname>OM1OM</omname>
<xmlvsn>1.1.0</xmlvsn>
<statime>2002.163 17:56:10.220516</statime>
<stotime>2002.163 17:56:10.221547</stotime>
<staseq>B7C4CA4EDC3EB382</staseq>
<rqsttkn>USRT002 10105610</rqsttkn>
<rc>00000000</rc>
<rsn>00000000</rsn>
</ctl>
<cmd>
<master>SYS3</master>
<userid>USRT002</userid>
<verb>UPD</verb>
<kwd>LE</kwd>
<input>UPD LE TRAN(IAPMDI26) USERID(USRT001) SET(LERUNOPTS(RPTOPTS=((ON),NOOVR),RPTSTG=((OFF),NOOVR)))</input>
</cmd>
</imsout>

Explanation: The UPDATE LE command adds an entry to the LE runtime options table. The entry added by this command defines two filters: userid and transaction. The transaction is set to IAPMDI26 and the userid is set to USRT001. The runtime options string for this table entry is RPTOPTS=((ON),NOOVR),RPTSTG=((OFF),NOOVR). The output shows that IMS member SYS3 processed the command with a return code of 0.

Example 1 for UPDATE TRAN Command

TSO SPOC input:
UPDATE TRAN NAME(ADDINV) STOP(Q,SCHD)

TSO SPOC output:
Trancode MbrName CC
ADDINV SYS3 0

OM API input:
CMD(UPDATE TRAN NAME(ADDINV) STOP(Q,SCHD))

OM API output:
Explanation: Queuing and scheduling is stopped for transaction ADDINV.
Chapter 65. /VUNLOAD

Format

/VUNLOAD AREA areaname
/VUN AREA ALL

Environments and Keywords

Table 160 lists the environments (DB/DC, DBCTL, and DCCTL) from which the command and keyword can be issued.

Table 160. Valid Environments for the /VUNLOAD Command and Keyword

<table>
<thead>
<tr>
<th>COMMAND / KEYWORD</th>
<th>DB/TM</th>
<th>DBCTL</th>
<th>DCCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/VUNLOAD</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>AREA</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Usage

The /VUNLOAD AREA command removes the specified areas from the MVS data space or coupling facility. All of the updated CIs for the area are written to DASD. All subsequent I/O for the area is from DASD. /VUNLOAD processing occurs concurrently with application processing.

In a data-sharing environment, in order to maintain data integrity, IMS requests IRLM to lock the first control interval (CI) in exclusive mode before IMS unloads the area from the coupling facility. This lock causes those IMS subsystems sharing the area to complete any synchronization point processing. When all sharing subsystems are no longer using the area, IMS requests IRLM to release the CI locks and IMS unloads the area. All subsequent I/O for the area is from DASD.

The /VUNLOAD command does not change any of the VSO options set in the RECON data set. Therefore, at the next IMS restart or /START AREA command, the VSO options again take effect. Any changes to VSO definitions must be made through DBRC commands. For Shared VSO areas however, the /VUNLOAD command is persistent across IMS restarts and can be reset only by a /START AREA command. This is true for shared VSO areas for consistency across all sharing partners. This prevents one system from accessing data from DASD while others are accessing from the coupling facility.

The /VUNLOAD command is not valid for an RSR tracking subsystem.
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Chapter 66. Introduction

This section covers OS/390 commands that are used by the OS/390 console operator to control the execution of the following:

- CQS
- CSL
- FDBR
- IRLM
- ODBA
Chapter 67. START FDBRPROC

Format

$ fdbrproc

Usage

Although you normally start an IMS Fast DB Recovery region using a job submitted after the databases to be tracked are started, you can use the MVS START command to start the region and tracking.

The fdbrproc parameter identifies the procedure name of the region to be started.
Chapter 68. START IRLMPROC

Format

```bash
$ irlmproc
      ,DEADLOK='seconds#,cycles#'
      ,IRLMGRP=irlmds
      ,IRLMID=irlmid
      ,IRLMNM=irlmname
      ,LOCKTAB=irlmt1
      ,MAXCSA=maxcsannn
      ,MAXUSRs=nnn
      ,PC=YES
      ,PGPROT=NO
      ,SCOPE=LOCAL
      ,NODISCON
      ,TRACE=YES
```

Usage

The START irlmproc command starts an IRLM component with a procedure put in place by your installation. Symbolic parameters in the procedure can be overridden using the START irlmproc command. IRLM must be started before any IMS subsystem that needs the facilities provided by IRLM.

The irlmproc identifies the procedure name of the IRLM to be started.

Any IRLM parameter can be overridden using the START command.

DEADLOK=

Specifies the local deadlock-detection interval (in seconds), and the number of local cycles that are to occur before a global detection is initiated. You can specify the following:

seconds#

This 1- to 4-digit numeric value, ranging from 1 to 9999, specifies the interval (in seconds) between IRLM local deadlock-detection cycles. Although values above 5 are accepted, the maximum used is 5.

**Recommendation:** Set this parameter to be no greater than 5. This is because it takes multiple local cycles to complete one global cycle. Otherwise, global deadlocks may not be broken frequently enough to ensure maximum throughput.

cycles#

This 1- to 4-digit numeric value, ranging from 1 to 9999, specifies the number of local deadlock cycles that must expire before global deadlock-detection is performed. Although values above 1 are accepted, the maximum used is 1.
Recommendation: Set this parameter to be no greater than 5. This is because it takes multiple local cycles to complete one global cycle. Otherwise, global deadlocks may not be broken frequently enough to ensure maximum throughput.

IRLMGRP=
Specifies the name of the MVS Cross-System Coupling Facility (XCF) group for which this IRLM will serve as lock manager.

irlmds
The name of the XCF group.

IRLMID=
Specifies either a decimal number or a printable character that is used to distinguish between multiple IRLMs. The IRLM with the lowest ID value in the group becomes the global deadlock manager for the group. You must specify a unique name for every IRLM in the group. The total number of IRLMs that can be included in a group is not related to the value you specify; the total number is limited by your hardware, and may be lower than 255.

The IRLMID can be either a one- to three-digit number ranging in value from 1 to 255, or a printable EBCDIC character. When you specify a character, you must surround the character with enough single quotes to permit IRLM to understand that this value is indeed a printable character. IRLM converts the character to an EBCDIC value between 1 and 255.

Because of the way that MVS interprets quotes, you must use 7 quotes on either side of the character.

Example: If you want to specify the printable character 'D', you must specify IRLMID='''''''''D'''''''''.

IRLMNM=
Specifies the 1- to 4-byte MVS/ESA subsystem name assigned to this IRLM.

LOCKTAB
Specifies the lock table to be used by the data sharing group specified in the GROUP parameter.

irlmt1
Is the name of the lock table.

MAXCSA=
Specifies the maximum amount of CSA that IRLM is to use for its lock structures. In displays, this storage is called accountable storage because it is accountable to the value you set for MAXCSA. Use the accountable storage high water mark (AHWM) data from messages DXR100I and DXR121I to monitor IRLM's usage of common storage and as a basis for adjustments to the MAXCSA value.

This parameter must be specified as a 1 or 3-digit number from 1 to 999. This number indicates the number of megabytes of CSA storage that IRLM will use. If IRLM is using extended CSA support and running on a MVS/ESA system, this number indicates multiples of 1 MB of extended CSA storage. For example, a specification of 3 states that IRLM can use 3 MB of CSA, or 3 MB of ECSA, if IRLM is running with extended CSA support on a MVS/ESA system.

MAXUSR=
Specifies the maximum number of users, from 2 to 248, that can connect to the data sharing group.
PC=
Specifies whether a space switching program call is to be used by IRLM. If PC=YES is specified, the IRLM lock control block structure resides in the IRLM address space, and the space switching program call (PC) instruction is used to obtain addressability to the structure. If PC=NO is specified, the IRLM lock structure resides in ECSA. The default for this parameter is PC=NO. Tells IRLM whether to place its COMMON STORAGE load modules into MVS Page Protected Storage. PGPROT=YES is the DEFAULT and tells IRLM to place its COMMON Storage load modules into MVS Page Protected Storage. If PGPROT=NO is specified, IRLM will not place load modules in Page Protected Storage.

SCOPE=
Specifies whether the IRLM is to be used in a data-sharing environment and, if so, whether the IRLM should automatically disconnect when the associated IMS terminates.

LOCAL
Specifies that the IRLM is in a non-data-sharing environment and there is no intersystem sharing.

GLOBAL
Specifies that the IRLM is in a data-sharing environment and that intersystem sharing is to be performed. The IRLM disconnects from the data-sharing group when there are no IMSs identified to it. Both XCF and SLM are required.

NODISCON
Specifies that the IRLM is in a data-sharing environment and that intersystem sharing is to be performed. The IRLM remains connected to the data-sharing group even when there are no IMSs identified to it. Normal DISCONNECT from the sharing group does not occur. You must explicitly stop the IRLM when NODISCON is specified. Both XCF and SLM are required.

With NODISCON, there is less impact on other systems when an IMS fails because MVS is not required to perform certain recovery actions that it normally perform when an IRLM terminates. Another benefit of the NODISCON parameter is that IMS restarts more quickly after a normal or abnormal termination because it does not have to wait for IRLM to rejoin the IRLM data-sharing group.

TRACE=
Specifies whether the IRLM should trace activity during IRLM startup. Traces are written to wrap-around trace buffers, that is, the first buffer is reused after the last buffer is full.

NO
Do not initialize trace activity during IRLM startup. NO is the default.

To trace IRLM activity, use the TRACE CT command. See Chapter 74, "TRACE CT," on page 725.

YES
Initialize IRLM trace activity during startup.

Recommendation: Turn on tracing in all data-sharing environments.
START IRLMPROC
Chapter 69. MODIFY IMS

You can use the following MVS commands to control an IMS region.

F jobname,DUMP

Format

Usage

The MODIFY (F) jobname,DUMP command forces a termination of IMS with an offline dump.

For DBCTL, the following are abended, but are not rolled back until the following /ERESTART command:

- Active threads
- BMPs
- DEDB utilities

Example

Entry MVS/ESA SC:

F jobname,DUMP

Response MVS/ESA SC:

DFS628I ABNORMAL TERMINATION SCHEDULED
DFS629I IMS STM TCB ABEND - IMS 0020

F jobname,DUMPxxxx

Format

Usage

Note: “External subsystem” means a non-CCTL subsystem.

The MODIFY (F) jobname,DUMPxxxx command causes one or more attached external subsystem connections to be terminated with a dump. If xxxx is specified as ESS, the parent external subsystem task and all external subsystem subtasks are terminated. If xxxx is a specific external subsystem name, only that external subsystem is terminated. The subsystem specified must be defined in the IMS external subsystem PROCLIB member.
MODIFY IMS

Examples

Example 1 for F jobname,DUMPxxxx
Entry MVS/ESA SC:
  F jobname,DUMPname

Response MVS/ESA SC:
  DFS628I ABNORMAL TERMINATION SCHEDULED
  DFS629I IMS ESI TCB DUMP - IMS 0020 IES
  DFS3611I EXTERNAL SUBSYSTEM name CONNECTION TERMINATED

Example 2 for F jobname,STOPxxxx
Entry MVS/ESA SC:
  F jobname,DUMPESS

Response MVS/ESA SC:
  DFS628I ABNORMAL TERMINATION SCHEDULED
  DFS629I IMS ESS TCB DUMP - IMS 0020
  DFS629I IMS ESS TCB DUMP - IMS 4095 IES
  DFS3611I EXTERNAL SUBSYSTEM name CONNECTION TERMINATED

F jobname,FORCExxxx

Format

  F jobname,FORCExxxx

Usage

The MODIFY (F) jobname,FORCExxxx command causes one or more attached external subsystem connections to be terminated without a dump. If xxxx is specified as ESS, the parent external subsystem task and all external subsystem subtasks are terminated. If xxxx is a specific external subsystem name, only that external subsystem is terminated. The subsystem specified must be defined in the IMS external subsystem PROCLIB member.

The FORCE option is not applicable to any other IMS task, for example, to the control task. IMS does not communicate with the external subsystem termination exits, for example, terminate subsystem exits and terminate identify exits.

The reason IMS does not communicate is to allow the installation to break the IMS-to-other-subsystem connection in the event of an error (such as a WAIT STATE) in the external subsystem. If IMS were to invoke one of the exits, as it does with the STOP/DUMP options, the exit can once again start a WAIT STATE, and not allow the termination of that subsystem connection.

Use the FORCE option when either STOP or DUMP fails to break the subsystem connection.

Examples

Example 1 for F jobname,FORCExxxx
Entry MVS/ESA SC:
  F jobname,FORCEname
Response MVS/ESA SC:

DFS628I ABNORMAL TERMINATION SCHEDULED
DFS629I IMS ESI TCB DUMP - IMS 0020 IES
DFS3611I EXTERNAL SUBSYSTEM name CONNECTION TERMINATED

Example 2 for F jobname,FORCExxxx
Entry MVS/ESA SC:

F jobname,FORCEESS

Response MVS/ESA SC:

DFS628I ABNORMAL TERMINATION SCHEDULED
DFS629I IMS ESS TCB DUMP - IMS 0020
DFS629I IMS ESS TCB DUMP - IMS 4095 IES
DFS3611I EXTERNAL SUBSYSTEM name CONNECTION TERMINATED

F jobname,RECONNECT

Usage

The MODIFY (F) jobname,RECONNECT command causes the IMS system on which it is entered to be reconnected to a restarted IRLM.

Jobname is the job name or procedure name for the IMS control region. When this command is successfully completed, a message indicating that the IRLM has been reconnected is sent to both the IMS master terminal operator and the MVS console operator. Then the IMS MTO can start any Fast Path DEDB areas that were involved in block-level sharing at the time of the IRLM failure.

Example

In this example, two IMS subsystems are connected to the same IRLM when it terminates.

MVS/ESA SYSTEM SC RECEIVES:

DXR121I KRLM212 END-OF-TASK CLEAN-UP SUCCESSFUL - HI-CSA 410K -
HI-ACCT-CSA 0K

IMS 1 MT RECEIVES:

DFS2500I IMSA DATABASE dbname SUCCESSFULLY DEALLOCATED

IMS 2 MT RECEIVES:

DFS2500I IMSB DATABASE dbname SUCCESSFULLY DEALLOCATED

MVS/ESA SYSTEM SC:

S KRLM1

MVS/ESA SYSTEM SC RECEIVES:
DXR180I KRLM212 AUTOMATIC RESTART MANAGER IS NOT ENABLED
OR
DXR172I KRLM212 armelementname ARM READY COMPLETED
DXR117I KRLM212 INITIALIZATION COMPLETE

MVS/ESA SYSTEM SC:
F jobname,RECONNECT

IMS 1 MT AND MVS/ESA SYSTEM SC RECEIVE:
DFS626I KRLM RECONNECT COMMAND SUCCESSFUL. IMSA

MVS/ESA SYSTEM SC:
F jobname,RECONNECT

IMS 1 MT AND MVS/ESA SYSTEM SC RECEIVE:
DFS626I KRLM RECONNECT COMMAND SUCCESSFUL. IMSB

IMS MT:
/START AREA areaname

Explanation: The IRLM has abnormally terminated. When the IRLM has been
successfully restarted, the MVS operator modifies the IMSs to reconnect to the
restarted IRLM. The areas can then be restarted using the /START AREA
command.

F jobname,RECONNSTR

Format

Usage

Use this command to cause the IMS subsystem on which you enter it to reconnect
to IRLM, OSAM, and VSAM coupling facility structures.

jobname is the job name or procedure name for the IMS control region.

Example

Entry MVS SC:
F jobname,RECONNSTR

Explanation: If the connection to IRLM, OSAM, or VSAM structures has abnormally
terminated, usually IMS automatically reconnects to these structures. If IMS does
not reconnect to the structures, the operator can use this command to ensure IMS
reconnects to them.
F jobname,STOP

Format

Usage

Active threads, BMPs, and DEDB utilities are abended, but not rolled back until the following /ERESTART command.

Normally, IMS is terminated with an IMS /CHECKPOINT shutdown command. Whenever it becomes necessary to force termination of IMS, the MVS/ESA MODIFY command should be used. When MODIFY is used, a dump of the IMS control region can be requested. (Consult the appropriate MVS/ESA operator’s guide for specific MODIFY formats.)

The MODIFY (F) jobname,STOP command forces a termination of IMS without a dump.

Example

Entry MVS/ESA SC:
   F jobname,STOP

Response MVS/ESA SC:
   DFS628I ABNORMAL TERMINATION SCHEDULED
   DFS629I IMS STM TCB ABEND - IMS 0020

F jobname,STOPxxx

Format

Usage

Note: All references to external subsystems refer to non-CCTL subsystems.

The MODIFY (F) jobname,STOPxxx command causes one or more attached external subsystem connections to be terminated without a dump. If xxx is specified as ESS, the parent external subsystem task and all external subsystem subtasks are terminated. If xxx is a specific external subsystem name, only that external subsystem is terminated. The subsystem specified must be defined in the IMS external subsystem PROCLIB member.

Examples

Example 1 for F jobname,STOPxxx
Entry MVS/ESA SC:
   F jobname,STOPname
Response MVS/ESA SC:

DFS628I ABNORMAL TERMINATION SCHEDULED
DFS629I IMS ESI TCB DUMP - IMS 0020 IES
DFS3611I EXTERNAL SUBSYSTEM name CONNECTION TERMINATED

Example 2 for F jobname,STOPxxxx

Entry MVS/ESA SC:

F jobname,STOPESS

Response MVS/ESA SC:

DFS628I ABNORMAL TERMINATION SCHEDULED
DFS629I IMS ESS TCB DUMP - IMS 0020
DFS629I IMS ESS TCB DUMP - IMS 4095 IES
DFS3611I EXTERNAL SUBSYSTEM name CONNECTION TERMINATED
Chapter 70. MODIFY FDBRPROC

The MODIFY fdbrproc commands are used for an IMS Fast Database Recovery region: to display its status, to stop it, and to recover from failures.

F fdbrproc,DUMP

Format

Usage

Use this command to stop IMS Fast DB Recovery functions and request a dump for the region. The region ends with a return code X'0020'.

F fdbrproc,RECOVER

Format

Usage

Use this command to initiate an IMS Fast DB Recovery of tracked IMS databases. Use this command, for example, after a time-out during XCF or log surveillance.

This command is not accepted if an IMS Fast DB Recovery region is currently starting or if it is recovering databases.

F fdbrproc,STATUS

Format

Usage

Use this command to display status for an IMS Fast DB Recovery region. The output displayed includes the following information:

PHASE

This field indicates the phase of the Fast DB Recovery region. The following are possible values for the phase:

• INIT
• TRACKING
• RECOVERY

LOG-TIME

Time of the log record currently being processed by the Fast DB Recovery region. The length of time
the Fast DB Recovery region lags behind IMS in reading the log is the difference between the current time, as shown by the time stamp, and the log time. This field displays N/A during FDBR initialization.

**ACT-ID**
The IMSID of the IMS subsystem that Fast DB Recovery is tracking. This field displays N/A during FDBR initialization.

**GROUPNAME**
XCF group name used for XCF monitoring. This field displays N/A during FDBR initialization.

**TIMEOUT**
XCF timeout value. This field displays N/A during FDBR initialization.

**AREA01**
The sharing level for DEDB areas. The following are possible values for AREA01:
- RECOV
- NORECOV

You specify the sharing level for AREA01 in the DFSFDRxx member of IMS.PROCLIB.

**Example:**

<table>
<thead>
<tr>
<th>PHASE</th>
<th>ACT-ID</th>
<th>LOG-TIME</th>
<th>TIMEOUT</th>
<th>GROUPNAME</th>
<th>AREA01</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRACKING</td>
<td>SYS3</td>
<td>11:13:40</td>
<td>055 SEC</td>
<td>FDRSYS3</td>
<td>NORECOV</td>
</tr>
</tbody>
</table>

### F fdbrproc,STOP

**Format**

```
F fdbrproc,STOP
```

**Usage**

Use this command to stop an IMS Fast DB Recovery region. The region ends with a return code X'0020'.

### F fdbrproc,TERM

**Format**

```
F fdbrproc,TERM
```

**Usage**

Use this command to stop IMS Fast DB Recovery tracking activity.

This command is not accepted if an IMS Fast DB Recovery region is currently starting or if it is recovering databases.
Chapter 71. MODIFY IRLMPROC

The MODIFY (F) irlmproc commands are used to display the status of an IRLM and abnormally terminate an IRLM.

These commands can be issued only from an MVS console.

F irlmproc,ABEND

Format

\[ F \text{ irlmproc,ABEND, NODUMP} \]

Usage

The MODIFY irlmproc, ABEND command is used to abnormally terminate IRLM whether or not any IMS subsystems are identified to IRLM.

The irlmproc identifies the procedure name of the IRLM to be terminated. Prior to terminating, IRLM initiates all active IMS STATUS exit routines to inform them of the pending termination.

If the NODUMP parameter is specified, IRLM terminates without generating a dump. If the NODUMP parameter is not specified, the system dump is taken to the SYS1.DUMPxx data set.

Recommendation: If IRLM does not terminate because of outstanding IMS requests in process (the DXR011I irlmproc END-OF-TASK CLEAN-UP SUCCESSFUL message is not received), use the following methods (in this order) to terminate IRLM:

1. Issue the MODIFY irlmproc, ABEND, NODUMP command to terminate IRLM without attempting to clean up the outstanding IMS requests.
2. Issue the MVS/ESA CANCEL command.
3. Issue the MVS/ESA FORCE command. This method is least preferred because it might prevent the irlmproc from completing the cleanup required to permit the subsystem to be restarted.

Examples

Example 1 for F irlmproc,ABEND

MVS/ESA SYSTEM 1 SC:

F IR21J, ABEND

Response SYSTEM 1 SC: (partial messages)

DXR124E JR21212 ABENDED VIA MODIFY COMMAND
DUMPID=001 REQUESTED BY JOB (IR21J )
IEA794I SVC DUMP HAS CAPTURED: 857
DUMP TITLE=JR21 ESTAE ENTERED. ABEND U2020 MODULE DXRLE020+0A98
APAR PQ15432 1999/007 14:14:03
IXL030I CONNECTOR STATISTICS FOR LOCK STRUCTURE LOCK2, 860
CONNECTOR IRLMGRPR$JR21212:

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MODIFY IRLMPROC

IXL031I CONNECTOR CLEANUP FOR LOCK STRUCTURE LOCK2, 861
CONNECTOR IRLMGPR$JR21212, HAS COMPLETED.
DXR121I JR21212 END-OF-TASK CLEANUP SUCCESSFUL - HI-CSA 410K -
HI-ACCT-CSA 0K
IEF4901 IR21J IR21J - ABEND=S000 U2020 REASON=00000000
IEF3521 ADDRESS SPACE UNAVAILABLE
$HASP395 IR21J ENDED

Response SYSTEM 2 SC: (partial messages)
DXR137I IR21001 GROUP STATUS CHANGED. JR21 212 HAS BEEN DISCONNECTED
FROM THE DATA SHARING GROUP

Explanation: The operator on system 1 has terminated the procedure named IR21J.
The operator on system 2 is informed that the IRLM on system 1 has failed.

Example 2 for F irlmproc,ABEND
MVS/ESA SYSTEM 2 SC:
F IR21J,ABEND,NODUMP

Response SYSTEM 2 SC: (partial messages)
DXR165I JR21212 TERMINATED VIA IRLM MODIFY COMMAND.
IXL030I CONNECTOR STATISTICS FOR LOCK STRUCTURE LOCK2, 976
CONNECTOR IRLMGPR$JR21212:
....
IXL020I CLEANUP FOR LOCK STRUCTURE LOCK2, 980
CONNECTION ID 02, STARTED BY CONNECTOR IRLMGPR$IR21001
IXL021I GLOBAL CLEANUP FOR LOCK STRUCTURE LOCK2, 981
CONNECTION ID 02, BY CONNECTOR IRLMGPR$IR21001
HAS COMPLETED.
DXR121I JR21212 END-OF-TASK CLEANUP SUCCESSFUL - HI-CSA 343K -
HI-ACCT-CSA 0K
IEF3521 ADDRESS SPACE UNAVAILABLE
$HASP395 IR21J ENDED

Response SYSTEM 1 SC: (partial messages)
DXR137I IR21001 GROUP STATUS CHANGED. JR21 212 HAS BEEN DISCONNECTED
FROM THE DATA SHARING GROUP

Explanation: The operator on system 2 has terminated the procedure named IR21J
and has suppressed the SDUMP dump. The operator on system 1 is informed that
the IRLM on system 2 has failed.

F irlmproc,DIA,G,HANG

Format

```
F irlmproc,DIA,---HANG---
```

Usage

HANG is used under the direction of IBM service for collecting IRLM SYSPLEX
dumps when DEADLOCK or TIMEOUT issues are suspected.

This command takes dumps during DEADLOCK processing and causes
DEADLOCK processing to STOP while the dynamic deadlock storage is collected.
MVS DUMP services then schedules an SRB to restart DEADLOCK processing.
DXR183I is issued by each IRLM as the SRB resumes IRLM deadlock.
If this message is not issued, that IRLM must be terminated and restarted.

**Note:** Always start the IRLM SCF CTRACE internally and wait 30 seconds before issuing this command.

### F irlmproc,PURGE,imsname

**Format**

```
F irlmproc,PURGE,imsname
```

**Usage**

The `MODIFY (F) irlmproc, PURGE,imsname` command releases IRLM locks retained for a specific IMS subsystem because of an IMS, IRLM, or system failure. The command causes STATUS exit routines to be activated for each identified IMS. This command is used in the following recovery situations:

- Database cleanup was performed and reflected in the RECON data set, but the IRLM was not made aware of it. This typically occurs when a batch backout is performed before the IRLMs are reconnected. After the PURGE command is issued, data that was locked is made available to the active IMSs.
- Recovery will be performed later and the databases must be unavailable for use by other IMSs.

**Restriction:** Ensure the IMS Database Manager is inactive prior to issuing this command. In a DBCTL environment, use the `/CHANGE CCTL` command when the DBMS is active.

The `imsname` is the IMS name displayed by the STATUS command. The `irlmproc` identifies the procedure name for each IRLM. If multiple IRLMs exist in the same system, each procedure must have a unique procedure name. The `irlmproc` must be a procedure name of an active IRLM which is connected to the same sysplex group as the failed member. Issuing a purge request using an inactive IRLM, will cause the error, IEE3411 irlmproc NOT ACTIVE.

**Example**

To clean up the retained locks from a down IMS (for example, IMS1), first check if the `irlmproc` (for example, ims1irlm) is up by issuing the following command:

```
D A,L
```

If the IRLM is up (active), check the status of the IMS subsystem, by issuing the following command:

```
F ims1irlm,STATUS
```

If the IRLM is down (inactive), then issue the following PURGE command:

```
F ims1irlm,PURGE,ims1
```

In a sysplex environment, if the IMS is down and its IRLM is stopped or disconnected, you must use one of the other active IRLM members to query retained locks and issue the following PURGE command:

```
F irlmproc,STATUS,ALLD
```
MODIFY IRLMPROC

After you issue the PURGE command, you must issue a purge request on the system with an active IRLM. For example, if system B is up on an IMS2 subsystem with an irlmpoc named ims2irlm, issue the following command to display all up and down subsystems in a datasharing sysplex:

F ims2irlm,STATUS,ALLD

Then, if the IMS2 subsystem is down, issue the PURGE request, by entering the following command:

F ims2irlm,PURGE,ims1

The response on the z/OS system console for completed purge request is:

DXR109I IRS2002 PURGE COMMAND COMPLETED FOR IMS1

F irlmpoc,SET

Format

```
>>MODIFY—irlmpoc,SET
  ,—CSA=nnn
  ,—DEADLOCK=nnnn
  ,—HASH=nnn
  ,—LTE=nnnn
  ,—TIMEDOUT=nnnn,—ssname—
  ,—TRACE=nnn
```

Usage

The Modify (F) irlmpoc,SET command dynamically alters a limited set of parameters known to IRLM.

_irlmpoc_

Specifies the IRLM that is to process the command.

_CSAA=nnn_

Requests that IRLM dynamically sets the maximum amount of CSA that this IRLM can use for lock control structures. These structures are allocated from ECSA when PC=NO. This command is ignored if PC=YES. Valid values are from 1 through 999 (megabytes). IRLM does not immediately allocate ECSA storage for the new value you set in this command. IRLM allocates storage as needed, not to exceed the amount of ECSA specified in the command. If the amount of storage currently allocated by IRLM is greater than the amount of ECSA you specify in this command, more storage is not obtained until normal processing frees enough storage to bring the current allocation below the new ECSA value you set.

_DEADLOCK= nnnn_

_ nnnn_ The number in milliseconds to be used for the local deadlock frequency. The value range is 100 - 5000 milliseconds. If a member of a sysplex group and all IRLMs are not enabled for subsecond deadlock processing, DXR106E will be issued.

When the IRLM supporting subsecond deadlock joins a group which has a member which does not support subsecond deadlock, the value range used for the new member joining, is 1 to 5 seconds. All members supporting subsecond processing will issue the DXR177I message after changing the timer value.
**Note:** Once IMS TIMEOUT candidates have timed out, they remain timeout candidates and are presented to the timeout exit each Global deadlock cycle. IMS creates SMF 79.15 records when candidates are presented. They are then written to the SMF datasets, if enabled. If timeout candidates are found and the value for $\text{nnnn}$ is subsecond, there will be many SMF 79.15 records written per second until the tasks are no longer waiting in IRLM.

**HASH=nnnn**

Determines the number of LOCK HASH entries to be specified on the next connect to the XCF LOCK structure. Valid values must be an even power of two between 0-1024. Each increment in value represents 1,048,576 hash entries.

Any syntax error in issuing the command will receive DXR106E. Syntax errors include HASH value out-of-range or invalid identified subsystem name. If IRLM is not connected to the group and the value is valid, the DXR177I message will be issued but the value will not be sent to any other member. If the member is already in the group, the value is sent to the Global Deadlock Manager IRLM to be broadcast to all other members. If the GDM does not have the code applied, no DXR177I response will be issued on any member. If the GDM has the code, then all members with the code applied will issue the DXR177I as the command is processed. This value is only used if the IRLM is the first to join the data sharing group causing structure allocation, or during a REBUILD. Any IRLM joining later will not have the updated value. If multiple MODIFY commands are issued, some DXR177I messages may be missing. The last DXR177I issued is the value to be used on the next CONNECT.

The value for the number of LOCK HASH entries specified during normal group startup and during REBUILD are used in the following order:

1. The value specified on the MODIFY irlmproc,SET,HASH= command if it is greater than 0.
2. The value from the HASH= in the IRLMPROC if it is greater than 0
3. The existing logic, which determines the nearest power of 2 after dividing the QUERY size returned by 2 times Hash width based on MAXUSRS.

If an attempt is made to use a nonzero value from either 1 or 2 above and that value is too large for the structure size returned on the QUERY, then the value from the next lower order sequence is used.

**LTE=nnnn**

$\text{nnnn}$ The number of Lock Table Entries to be specified on the next CONNECT to the XCF LOCK structure. The value range must be 0 - 1024 and be an even power of two. Each increment in value represents 1,048,576 Lock Table Entries.

Any syntax error in issuing the command will receive DXR106E. Syntax errors include LTE value out-of-range. If this IRLM is not connected to the group, and the value is valid, it will issue DXR177I, but the value will not be sent to any other member. If the member is already in the group, the value is sent to the Global Deadlock Manager (GDM) IRLM to be broadcast to all other members. If the GDM does not have the code applied, no DXR177I response will be issued on any member. If the GDM has the code, then all members with the code applied will issue the DXR177I as the command is processed.

This value is only used if the IRLM is the first to join the data-sharing group causing structure allocation or during a REBUILD. If any IRLM joins later, they will not have the updated value. If multiple MODIFY commands are issued on the
same or multiple IRLMs, some DXR177I may be missing. The last DXR177I issued is the value to be used on the next CONNECT.

The value for the number of Lock Table Entries specified during normal group startup and during REBUILD are used in the following order:
1. The value specified on the MODIFY irmlproc,SET,LTE= command if it is greater than zero.
2. The value from the LTE= in the IRLMPROC if it is greater than zero.
3. The existing logic, which determines the nearest power of 2 after dividing the QUERY size returned by 2 times LTE width based on MAXUSRS.

If an attempt is made to use a nonzero value from either step 1 or 2 and that value is too large for the structure size returned on the QUERY, then the value from the next lower order sequence is used.

**TIMEOUT=nnnn,ssname**

*nnnn*  The new timeout value desired between 1 and 3600 seconds.

*ssname*  The identified subsystem name as displayed by the MODIFY irmlproc,STATUS command.

Any syntax error in issuing the command will receive DXR106E. Syntax errors include TIMEOUT value out-of-range or invalid identified subsystem name. A syntax error message will also be given if the DXR177I message has not been received for the prior command completion.

The TIMEOUT value must be a multiple of the local deadlock parameter. If the value entered is not an even multiple of the local deadlock parameter, IRLM increases the timeout value to the next highest multiple. The value used by IRLM for timeout is displayed in the DXR177I message, which is issued during deadlock processing. This new value is used until the IRLM or identified subsystem is terminated, or the timeout is changed again by the operator. The value specified on the command does not affect the time out value in the DB2 ZParms.

**TRACE=nnn**

Requests that IRLM dynamically sets the maximum number of 64KB trace buffers per trace type to the value you specify in *nnn*. This value is used only when the external CTRACE writer is not activated. The trace buffers are allocated from ECSA. Valid values are from 10 through 255. If you specify a value outside of this range, IRLM automatically adjusts the value to a value within the range. The default is 10. IRLM does not immediately acquire the number of trace buffers you set, but allocates buffers as needed, not to exceed the number of buffers you set in this command. If the number of trace buffers you set is less than the number of currently allocated buffers, IRLM brings the number to within your specified range by releasing the oldest buffers at the end of the next deadlock or timeout cycle.

**Restrictions:**
1. Do not modify the CSA value without first contacting the system programmer to determine the amount of CSA storage that can be used for IRLM.
2. The values you set in the MODIFY command do not persist through a stop and restart of IRLM. The number of trace buffers for each trace type returns to the default value of 10 and the value for MAXCSA returns to the value you set for the MAXCSA parameter of the IRLM startup procedure.
Examples

Example 1 for F irlmproc,SET
Entry on an MVS1 system console:
F IRLMPROC,SET,CSA=10

Response on MVS1 system console:
DXR1771 IRLMX THE VALUE FOR MAXCSA IS SET TO 10

Example 2 for F irlmproc,SET
Entry on an MVS system console:
F IRLMPROC,SET,TRACE=20

Response on system console:
DXR1771 IRLMX THE VALUE FOR TRACE IS SET TO 20

Example 3 for F irlmproc,SET
Entry on an MVS system console:
F IRLMPROC,SET,TIMEOUT=60,DBMS

Response on system console:
DXR1771 IRLMX THE VALUE FOR TIMEOUT IS SET TO 60 FOR DBMS

F irlmproc,STATUS

This command is used to display the status of an IRLM.

Format

MODIFY irlmproc,STATUS

Usage

The MODIFY (F) irlmproc,STATUS command is used to display the status of an IRLM.

The irlmproc identifies the IRLM that is to process the command.

irlmx

Specifies which IRLM’s status is to be displayed. The irlmx parameter is the concatenation of the IRLM subsystem name (IRLMN) and a three-digit IRLM member ID (IRLMID) specified in the IRLM startup procedure. An example is DB2G002 (ID is 002).

ALLD

Requests the DBMS names and status of subsystems, active or failed, on any IRLM in the data sharing group. This keyword also shows any RETAINED LOCKS the systems might own and the IRLM they are currently associated with.
ALLI
Requests the IRLM names and status for all IRLMs in a data sharing group.

MAINT
Allows the operator to display the IRLM maintenance levels for IRLM load modules, with the exceptions of: DXRRRLM50, DXRRL183, DXRRL186, DXRRLFTB, and in a non-sysplex environment DXRRLM70.

STOR
For this IRLM, displays the current and maximum specified allocation for CSA and ECSA storage.

TRACE
For this IRLM, requests information about IRLM subcomponent trace types. The information returned includes whether a subcomponent trace type is active, how many trace buffers are used by the trace, and whether the component trace external writer is active for the trace.

You can activate or deactivate traces by using the TRACE CT command of MVS. You cannot turn off the EXP and INT traces. The XIT (for data sharing), EXP, and INT traces are automatically activated when you start IRLM. Traces are automatically activated with IRLMPROC TRACE=YES.

Message DXR001I is issued if the irlmx parameter is omitted or specifies the IRLM receiving the command. This multiline message contains work unit and lock information for each IMS identified to this IRLM.

Message DXR001I is also issued if the irlmx parameter is specified, but the IRLM receiving the command has no knowledge of an IRLM with an IRLMID of irlmx.

Message DXR102I is issued if irlmx is specified. This multiline message contains the IMS names and status of each IMS subsystem identified to the IRLM with an IRLMN and IRLMID of irlmx. Message DXR102I is also issued if ALLD is specified. It contains the names and status of each IMS subsystem identified to the IRLM in the data sharing group.

Message DXR103I is issued if ALLI is specified. This multiline message contains the IRLM names and status of all IRLMs in the data sharing group.

Examples

Example 1 for F irlmproc,STATUS
Assume you are in a non-data sharing environment. Enter on the MVS1 system console:

F IRTPROC,STATUS

Response on MVS1 system console:

```
DXR101I IR2T001 STATUS SCOPE=LOCAL
SUBSYSTEMS IDENTIFIED PT01
  NAME   STATUS UNITS HELD WAITING RET_LKS
  DSNT1  UP-NS 0005 0010 0002 0
```

Explanation: The operator on system 1 has requested information about the IMS systems connected to the IRLM identified by the IRLM procedure named IRTPROC.

Example 2 for F irlmproc,STATUS
Assume you have a data sharing group. Enter on a system console:

F DBIGIRLM,STATUS,ALLD
Response on system console:

<table>
<thead>
<tr>
<th>DATE</th>
<th>STC</th>
<th>TIME</th>
<th>DXR</th>
<th>SUBSYSTEMS IDENTIFIED</th>
<th>STATUS</th>
<th>IRLMID</th>
<th>IRLM_NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.02.10</td>
<td>STC00086</td>
<td>DXR102I</td>
<td>DJ1G001</td>
<td>STC00086 DXR102I DJ1G001</td>
<td>STATUS</td>
<td>IRLMID=001</td>
<td>IRLM_NAME=PT01</td>
</tr>
<tr>
<td>DB4G</td>
<td>UP</td>
<td>0</td>
<td>004</td>
<td>DJ4G</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DB3G</td>
<td>UP</td>
<td>0</td>
<td>003</td>
<td>DJ3G</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DB2G</td>
<td>UP</td>
<td>0</td>
<td>002</td>
<td>DJ2G</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DB1G</td>
<td>UP</td>
<td>0</td>
<td>001</td>
<td>DJ1G</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Explanation: The output shows all the IMS subsystems that are connected to IRLMs in this data sharing group (the group to which the IRLM processing the request belongs). The value “UP” in the STATUS field indicates that the IMS is active. Other possible values for STATUS include:

- **DOWN**: The IMS is failed.
- **UP-RO**: IMS is active and is currently identified to IRLM as a read-only subsystem.
- **CLEANUP**: IRLM is waiting for the IMS subsystem to respond that cleanup has completed after a failure condition.
- **SFAIL**: The IRLM that IMS is identified to has been disconnected from the data sharing group. Any “modify” type locks held by IMS have been retained by IRLM.

**Example 3 for F irlmproc,STATUS**

Again, assume data sharing is in effect. Enter the following on the system console:

```plaintext
F DB1GIRLM,STATUS,ALLI
```

The response on the console is:

<table>
<thead>
<tr>
<th>DATE</th>
<th>STC</th>
<th>TIME</th>
<th>DXR</th>
<th>IRLMS PARTICIPATING IN DATA SHARING PT01</th>
<th>IRLM_NAME</th>
<th>IRLMID</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.03.50</td>
<td>STC00086</td>
<td>DXR103I</td>
<td>DJ1G001</td>
<td>STC00086 DXR103I DJ1G001</td>
<td>DJ4G</td>
<td>004</td>
<td>UP</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DJ3G</td>
<td>003</td>
<td>UP</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DJ2G</td>
<td>002</td>
<td>UP</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DJ1G</td>
<td>001</td>
<td>UP</td>
</tr>
</tbody>
</table>

Explanation: The output shows the IRLMs that are participating in this data sharing group (the group that includes the IRLM processing the request). The value “UP” in the STATUS field indicates that the IRLM is active. STATUS shows “DOWN” if the IRLM is failed.

**Example 4 for F irlmproc,STATUS**

Enter the following command on the system console:

```plaintext
F IR21PROC,STATUS,STOR
```

The response on the console is:

```plaintext
DXR1001 IR21001 STOR STATS
PC: NO MAXCSA: 6M¹
ABOVE 16M: 72 4033K BELOW 16M: 6 15K
CLASS TYPE SEGS MEM TYPE SEGS MEM TYPE SEGS MEM
ACCTNT T-1 1 64K T-2 1 64K T-3 1 4K⁴
PROC WRK 11 58K SRB 3 3K OTH 2 2K
MISC VAR 60 4081K N-V 6 22K FIX 1 24K⁵
```
Notes:
1. Displays the current values for the PC and MAXCSA options of the IRLM startup procedure.
2. Shows storage use of accountable storage; that is, storage that is accountable toward the MAXCSA value of the IRLM procedure. In this output, the current use accountable storage (ACNT) is 132 KB. The high water mark since the last time IRLM was started is also 132 KB.
3. Shows the total current CSA and ECSA usage. In this case, the current usage is 4048 KB and the high water mark is 4086 KB. The accountable storage is a subset of this total storage.
4. The ACCNT row of the report is a breakdown of lock control block structures and their storage use.
   - **T-1** Type 1 structures are for resources. In this case, it shows that one storage segment is held for a total of 64 KB.
   - **T-2** Type 2 structures are for all resource requests after the first request for a specific resource. In this case, it shows that one storage segment is held for a total of 64 KB.
   - **T-3** Type 3 structures are for requesters (or work units) that are waiting for resources or are currently holding resources. In this case, it shows that one storage segment is held for a total of 4 KB.
5. The PROC and MISC rows contain usage information for CSA, ECSA, and private storage used to process DBMS requests. Use this information under the guidance of IBM service for diagnosing problems.

**Example 5 for F irlmproc,STATUS**
In this example, the response on the console displays a report that is started with PC=YES.

```
MODIFY IRLMPROC
```

Because this is an IRLM report that results from specifying PC=YES, the storage used, shown for accountable storage, is that of IRLM private storage used for the IRLM lock control structures.

This example illustrates what can happen when an application generates a high IRLM lock contention rate. Notice that a large amount of storage used is for SRB and below the 16MB line.

**Related Reading:** For more information about reducing lock contention and on tuning your system, see *IBM DATABASE 2 Administration Guide* and *DB2 for OS/390 Version 5: Data Sharing: Planning and Administration*.

**Example 6 for F irlmproc,STATUS**
When the following command is entered on the system console:

```
F PR21PROC,STATUS,TRACE
```

The response on the console is:
The example shows the storage currently allocated for IRLM tracing is 256 KB, the maximum number of trace buffers allowed per trace type is set to 10, and the external CTRACE writer is not active. The trace size for each buffer is 64 KB. You can change the maximum number of trace buffers that can be used by issuing the following command: MODIFY irlmproc,SET,TRACE=nnn.

Related Reading: For more information about trace types, see Chapter 74, "TRACE CT," on page 725.
Chapter 72. STOP CQSJOB

Format

\[ \text{STOP} \ cqsjobname \]

Usage

The STOP \( \text{(P)} \ cqsjobname \) command is used to normally shut down CQS. The command is rejected if any active IMS subsystems are currently connected to CQS.

The \text{cqsjobname} identifies the job name for the CQS to be stopped.
Chapter 73. STOP IRLMPROC

Format

\[ P \text{ irlmproc} \]

Usage

The STOP (P) irlmproc command is used to normally shut down IRLM. The command is rejected if any active IMS subsystems are currently identified to IRLM.

The irlmproc identifies the procedure name for the IRLM to be stopped.

Example

MVS/ESA SYSTEM 1 SC:

P IR21I

Response SYSTEM 1 SC:

DXR110I IR21001 STOP COMMAND ACCEPTED
IXL030I CONNECTOR STATISTICS FOR LOCK STRUCTURE LOCK2, 070
CONNECTOR IRLMGPR$IR21001:
IXL031I CONNECTOR CLEANUP FOR LOCK STRUCTURE LOCK2, 071
CONNECTOR IRLMGPR$IR21001, HAS COMPLETED.
DXR121I IR21001 END-OF-TASK CLEANUP SUCCESSFUL - HI-CSA 732K -
HI-ACCT-CSA 132K
IEF352I ADDRESS SPACE UNAVAILABLE
$HASP395 IR21I ENDED

Response SYSTEM 2 SC:

NONE

Explanation: The operator on system 1 has terminated the IRLM procedure named IR21I. No operator action on system 2 is required.
Chapter 74. TRACE CT

Format

```
TRACE CT, WTRSTART=parmlibmem, WRAP
WTRSTOP=jobname
ON, COMP=irlmm
SUB=(DBM, EXP, INT, SLM, XCF, XIT)
OFF
```

Notes:
1. The same trace type can be specified only once.

Usage

Use the MVS TRACE CT™ command to start, stop, or modify an IRLM diagnostic trace. IRLM does not support all the options available on the TRACE CT command described in *OS/390 MVS System Commands* (GC28-1781).

The impact of setting TRACE CT ON is that each active subname type requires up to .7 MB of ECSA. Because IRLM initializes its own traces when it starts, the DISPLAY TRACE command shows that all traces are off. After you issue the TRACE ON command, the reports are accurate except for the two subname types, INT and EXT, which cannot be turned off.

This command can be entered only from the master console. The command requires an appropriate level of MVS authority, as described in *OS/390 MVS System Commands* (GC28-1781).

**CT**

Specifies the component trace (instead of the other trace options available on the MVS TRACE command).

**WTRSTART=parmlibmem**

Identifies the name of the member that contains the source JCL that invokes the external writer and defines the data set to which external writer writes the trace buffers. The member can be a SYS1.PROCLIB cataloged procedure or a job. Many installations use a cataloged procedure in SYS1.PROCLIB.

After you enter a TRACE CT, WTRSTART command, turn the trace on and connect the writer using the WTR parameter in the reply for a TRACE CT command, as shown in “Examples” on page 727.

**WRAP**

Specifies that when the system reaches the end of the data set or...
TRACE CT Command

group of data sets, it writes over the oldest data at the start of the data set or the start of the first data set in the group. The primary extents of the data set are used.

**NOWRAP**
Specifies that the system stops writing to the data set or data sets when they are full. The primary and secondary extents of the data sets are used.

**WTRSTOP=jobname**
Identifies the job name of a component trace external writer to be stopped. The data sets that the writer used are closed.

The job name is either:
- A member name, if the source JCL is a procedure.
- The name on a JOB statement within the source JCL.

**ON**
Turns on the trace.

**COMP=irrmsnm**
The IRLM subsystem name.

**SUB=subname**
Identifies the type of sublevel trace desired. This parameter can be any of the following values:

- **DBM**
  Trace interactions with the identified DBMS.

- **EXP**
  Trace any exception condition. EXP is automatically turned on when IRLM starts running and is permanently turned on.

- **INT**
  Trace member and group events outside of normal locking activity. INT is automatically turned on when IRLM starts running and is permanently turned on.

- **SLM**
  Trace interactions with the MVS locking component.

- **XCF**
  Trace all interactions with MVS Cross-System coupling services.

- **XIT**
  Trace just asynchronous interactions with the MVS locking component. XIT is automatically turned on when IRLM starts running, but it can be turned off using the MVS TRACE CT command.

**OFF**
Turns off the trace. If IRLM is connected to a component trace external writer, the system forces an implicit disconnect.

In the case of the EXP and INT sublevel traces, the OFF parameter stops the traces from writing to the external writer. However they continue to write to buffers. These traces are used by IMS for debugging purposes.
Ensure IRLM Load Module Is in MVS Link List

Because this command uses MVS component trace services, make sure that the IRLM start and stop load module, DXRRL183, is in the MVS link list.

Sample External Writer Procedure

Here is a sample procedure for the IRLM external writer:

```assembler
//CTWTR  PROC
//       EXEC PGM=ITITRRCWR
//TRCOUT01 DD DSNAME=SYS1.WTR1,DISP=OLD
//TRCOUT02 DD DSNAME=SYS1.WTR2,DISP=OLD
```

Displaying a Trace

To display a trace, use the MVS DISPLAY command:

```
D TRACE,COMP=IRLM
```

Examples

Example 1 for TRACE CT

Here is an example sequence of commands to start and stop an IRLM DBM trace. In this example, the trace data is written to an external writer data set identified in procedure CTWTR:

```
TRACE CT,WTRSTART=CTWTR
TRACE CT,ON,COMP=IRLM,SUB=(DBM)
  
  (MVS asks for a reply.)
  
R 15,WTR=CTWTR,END
TRACE CT,OFF,COMP=IRLM,SUB=(DBM)
  
  (Wait a while to make sure trace buffers are externalized.)
TRACE CT,WTRSTOP=CTWTR
```

Example 2 for TRACE CT

Here is a sample procedure to start and stop traces in wrap-around mode. The traces captured in this procedure are saved in a limited number of buffers that are provided by IRLM. Each buffer is reused when the previous buffer is filled.

```
TRACE CT,ON,COMP=IRLM
  
  (MVS asks for a reply.)
  
R 15,END
TRACE CT,OFF,COMP=IRLM
```
TRACE CT Command
Chapter 75. CANCEL/FORCE ODBA

The CANCEL and FORCE commands are used to terminate an ODBA application address space with an active connection to an IMS subsystem.

Format

```
  CANCEL jobname
```

Usage

The CANCEL jobname command is used to terminate an ODBA application address space with an active connection to an IMS subsystem. In this command, jobname is the ODBA application address space.

If there are no active threads under this connection to IMS, allow the CANCEL command to be processed by MVS. If there appear to be active threads (IDTTHDCT is greater than zero), the CANCEL command is rejected and message DFS08051 is issued.

Once the CANCEL command has been issued, no additional threads will be allowed to schedule from the target address space until the connection to IMS has been successfully terminated and re-initialized.

The CANCEL is rejected to protect the IMS control region from ABENDU0113 or other related abends. If it is invalid for threads to be active at this time, gather documentation to determine the reason for the active thread(s).

Format

```
  FORCE jobname
```

Usage

The FORCE jobname command is used to terminate an ODBA application address space with an active connection to an IMS subsystem if the CANCEL command was rejected. In this command, jobname is the ODBA application address space.

**Recommendation:** Attempt the CANCEL command prior to attempting the FORCE command.

If this is the first time that FORCE has been issued against the current iteration of the ODBA application address space, DFS1S100 will change the FORCE to a CANCEL and allow MVS to process the CANCEL command.

If the CANCEL command was rejected and a prior FORCE command was issued against the current iteration of the ODBA application address space and was not successful, issue a second FORCE command to allow MVS to process the second FORCE command.
Use the `FORCE` command with caution. By allowing MVS to `CANCEL` the address space, it is possible that the IMS control region may terminate abnormally depending on the actual state of the active thread(s). Resolve the outstanding active threads prior to issuing the `FORCE` command.
Chapter 76. STOP CSL Address Spaces

Format

```
>>> P rmjobname
```

```
>>> P omjobname
```

```
>>> P scijobname
```

Usage

The STOP (P) rmjobname, P omjobname, and P scijobname command is used to shut down the Resource Manager (RM), Operations Manager (OM), and Structured Call Interface (SCI) address spaces in an IMSplex.

**rmjobname**  
Identifies the job name of the RM address space to be stopped.

**omjobname**  
Identifies the job name of the OM address space to be stopped.

**scijobname**  
Identifies the job name of the SCI address space to be stopped.

For more information about shutting down individual CSL address spaces, see IMS Version 8: Common Service Layer Guide and Reference.

To shut down the CSL as one unit, issue the CSL SHUTDOWN command to any SCI in the IMSplex with the OS/390 MODIFY command interface.

**Note:** Before issuing the OS/390 MODIFY command, issue a /CHE FREEZE command to terminate all IMSplex members that might be connected to the CSL.

To shut down a CSL on one OS/390 image, issue the following OS/390 MODIFY command:
```
F scijobname,SHUTDOWN CSLCL
```

where scijobname is the name of the SCI in the CSL.

This command shuts down the CSL on the OS/390 image associated with the SCI that receives the command. Use this version of the command to shut down the CSL on a single OS/390 image in an orderly way.

To shut down an entire IMSplex, issue the following OS/390 MODIFY command:
```
F scijobname,SHUTDOWN CSLPLEX
```

where scijobname is the name of the SCI in the CSL.

This command shuts down the CSL managers on all OS/390 images in a single IMSplex associated with the SCI that receives the command.
For more information about shutting down the CSL using OS/390 commands, see
IMS Version 8: Common Service Layer Guide and Reference
Chapter 77. Introduction

Transport Manager Subsystem commands can be issued either from a SYSIN data set as an automated process during component start or from an MVS console using the MVS MODIFY command (F procname,command).

Transport manager commands are:

- DEFINE
- DISPLAY
- SET
- START
- STOP
Introduction to TM Commands
Chapter 78. DEFINE

Format

```
DEFINE SYSTEM (name) STARTED STOPPED
```

Usage

The DEFINE command is used to define one or more transport manager subsystems that support IMS components for one or more global service groups.

A START SYSTEM(name) command is required to start the TMS once it has been defined.

**SYSTEM**
- Specifies the first portion (1 to 5 characters) of the VTAM APPLID used by the other transport managers to which this transport manager should connect. The name specified should match the SET APPLID. A system name that matches the APPLID of this transport manager (specified on SET) causes an informational message to be issued; other system names will continue to be processed.

Transport manager will not communicate with an LU whose name has not been defined by a DEFINE SYSTEM command.

**STARTED**
- Specifies that the system should be started automatically when the TMS is started or (if the TMS is already started) when the DEFINE command is processed.

STARTED is the default.

**STOPPED**
- Specifies that the system should not be started automatically when the TMS is started or (if the TMS is already started) when the DEFINE command is processed.
Chapter 79. DISPLAY

Format

Usage

The DISPLAY command is used to provide information about the definition and status of resources related to transport manager. Transport manager only provides communication services for the active and tracking site IMSs; it has no knowledge of the activities at either site.

To see information related to active site IMS or tracking site IMS use the IMS /DISPLAY command.

DIRECTORY
- Displays current entity (IMS subsystem or ILS task) information from the transport manager directory. If no entity (or list of entities) is specified, all information in the directory is displayed. The directory information includes information on the global service group (GSG) name, the service group (SG) name, the system name, the instance name, and the component name.

If you specify *, then ALL information for the entity is displayed.

ENTITY
- Displays entities (IMS subsystems and ILS tasks) currently identified to this transport manager. If no list of entity names is provided, all are displayed. Entity information is displayed for the following:

MSGNAME
- The IMS ID or job name of the entity. This is included in various TMS messages (prefix ELX) to identify the entity.

GSGname
- The global service group name.
**DISPLAY**

**SGname**
The service group name.

**INSTANCEname**
The TMS instance name.

**COMPONENTname**
The TMS component name.

**APPLID**
The VTAM APPLID assigned to the entity.

**STATUS**
The relationship between the entity and the transport manager. The status of the entity can be any of the following:

- **IDEN0**
  APPLID resource name is allocated for the entity during the IDENTIFY processing.

- **IDEN1**
  APPLID resource name is committed for the entity during the IDENTIFY processing.

- **ACT**
  The entity is active.

- **FAIL**
  The entity has failed during the IDENTIFY processing.

**STATUS**
Displays the status information of this transport manager as the following:

**TRANSPORT MANAGER**
The version number of the transport manager.

**INSTANCE**
The instance name of the transport manager.

**APPLID/SYSTEM**
The system name of the transport manager.

**ENTITIES**
The number of the active entities (including the TMS itself).

**SYSTEMS**
The number of the active systems.

**ILS**
Displays information on all or on specific global service groups for which ILS is currently started in a transport manager subsystem address space. A **DISPLAY**
ILS command will not complete while a volume mount is outstanding for other than the first volume of a multivolume log data set.

**GSG.SG SUMMARY**

Summary information for each tracking subsystem being supported.

**GSG**
Global service group name (from the START ILS command).

**SG**
Service group name of the tracking subsystem for which this group of display information applies.

**MODE**
VTAM mode name used for conversations (from the START ILS command).

**MAXCONV**
The maximum number of conversations allowed (from the START ILS command).

**CONV**
The number of conversations currently allocated between this ILS and the tracking subsystem.

**Q-REQ**
The number of query requests received from the tracking subsystem since communication began with the tracking subsystem. Query requests are sent periodically by the tracking subsystem to determine if active service group IMS subsystems have run without communicating with the tracking subsystem.

**G-REQ**
The number of gap requests received from the tracking subsystem since communication began with the tracking subsystem.

**DS-SENT**
The number of log data sets successfully sent to the tracking subsystem since communication began with the tracking subsystem. ILS actually sends contiguous portions of log data sets based on the gaps in log data at the tracking site. When all of one of these contiguous portions is sent, the value of this display field is incremented.

**DATASETS**
If any log data sets are currently under consideration for transport to the tracking subsystem described above, they are listed below a separator line. If there is no data set activity, there will be no separator.

**STATUS**
Indicates the current state of processing for a particular data set.

**ACTIVE**
The data set is currently being transported, no delays other than waits for data set read have been detected.

**W-CONV**
The data set may be selected for transmission as soon as a conversation is available.

**ALLOC-IP**
The data set is queued for or in the process of allocation or deallocation. This involves MVS ENQ/DEQ (for OLDS data sets),
MVS DYNALLOC, MVS OPEN/CLOSE functions. Only one data set is processed through this function at a time, so a delay of one may delay others. The most likely cause of a delay in this state would be an unsatisfied tape mount.

**DBRC-IP**
- ILS logic is awaiting completion of a DBRC request related to this data set. The most likely cause of a delay in this state would be contention for the RECON data sets.

**W-SEND**
- The data set is currently being transported, but VTAM is not accepting data as fast as ILS is attempting to send it; send is currently waiting for completion of a previous VTAM send. This state generally reflects the results of VTAM pacing controls that limit the ILS to tracking subsystem data rate.

**W-TRKPAC**
- The data set is currently being transported, but the tracking subsystem is not accepting data as fast as ILS is attempting to send it. This state generally reflects the tracking subsystem's inability to write log data as fast as ILS can send it.

**W-TRKOK1**
- The data set is part of a gap; the tracking subsystem has not yet approved actual transport of data sets to fill the gap.

**W-TRKOK2**
- ILS is waiting for the tracking subsystem to approve transport of this specific data set.

**RECORDS-SENT**
- The number of records, in decimal, that have been sent. The number is of the form \( nnnK \), where \( K \) represents 1024 records. The number is rounded off to the nearest \( K \).

**NAME**
- The IMSID of the active system that created the log data set or the job name of the BATCH or BBO job that created the log data set.

**VOLSER**
- The volume serial number, if any, used in allocation of the data set. If this field is blank, the data set is (expected to be) cataloged.

**DSNAME**
- The data set name that is or will be read for transport. This may be a primary or secondary copy of an OLDS or SLDS data set.

**SYSTEM**
- Displays status information about the specified systems. The system name is specified by the DEFINE command and status are displayed. If no list is provided, all are displayed. The status of the system can be any of the following:

- **RALOC**
  - Allocation requested for the system.

- **ALOC**
  - The system is actually allocated.

- **RSTA**
  - Start requested for the system.
STA
The system is actually started.

RSTO
Stop requested for the system.

STO
The system is actually stopped.

Examples
The following are examples of output from the DISPLAY command.

Example 1 for DISPLAY Command
Entry ET:

```
DISPLAY DIRECTORY
```

Response ET:

```
ELX0170I TRANSPORT MANAGER DISPLAY: 92.078   13.48.29.0
GSG   SG   SYSTEM   INSTANCE COMPONENT
   *   *   TMP2   *   TMANAGER
FUNDS SITEA  TMP2  IMSA  LOGGER
FUNDS SITEA  TMP4  IMSC  LOGROUTR
FUNDS SITEA  TMP2  IMSB  LOGGER
FUNDS SITEA  TMP2   *   ILSEND
```

Explanation: When the DIRECTORY object keyword is completely processed, this message is issued for current entity information from the transport manager directory.

Example 2 for DISPLAY Command
Entry ET:

```
DISPLAY DIRECTORY
```

Response ET:

```
ELX0170I TRANSPORT MANAGER DISPLAY: 92.078   13.58.39.0
*** NO DIRECTORY TO DISPLAY ***
```

Explanation: The DIRECTORY has no entities to display. This message is issued when transport manager has not started by the time the DISPLAY command is processed.

Example 3 for DISPLAY Command
Entry ET:

```
DISPLAY ENTITY
```

Response ET:

```
ELX0170I TRANSPORT MANAGER DISPLAY: 92.090   13.48.29.0
MSGNAME   GSG   SG   INSTANCE COMP   APPLID   STATUS
TMP   *   *   *   TMANAGER   TMP2001   IDEN1,ACT
TMPA  FUNDS SITEA  IMSA  LOGGER   *   IDENO
```

Explanation: When the ENTITY object keyword is completely processed, this message is issued to display entities currently identified to this transport manager.
DISPLAY

Example 4 for DISPLAY Command
Entry ET:
```
DISPLAY SYSTEM
```
Response ET:
```
ELX0170I  TRANSPORT MANAGER DISPLAY: 92.078  13.54.51.1
SYSTEM   STATUS
TMP4     ALOC,STA
TMP3     ALOC,STA
TMP5     ALOC,STA
```
Explanation: When the SYSTEM object keyword is completely processed, this message is issued to display status information for the specified systems.

Example 5 for DISPLAY Command
Entry ET:
```
DISPLAY ILS
```
Response ET:
```
ELX0170I  TRANSPORT MANAGER DISPLAY: 91.105  12.07.24.7
GSG:  IMSGSG1  SG:  STLSITE1 MODE:  ILSMODE  MAXCONV:  2
CONV:  2  Q-REQ:  92  G-REQ:  3  DS-SENT:  5
**** DATASETS *********************************************************************************
STATUS  RECORDS-SENT  NAME  VOLSER  DSNAME
W-SEND   12K IMSA  L00813  BURKES.PAYROLL.SLDSP1
ACTIVE   72K IMSA  KENTT.PAYROLL.DFSOLP03
W-CONV   0K IMSA  L00803  BURKES.PAYROLL.SLDSP2
```
Explanation: When the ILS object keyword is completely processed, this message is issued to display isolated log sender status for the specified GSG name.

Example 6 for DISPLAY Command
Entry ET:
```
DISPLAY STATUS
```
Response ET:
```
ELX0170I  TRANSPORT MANAGER DISPLAY: 90.078  13.56.59.5
TRANSPORT MANAGER V5 R0  STATUS:  STARTING,STARTED
INSTANCE:  ELX  APPLID/SYSTEM:  TMP2
ENTITIES:  1  SYSTEMS:  3
```
Explanation: When the /DISPLAY command is entered with the STATUS object keyword, this message is issued to display the status of resources related to transport manager.
Chapter 80. SET

Format

```
SET APPLID (VTAM applid)
  APPLCOUNT (max#)
  PASSWORD (VTAM ACB_password)
  INSTANCE (TMS_instance_name)
  TIMER (timer_count)
```

Usage

The /SET command allows you to specify various parameters that typically stay in effect for the duration of an execution of the transport manager task.

**APPLID**

Specifies a 1- to 5-character name that becomes the first portion of the series of VTAM APPLIDs used by transport manager and related IMS subsystems. This name also becomes the “system name” of the CPC running this transport manager (used in the naming scheme used by transport manager and users of transport manager).

The name used for the APPLID must match the first portion of the name (specified on the DEFINE SYSTEM command) or the ACBNAME=acbname used for a series of VTAM APPL definition statements. See the [IMS Version 8: Installation Volume 2: System Definition and Tailoring](#).

When transport manager is connected to VTAM (that is, the ACB is open), the APPLID keyword is rejected. To avoid definitional conflicts, SET APPLID must be specified before DEFINE SYSTEM commands are issued.

**APPLCOUNT**

Specifies the number of VTAM applids that are to be defined to VTAM for use by this transport manager. The number must exceed by at least 1 the maximum number of IMS subsystems ever expected concurrently to execute on this CPC plus the maximum instances of isolated log sender to be started for this transport manager.

**PASSWORD**

Specifies the VTAM ACB password to be used for the transport manager. This specification is tied to the VTAM APPL PRTCT=password definition. A single password is used for all APPL names.

**INSTANCE**

Specifies a 1 to 4 character name that becomes the instance name (subsystem id) of this execution of transport manager. This value, combined with the TMI name specified in the DFSRSRxx proclib member, the IMSCTRL macro, the DLIBATCH procedure or the DBBBATCH procedure, allows you to use multiple instances of the transport manager within a single system. With different instances of transport manager, you can run test and production subsystems within the same IMS system.

The default value for the instance name is ELX.

Once the TMS is started, the INSTANCE keyword will be rejected.

**TIMER**

Specifies the interval, in seconds, to be used for automatic restart of
transport-manager-to-transport-manager conversations. Automatic restart attempts are made after conversation failures and are continued until a conversation is established or a STOP SYSTEM or STOP RETRY command is issued.

The default value is 300 seconds.
Chapter 81. START

Format

Usage

The /START command is used to activate the objects specified (TMS, SYSTEM, or ILS).

TMS
Specifies that the transport manager is to be started. The START TMS command should be issued after the initial SET and DEFINE commands.

SYSTEM
Specifies that conversations to the specified systems are to be started. This command may be required after a network outage where the transport managers are up but there has been no network connectivity. Specifying SYSTEM(ALL) causes start to be attempted for all systems not already started or starting.

ILS
Specifies that an isolated log sender task is to be started.

gsgname specifies the 1- to 8-character name of the global service group to be serviced by this instance of isolated log sender.

modename specifies the VTAM mode name to be used when allocating conversations for a transfer request. If modename is not specified, the TMS default mode name, TMDEFLT, is used.

MAXCONV
Specifies, for an ILS task, the maximum number of concurrent data set transfers to be used to process one transfer request. The most efficient value is highly dependent on network capacity and routing, as well as on disk configurations and allocations on both local and remote sites.

The default value is 2. The maximum value is 30.
### Chapter 82. STOP

#### Format

![Diagram of STOP command format]

#### Usage

The STOP command is used to stop the objects specified. In order to stop the entire transport manager subsystem, you can use MVS STOP command (P procname) from the MVS console.

**TMS**

Specifies that the entire TMS subsystem is to be stopped.

**SYSTEM**

Specifies that conversations to the specified systems are to be stopped. Requests from other systems to establish conversations will be rejected.

**RETRY**

Specifies that automatic conversation allocation retry is to be stopped for the specified systems or for ALL systems. Requests from other systems to establish conversations will be accepted.

Automatic conversation allocation retry is allowed again after a conversation is successfully established with the specified systems.

**ILS**

Specifies that an isolated log sender task is to be stopped.

gsrname specifies the 1- to 8-character name of the global service group being serviced by the instance of isolated log sender to be stopped.
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Chapter 83. BPE Commands

BPE Command Syntax and Invocation

BPE supports two command formats: a verb only format, and a verb-resource type format.

The verb only format consists of a verb, followed by zero or more keyword-value pairs, with the values enclosed in parentheses.

BPE Verb Only Command Syntax

```
verb

keyword(value)
```

The verb-resource type format consists of a verb, a resource type, and zero or more keyword value pairs.

BPE Verb-Resource Type Command Syntax

```
verb resource

keyword(value)
```

**verb**

A command verb representing an action. Some verb examples are DISPLAY, UPDATE, and REFRESH.

**resourcetype**

The type of resource that is operated on by the verb. Some resource examples are TRACETABLE and USEREXIT.

**keyword(value)**

A set of zero or more keywords and values that represent attributes, filters, or other modifiers that apply to the command. For example, NAME() to identify the specific resource(s) or LEVEL() to specify a trace level.

BPE Command Invocation

You can only invoke BPE commands through the MVS MODIFY command. The following diagram illustrates the general syntax for entering commands through the modify interface.

BPE Command Invocation

```
F jobname,command
```
BPE Command Syntax and Invocation

F The MVS modify command.

jobname The jobname of the address space to which the command is directed.

command The command being issued.

BPE Wildcard Character Support

Some parameters on BPE commands support wildcard characters for pattern matching. For such parameters, you can use the following wildcard characters:

* Matches zero or more characters

% Matches exactly one character

The following examples illustrate some uses of wildcard characters.

BE* Matches any string beginning with "BE", of any length. For instance: BE, BEE, BEEBLEBROX.

%%S Matches any three-character string ending with an "S". For instance: IMS, CQS.

R*S*T%R Matches any string beginning and ending with "R", having an "S", followed by a "T" in the middle, with any number of intervening characters between the first "R", the "S", and the "T", and exactly one character between the "T" and the final "R". For instance: ROASTER, ROSTER, RESORTER, RESCEPTOR, RSTZR.

* Matches any string.

Specifying IMS Component Command Parameters

BPE commands enable you to display and update resources that BPE manages. Some resource types are defined and owned by BPE itself. These resource types are known as "system resource types." Commands that specify system resource types can be issued to any IMS component running in a BPE environment. For example, BPE defines several BPE system trace table types like DISP, STG, and CBS. These trace tables exist in every BPE address space. Commands to display and update these trace table types can be issued to any BPE address space.

Other resource types are defined and owned by the IMS component that is using BPE services. These resource types are known as "component resource types" or "user-product resource types." Commands that specify component resource types can only be issued to the IMS component that defines those types. For example, CQS defines several CQS-specific trace tables such as STR, CQS, and INTF. Commands to display and update these trace table types can be issued only to CQS address spaces.

BPE commands also provide the ability to restrict the resource types upon which a command operates to either those owned by BPE, or to those owned by the IMS component of the address space to which the command is issued. This is done through the OWNER keyword on commands that support OWNER. Use OWNER(BPE) to restrict the command operation to resource types that BPE owns and defines (system resource types). Use OWNER(component_type) to restrict the command operation to resource types that the IMS component address defines and owns (component resource types). [Table 161 on page 755] shows the valid values for the OWNER parameter, and the address space types to which they apply:
Table 161. Valid Values for OWNER Parameter

<table>
<thead>
<tr>
<th>OWNER</th>
<th>Address Space Type</th>
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</thead>
<tbody>
<tr>
<td>BPE</td>
<td>Any IMS component running in a BPE address space</td>
</tr>
<tr>
<td>CQS</td>
<td>Common Queue Server</td>
</tr>
<tr>
<td>OM</td>
<td>Operations Manager</td>
</tr>
<tr>
<td>RM</td>
<td>Resource Manager</td>
</tr>
<tr>
<td>SCI</td>
<td>Structured Call Interface</td>
</tr>
</tbody>
</table>

BPE TRACETABLE Commands

The TRACETABLE resource type refers to the internal BPE-managed trace tables defined either by BPE (for example: DISP, CBS, STG, LATC), or by the IMS component using BPE (for example: CQS, OM, RM, SCI). Two command verbs operate on the TRACETABLE resource type:

**DISPLAY**

Display trace level and number of trace table pages of specified trace tables.

**UPDATE**

Update trace level attribute of specified trace tables.

Format of DISPLAY TRACETABLE Command

Use this command to display the current attribute settings for the requested trace tables.

Usage of DISPLAY TRACETABLE Command

**DISPLAY | DIS**

A required parameter, which specifies that the action against the specified resource is to display attributes of the resource.

**TRACETABLE | TRTAB**

A required parameter, which specifies that the resource type being acted upon is a BPE-managed trace table.

**NAME(trace_table_name)**

A required parameter, which specifies the name of the trace table type or types about which you want attributes displayed. You can specify a single trace table name or a list of trace table names separated by commas. Trace table names can contain wildcard characters. See "BPE Wildcard Character Support" on page 754 for more information about using wildcard characters. Trace table names can be BPE-defined trace tables or IMS component-defined trace tables.
You can display BPE-defined trace tables for any IMS component address space that is using BPE. These BPE-defined trace table types are available:

- **AWE**: Asynchronous work element (AWE) trace table
- **CBS**: Control block services trace table
- **CMD**: Command trace table
- **DISP**: Dispatcher trace table
- **HASH**: Hash trace table
- **ERR**: BPE Error trace table
- **LATC**: Latch trace table
- **MISC**: Miscellaneous trace table that is used only by IMS Service for trap traces
- **SSRV**: System services trace table
- **STG**: Storage service trace table
- **USRX**: User exit routine trace table

You can display CQS-defined trace tables only for CQS address spaces. These CQS-defined trace table types are available:

- **CQS**: CQS trace table
- **ERR**: CQS error trace table
- **INTF**: CQS interface trace table
- **STR**: CQS structure trace table

You can display OM-defined trace tables only for OM address spaces. These OM-defined trace table types are available:

- **CSL**: Common Service Layer (CSL) trace table
- **ERR**: OM error trace table
- **OM**: Operations Manager (OM) processes trace table
- **PLEX**: IMSplex trace table for OM processing for a specific IMSplex

You can display RM-defined trace tables only for RM address spaces. These RM-defined trace table types are available:

- **CSL**: Common Service Layer (CSL) trace table
- **ERR**: RM error trace table
- **PLEX**: IMSplex trace table for RM processing for a specific IMSplex
- **RM**: Resource Manager (RM) processes trace table

You can display SCI-defined trace tables only for SCI address spaces. These SCI-defined trace table types are available:

- **CSL**: Common Service Layer (CSL) trace table
- **ERPL**: SCI Error Parameter List trace table
- **ERR**: SCI error trace table
- **INTF**: SCI interface trace table
INTP   SCI interface parameter trace table
PLEX   IMSplex trace table for SCI processing for a specific IMSplex
SCI    Structured Call Interface (SCI) processes trace table

**OWNER(BPE | CQS | OM | RM | SCI)**
An optional parameter that specifies the owner of the trace table type or types about which you want attributes displayed. You can specify one of the following values:

- **BPE** For all IMS components that are running in a BPE address space
- **CQS** For CQS address spaces only
- **OM** For OM address spaces only
- **RM** For RM address spaces only
- **SCI** For SCI address spaces only

The OWNER parameter acts as a filter to help you select which trace tables you want to display. For example, you could specify `NAME(*) OWNER(CQS)` to display all of the CQS-defined trace table types (CQS, ERR, STR, and INTF) in a CQS address space. You could specify `NAME(*) OWNER(BPE)` to display all of the BPE-defined trace table types in any BPE-managed address space. If OWNER is omitted, then both BPE and component trace tables might be displayed (depending on the tables specified on NAME).

**DISPLAY TRACETABLE Command Output**
The DISPLAY TRACETABLE command output consists of a header line, one line per selected trace table, and one message BPE0032I line indicating that the command has completed. Here is an example.

```
BPE0030I TABLE  OWNER  LEVEL  #PAGES
BPE0000I DISP  BPE  HIGH  12
BPE0000I STR   CQS  MEDIUM  8
BPE0032I DISPLAY TRACETABLE COMMAND COMPLETED
```

These columns are in the DISPLAY TRACETABLE output:

- **TABLE** Specifies the name of the trace table type about which information is being displayed on the current row. Either BPE or the product using BPE owns this trace table.
- **OWNER** Specifies the IMS component that owns the trace table. BPE-owned trace tables are system trace tables, and exist in all IMS component address spaces that use BPE. Trace tables that are specific to an IMS component show the 1- to 4-character component identifier in this column.
- **LEVEL** Specifies the current level setting of the trace table. A trace table’s level determines the volume of trace data collected. These levels are possible:
  - **NONE** No tracing is being done into the table.
  - **ERROR** Only traces for error or exception conditions are being made into the table.
  - **LOW** Only major event trace entries are made into the table.
  - **MEDIUM** Major event trace entries and some minor event trace entries are made into the table.
BPE TRACETABLE Commands

**HIGH**
All trace entries are made into the table.

**INACTV**
The trace table is inactive and cannot be used. This status occurs only when BPE was unable to get any storage for the trace table. No tracing will be done for the indicated table type, and you cannot change the level for the trace table with the UPDATE TRACETABLE command. You must restart the address space in order to use the trace table again.

**#PAGES**
Specifies the number of 4K (4096 byte) pages allocated for the trace table type.

**Command Example 1**
Display the status of the BPE dispatcher trace table (DISP).

**Command:**
```plaintext
F CQS1,DISPLAY TRACETABLE NAME(DISP)
```

**Output:**
```
BPE0030I TABLE  OWNER  LEVEL  #PAGES
BPE0000I DISP  BPE  HIGH  12
BPE0032I DISPLAY TRACETABLE COMMAND COMPLETED
```

**Command Example 2**
Display the status of all CQS traces.

**Command:**
```plaintext
F CQS1,DIS TRTAB NAME(*) OWNER(CQS)
```

**Output:**
```
BPE0030I TABLE  OWNER  LEVEL  #PAGES
BPE0000I CQS  CQS  MEDIUM  4
BPE0000I ERR  CQS  HIGH  4
BPE0000I INF  CQS  LOW  8
BPE0000I STR  CQS  HIGH  8
BPE0032I DISPLAY TRACETABLE COMMAND COMPLETED
```

**Command Example 3**
Display the status of all traces in an SCI address space.

**Command:**
```plaintext
F SCI,DIS TRTAB NAME(*)
```

**Output:**
```
BPE0030I TABLE  OWNER  LEVEL  #PAGES
BPE0000I AWE  BPE  HIGH  6
BPE0000I CBS  BPE  HIGH  6
BPE0000I CMD  BPE  HIGH  2
BPE0000I CSL  SCI  HIGH  8
BPE0000I DISP  BPE  HIGH  8
BPE0000I ERPL  SCI  HIGH  8
BPE0000I ERR  BPE  HIGH  2
BPE0000I ERR  SCI  HIGH  4
BPE0000I HASH  BPE  HIGH  8
BPE0000I INTF  SCI  HIGH  8
BPE0000I INTP  SCI  HIGH  16
BPE0000I LACI  BPE  HIGH  8
BPE0000I MISC  BPE  HIGH  1
```
BPE TRACETABLE Commands

Command Example 4
Display the status of all OM traces.

Command:

```
F OM,DIS TRTAB NAME(*) OWNER(OM)
```

Output:

```
BPE0030I TABLE OWNER LEVEL #PAGES
BPE0000I CSL OM HIGH 4
BPE0000I ERR OM HIGH 4
BPE0000I OM OM HIGH 4
BPE0000I PLEX OM HIGH 8
BPE0032I DISPLAY TRACETABLE COMMAND COMPLETED
```

Command Example 5
Display the status of the PLEX trace and all traces beginning with "C" in the RM address space.

Command:

```
F RM,DIS TRTAB NAME(PLEX,C*)
```

Output:

```
BPE0030I TABLE OWNER LEVEL #PAGES
BPE0000I CBS BPE HIGH 6
BPE0000I CMD BPE HIGH 2
BPE0000I CSL RM HIGH 4
BPE0000I PLEX RM HIGH 8
BPE0032I DISPLAY TRACETABLE COMMAND COMPLETED
```

Format of UPDATE TRACETABLE Command

Use this command to change the trace level setting for the requested trace tables.

```
UPDATE TRACETABLE NAME(trace_table_name) OWNER(BPE)
LEVEL(NONE ERROR LOW MEDIUM HIGH)
```

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BPE TRACETABLE Commands

Usage of UPDATE TRACETABLE Command

**UPDATE | UPD**
A required parameter, which specifies that the action against the trace table is to update its attributes.

**TRACETABLE | TRTAB**
A required parameter, which specifies that the resource type being acted upon is a BPE-managed trace table.

**NAME(trace_table_name)**
A required parameter, which specifies the name of the trace table type or types that you want to update. You can specify a single trace table name or a list of trace table names separated by commas. Trace table names can contain wildcard characters. See “BPE Wildcard Character Support” on page 754 for more information about using wildcard characters. Trace table names can be BPE-defined trace tables or IMS component-defined trace tables.

You can update BPE-defined trace tables for any IMS component address space that is using BPE. These BPE-defined trace table types are available:

- **AWE**: Asynchronous work element (AWE) trace table
- **CBS**: Control block services trace table
- **CMD**: Command trace table
- **DISP**: Dispatcher trace table
- **ERR**: BPE Error trace table
- **HASH**: Hash trace table
- **LATC**: Latch trace table
- **MISC**: Miscellaneous trace table that is used only by IMS Service for trap traces
- **SSRV**: System services trace table
- **STG**: Storage service trace table
- **USRX**: User exit routine trace table

You can update CQS-defined trace tables only for CQS address spaces. These CQS-defined trace table types are available:

- **CQS**: CQS trace table
- **ERR**: CQS error trace table
- **INTF**: CQS interface trace table
- **STR**: CQS structure trace table

You can update OM-defined trace tables only for OM address spaces. These OM-defined trace table types are available:

- **CSL**: Common Service Layer (CSL) trace table
- **ERR**: OM error trace table
- **OM**: Operations Manager (OM) processes trace table
- **PLEX**: IMSplex trace table for OM processing for a specific IMSplex

---

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You can update RM-defined trace tables only for RM address spaces. These RM-defined trace table types are available:

- **CSL**: Common Service Layer (CSL) trace table
- **ERR**: RM error trace table
- **PLEX**: IMSplex trace table for RM processing for a specific IMSplex
- **RM**: Resource Manager (RM) processes trace table

You can update SCI-defined trace tables only for SCI address spaces. These SCI-defined trace table types are available:

- **CSL**: Common Service Layer (CSL) trace table
- **ERPL**: SCI Error Parameter List trace table
- **ERR**: SCI error trace table
- **INTF**: SCI interface trace table
- **INTP**: SCI interface parameter trace table
- **PLEX**: IMSplex trace table for SCI processing for a specific IMSplex
- **SCI**: Structured Call Interface (SCI) processes trace table

**OWNER(BPE | CQS | OM | RM | SCI)**

An optional parameter that specifies the owner of the trace table type or types that you want to update. You can specify one of the following values:

- **BPE**: For all IMS components that are running in a BPE address space
- **CQS**: For CQS address spaces only
- **OM**: For OM address spaces only
- **RM**: For RM address spaces only
- **SCI**: For SCI address spaces only

The OWNER parameter acts as a filter to help you select which trace tables you want to update. For example, you could specify `NAME(*) OWNER(CQS)` to update all of the CQS-defined trace table types (CQS, ERR, STR, and INTF) in a CQS address space. You could specify `NAME(*) OWNER(BPE)` to update all of the BPE-defined trace table types in any BPE-managed address space. If `OWNER` is omitted, then both BPE and component trace tables might be updated (depending on the tables specified on `NAME`).

**LEVEL(level)**

An optional parameter that sets the new tracing level for the specified trace tables. If LEVEL is omitted, the level of the specified trace tables is not changed. These levels are possible:

- **NONE**: No tracing is being done into the table.
- **ERROR**: Only traces for error or exception conditions are being made into the table.
- **LOW**: Only major event trace entries are made into the table.
- **MEDIUM**: Major event trace entries and some minor event trace entries are made into the table.
- **HIGH**: All trace entries are made into the table.
**BPE TRACETABLE Commands**

**Important:** You cannot change the level for the trace table type ERR. BPE forces the level to HIGH to ensure that error diagnostics are captured. Any level that you specify for the ERR trace table is ignored.

**UPDATE TRACETABLE Command Output**
The UPDATE TRACETABLE command output consists of message BPE0032I indicating that the command has completed:

```
BPE0032I UPDATE TRACETABLE COMMAND COMPLETED
```

**Command Example 1**
Update the level of the BPE dispatcher trace table (DISP) to HIGH.

**Command:**
```
F COS1,UPDATE TRACETABLE NAME(DISP) LEVEL(HIGH)
```

**Output:**
```
BPE0032I UPDATE TRACETABLE COMMAND COMPLETED
```

**Command Example 2**
Update the level of all SCI trace tables to MEDIUM.

**Important:** You cannot change the level for the trace table type ERR -- even when using a wildcard character to select all tables with a given owner, as in this example. BPE forces the level to HIGH to ensure that error diagnostics are captured.

**Command:**
```
F SCI,UPD TRTAB NAME(*) OWNER(SCI) LEVEL(MEDIUM)
```

**Output:**
```
BPE0032I UPDATE TRACETABLE COMMAND COMPLETED
```

---

**BPE DISPLAY VERSION Command**

Use this command to display both the version of the IMS component that is using BPE, and the version of the BPE in use.

**Format of DISPLAY VERSION Command**

```
DISPLAY DIS VERSION VER
```

**Usage of DISPLAY VERSION Command**

**DISPLAY | DIS**
A required parameter, which specifies that the action against the specified resource is to display attributes of the resource.

**VERSION | VER**
A required parameter, which specifies that the resource types being acted upon are the version number of the IMS component and the BPE in the current address space.
DISPLAY VERSION Command Output

The DISPLAY VERSION command output consists of a single display output line in the format BPE00001 comp VERSION=cv.cr.cp BPE VERSION=bv.br.bp.

- `comp` is the IMS component ID for the address space. It is one to four characters long and can have one of the following values:
  - CQS (Common Queue Server)
  - OM (Operations Manager)
  - RM (Resource Manager)
  - SCI (Structured Call Interface)
- `cv.cr.cp` is the full version number of the IMS component, where `cv` is the version, `cr` is the release, and `cp` is the point release. Similarly, `bv.br.bp` indicates the full version number of the BPE running in the address space.

Command Example 1

Display the version of a CQS address space.

Command:

```
F CQS1,DISPLAY VERSION
```

Output:

```
BPE00001 CQS VERSION = 1.3.0  BPE VERSION = 1.4.0
```

Command Example 2

Display the version of an RM address space.

Command:

```
F RM1,DISPLAY VERSION
```

Output:

```
BPE00001 RM VERSION = 1.1.0  BPE VERSION = 1.4.0
```

BPE USEREXIT Commands

**Note:** Throughout this section, the term “user exit routine” means “user-supplied exit routine.”

The USEREXIT resource type refers to the user exit types defined to and managed by either BPE or the IMS component using BPE (for example, CQS).

**DISPLAY**

Display attributes of specified user exit types.

**REFRESH**

Load new copies of the user exit modules for specified user exit types.

**Format of DISPLAY USEREXIT Command**

Use this command to display attributes for all modules associated with the specified user exit types.
BPE USEREXIT Commands

Usage of DISPLAY USEREXIT Command

DISPLAY | DIS
A required parameter, which specifies that the action against the specified resource(s) is to display attributes of the resource(s).

USEREXIT | USRX
A required parameter, which specifies that the resource type being acted upon is a BPE-managed user exit type.

NAME(user_exit_type_name)
A required parameter, which specifies the name of the user exit type or types about which you want attributes displayed. You can specify a single user exit type name or a list of user exit type names separated by commas. User exit type names can contain wildcard characters.

Related Reading:
For more information about using wildcards, see "BPE Wildcard Character Support" on page 754.

Important: The name(s) specified in this parameter are the name(s) of user exit types, not the name(s) of individual user exit modules.

BPE and each address space that can use BPE have different user exit types. BPE’s user exit types, as specified by OWNER(BPE), include the following:

INITTERM Initialization-Termination user exit
STATS BPE system functions statistics user exit

User exit types are defined in all CQS address spaces, as specified by OWNER(CQS), and include the following:

CLNTCONN Client Connection user exit
INITTERM Initialization-Termination user exit
OVERFLOW Queue Overflow user exit
STRSTAT Structure statistics user exit
STREVENT Structure event user exit

User exit types are defined in all OM address spaces, as specified by OWNER(OM), and include the following:
User exit types are defined in all RM address spaces, as specified by OWNER(RM), and include the following:

- **CLNTCONN**: Client Connection and Disconnection user exit
- **INITTERM**: Initialization-Termination user exit

User exit types are defined in all SCI address spaces, as specified by OWNER(SCI), and include the following:

- **CLNTCONN**: Client Connection and Disconnection user exit
- **INITTERM**: Initialization-Termination user exit

**Related Reading:**

- See [IMS Version 8: Common Queue Server Guide and Reference](#) for more information about the CQS user exit routine types.
- See [IMS Version 8: Common Service Layer Guide and Reference](#) for more information about the OM, RM, and SCI user exit routine types.

**OWNER(BPE | CQS | OM | RM | SCI)**

An optional parameter that specifies the owner of the user exit type or types about which you want attributes displayed. You can specify one of the following values:

- **BPE**: For all IMS components that are running in a BPE address space
- **CQS**: For CQS address spaces only
- **OM**: For OM address spaces only
- **RM**: For RM address spaces only
- **SCI**: For SCI address spaces only

The OWNER parameter acts as a filter to help you select the user exit types that you want to display. For example, you could specify `NAME(*) OWNER(CQS)` to display all of the CQS-defined user exit types in a CQS address space. If OWNER is omitted, then both BPE and component user exits can be displayed (depending on the exits specified on NAME).

**SHOW(attribute)**

An optional parameter that specifies the attributes you want to display about the requested user exits.

When you display information about user exits, each row of display output contains the requested attributes for one user exit module, in columns. Every display for user exits contains the columns labeled EXITTYPE (the
type of the exit), and MODULE (the load module name of the exit).
Additionally, any of the following attributes can be requested by using the
SHOW parameter:

**ABENDS**
The number of abends that have occurred in the user exit module since the last user exit refresh of that module (or since address space initialization if no refreshes have been done). BPE keeps track of the number of abends that have occurred in each user exit module. When this number reaches the number defined on the ABLIM= parameter of the EXITDEF statement for the exit’s type, BPE stops calling the module. If the user exit module is refreshed, this count is reset to zero, and BPE calls the module again.

If the abend limit (ABLIM) value is not zero, and if the number of abends is greater than or equal to the abend limit value, then the user exit has reached its abend limit, and is no longer being called by BPE.

The maximum value that can be displayed in this field is 2147483647 \( (2^{31} - 1) \). If the abend count exceeds this value, 2147483647 is displayed.

**ABLIM**
The abend limit count for the user exit type, as specified on the ABLIM= parameter on the EXITDEF statement for the user exit type in the BPE exit list PROCLIB member. This is the number of times the user exit module is allowed to abend before BPE stops calling the user exit. A value of 0 indicates that there is no abend limit.

The maximum value that can be displayed in this field is 2147483647 \( (2^{31} - 1) \). If the abend limit count exceeds this value, 2147483647 is displayed.

**ACTIVE**
The number of currently active instances of the user exit. This is a point-in-time number that represents the number of calls to the user exit that have not yet returned.

The maximum value that can be displayed in this field is 999999. If the active count exceeds this value, 999999 is displayed.

**CALLS**
The number of calls to the user exit since the last user exit refresh.

For performance reasons, serialization is not obtained when BPE collects this number. For an exit type that can run multiple instances in parallel, this number should be considered an approximation only.

The maximum value that can be displayed in this field is 2147483647 \( (2^{31} - 1) \). If the call count exceeds this value, 2147483647 is displayed.

**ENTRYPT**
The entry point address of the user exit module.

**ETIME**
The total (cumulative) elapsed time spent in the exit module since it was last refreshed, in milliseconds.

For performance reasons, serialization is not obtained when BPE collects this number. For an exit type that can run
multiple instances in parallel, this number should be considered an approximation only.

The maximum value that can be displayed in this field is 2147483647 (2^{31}-1). If the elapsed number of milliseconds exceeds this value, 2147483647 is displayed.

LOADPT The load point address of the user exit module.

OWNER The IMS component that owns the user exit type. BPE-owned user exit types are system exit types, and exist in all IMS component address spaces that use BPE. User exit types that are specific to the component show the 1- to 4-character component identifier in this column (for example, CQS).

RTIME The refresh time of the user exit module. This is the local date and time that the user exit module was last refreshed (or initially loaded, if no refreshes have been done). The format of this output field is:

    yyyy-mm-dd hh:mm:ss.th

SIZE The size of the user exit load module, in bytes (displayed in hexadecimal).

TEXT 27 bytes starting from offset +04 from the module’s entry point, translated to EBCDIC, with non-printable characters replaced by periods ( . ). This is a common location for module identification information. If your user exits contain printable identification data at this point in the module, the TEXT option enables that information to be displayed.

If the SHOW parameter is not specified, the default attributes displayed after the EXITTYPE and MODULE are OWNER, ACTIVE, and ABENDS.

The order in which you list the attributes on the SHOW parameter has no effect on the order the attributes are displayed. BPE determines the order of the attribute columns in the display output. This order is as follows:

- OWNER
- ACTIVE
- ABENDS
- ABLIM
- CALLS
- ETIME
- RTIME
- ENTRYPT
- LOADPT
- SIZE
- TEXT

Important: It is possible to request so many attributes that the length of the output line is too long to display with a WTO. If this happens, the command is processed, but some lines might be truncated. The maximum line length that BPE displays is 126 characters.
BPE USEREXIT Commands

**DISPLAY USEREXIT Command Output:** The **DISPLAY USEREXIT** command output consists of a header line, one line per user exit module about which information is being displayed, and one message, BPE0032I line indicating the command has completed. For example, the command

```
F CQS1,DISPLAY USEREXIT NAME(INITTERM,STRSTAT)
```

displays the following:

```
BPE0030I EXITTYPE MODULE OWNER ACTIVE ABENDS
BPE0000I INITTERM MYINIT00 CQS 0 0
BPE0000I INITTERM ZZZINIT0 CQS 0 0
BPE0000I STRSTAT MYSTAT00 CQS 1 2
BPE0032I DISPLAY USEREXIT COMMAND COMPLETED
```

The EXITTYPE and MODULE columns are present for all **DISPLAY USEREXIT** commands, regardless of what is specified on **SHOW**. When multiple exit modules are listed for a single user exit type, the order in which they are listed is the order in which they are called.

**Command Example 1:** Display the status of the CQS structure event user exit type:

Command:

```
F CQS1,DISPLAY USEREXIT NAME(STREVENT)
```

Output:

```
BPE0030I EXITTYPE MODULE OWNER ACTIVE ABENDS
BPE0000I STREVENT STREVX00 CQS 1 0
BPE0000I STREVENT ZZZSTEV0 CQS 0 0
BPE0032I DISPLAY USEREXIT COMMAND COMPLETED
```

In this example, there are two structure event exit modules defined that are called for CQS structure events. **STREVX00** is called first, followed by **ZZZSTEV0**.

**Command Example 2:** Display the number of calls to, the elapsed time spent in, and the abend limit for all CQS user exit types:

Command:

```
F CQS1,DIS USRX NAME(*) OWNER(CQS) SHOW(CALLS,ETIME,ABLIM)
```

Output:

```
BPE0030I EXITTYPE MODULE ABLIM CALLS ETIME
BPE0000I CLNTCONN CLCONX00 0 2 12
BPE0000I INITTERM MYCQ5IT0 0 1 2
BPE0000I INITTERM OECQIT0 0 1 162
BPE0000I OVERFLOW OVERFLO1 5 3 6
BPE0000I OVERFLOW OVERFLO2 5 3 19
BPE0000I OVERFLOW OVERFLO3 5 3 9
BPE0000I OVERFLOW OVERFLO4 5 3 15593
BPE0000I STREVENT STREVT0 10 542 628
BPE0000I STRSTAT STRSTA0 1 36 1889
BPE0000I STRSTAT STRSTA10 1 36 241
BPE0032I DIS USRX COMMAND COMPLETED
```

**Command Example 3:** Display the entry point, load point, and size of all of the SCI CLNTCONN user exit modules:

Command:

```
F SCI,DIS USRX NAME(CLNTCONN) SHOW(SIZE,ENTRYPT,LOADPT)
```
Command Example 4: Display the first part of the module text for all of the BPE user exits in the OM address space.

Command:
\[
F \text{ OM,DIS } \text{ USRX NAME(=) OWNER(BPE) SHOW(TEXT)}
\]

Output:
\[
\begin{align*}
\text{BPE0030I EXITTYPE MODULE TEXT} \\
\text{BPE0000I INITERM MYINITM0 MYINITM0+20010615+12:47...} \\
\text{BPE0000I STATS HHGSTAT0 HHGSTAT0+20010615+08:47...} \\
\text{BPE0032I DIS USRX COMMAND COMPLETED}
\end{align*}
\]

Command Example 5: Display the refresh time for all of the RM INITTERM modules.

Command:
\[
F \text{ RM,DIS } \text{ USRX NAME(=) OWNER(RM) SHOW(RTIME)}
\]

Output:
\[
\begin{align*}
\text{BPE0030I EXITTYPE MODULE RTIME} \\
\text{BPE0000I INITTERM MINITRM 2001-06-15 16:48:22.39} \\
\text{BPE0032I DIS USRX COMMAND COMPLETED}
\end{align*}
\]

Refreshing User Exits

The REFRESH USEREXIT command causes BPE to reprocess the user exit PROCLIB members specified in the BPE configuration PROCLIB member and to reload the user exit modules currently listed in the user exit PROCLIB members for the types specified on the command. This command enables you to make updates to your user exits without stopping and restarting the address space.

When you enter the REFRESH USEREXIT command, BPE performs the following processing:

- Reads any user exit PROCLIB members that are specified on EXITMBR= statements in the BPE configuration proclib member. Because BPE re-reads these members at the time you issue the command, you can edit the user exit PROCLIB members prior to issuing the REFRESH command and make changes to the user exit definitions. BPE does not re-read the main BPE configuration proclib member, so you cannot change the names of the user exit PROCLIB members, only their contents.

- Loads the user exit modules specified on the EXITDEF= statements for the user exit types specified on the command.

- Quiesces all current user exits. This means that the command waits for any active exits to complete processing and delays any new calls to the current exits. This ensures that no user exit is running while the exit is being refreshed.

- Replaces pointers to the previous user exit modules with pointers to the newly-loaded modules in internal BPE control blocks, which are used to manage the calling of the exits.

- Resumes the user exits and allows calls to be made to the newly-loaded exits.
BPE USEREXIT Commands

- Deletes the old copy of the user exits.

BPE loads the new copies of the user exit modules before deleting the old modules. If an error occurs during this process (for instance, a module could not be loaded or BPE internal control block storage could not be obtained), BPE will fail the command and leave the old copies of the user exits in effect. All modules of the specified user exit type(s) must be loaded successfully for the command to complete successfully.

When a user exit module is refreshed, its abend count is reset to zero. This means that a user exit module that had reached its abend limit (specified by the ABLIM parameter on the EXITDEF statement) and was no longer being called by BPE is again called.

**Important:** If you changed the ABLIM parameter for a user exit in the PROCLIB member, the new value of ABLIM takes effect after the refresh command.

**Considerations for Refreshing User Exits:**

- When you refresh a user exit type, BPE reloads all exit modules defined for that type. The new copies of the modules will be at a different virtual address than the old copies. If your modules are re-entrant, this should not be a problem. However, if your modules are not re-entrant and they store data within themselves, they must be able to tolerate being reloaded and losing the information previously stored within them.
  
  **Recommendation:** Code and link edit all user exit modules as re-entrant to avoid this problem.

- If you refresh a user exit module that had previously been loaded, BPE continues to pass the same static work area that the previous copy of the module had been using. If the new version of the module has a different mapping or use of this area than the previous version, the new version must contain tolerance code that can handle the old-style formatted data within this static work area.
  
  **Recommendation:** Place a version number in the static work area, so that your exits can easily tell when they are using a back-level data structure within this work area.

- If you remove a user exit module from an EXITDEF list and refresh the exits, BPE deletes the static work area associated with that exit module. If you later add the module back to the EXITDEF list and refresh the exits, the module gets a new (cleared) static work area, not the work area it had previously.

- If your user exits are being managed by LLA using VLF (or an equivalent product), you must ensure that the copies of the module(s) being refreshed are updated in LLA prior to issuing the REFRESH USEREXIT command. See the MVS Initialization and Tuning Guide for information on LLA-managed libraries.

- If you have user exits that issue MVS WAITs for long periods of time (for example, a WAIT for an external event that may be delayed, such as a WTOR), then issuing a REFRESH USEREXIT command could cause a performance problem or work stoppage. This is because BPE has to quiesce the user exits in order to process the REFRESH command. BPE must wait until all currently-called user exits complete before it can perform the user exit refresh. BPE prevents any new calls to user exits until after the command completes. If a user exit has been called and does not return to BPE for a long period of time, the REFRESH command is delayed until the exit returns. No other user exits can be called while BPE is waiting, so the processes that are invoking the user exits are also put into a wait.
  
  **Recommendation:** Ensure that your user exits avoid long WAITs, and avoid issuing services that might WAIT.
Usage of REFRESH USEREXIT Command

REFRESH | REF
A required parameter, which specifies that the action against the specified resource(s) is to refresh the resource(s).

USEREXIT | USRX
A required parameter, which specifies that the resource type being acted upon is a BPE-managed user exit type.

NAME( user_exit_type_name )
A required parameter, which specifies the name of the user exit type or types that you want to refresh. You can specify a single user exit type name or a list of user exit type names separated by commas. User exit type names can contain wildcard characters.

Related Reading: For more information about using wildcard characters, see "BPE Wildcard Character Support" on page 754.

Important: The names specified in this parameter are the name(s) of user exit types, not the names of individual user exit modules.

BPE and each address space that can use BPE have different user exit types. BPE’s user exit types, as specified by OWNER(BPE), include the following:

INITTERM Initialization-Termination user exit
STATS BPE system functions statistics user exit

User exit types are defined in all CQS address spaces, as specified by OWNER(CQS), and include the following:

CLNTCONN Client Connection user exit
INITTERM Initialization-Termination user exit
OVERFLOW Queue Overflow user exit
STRSTAT Structure statistics user exit
STREVENT Structure event user exit

User exit types are defined in all OM address spaces, as specified by OWNER(OM), and include the following:

CLNTCONN Client Connection command registration and deregistration user exit
INITTERM Initialization-Termination user exit
INPUT Command input user exit
BPE USEREXIT Commands

OUTPUT
Output user exit

SECURITY
Security checking user exit

User exit types are defined in all RM address spaces, as specified by OWNER(RM), and include the following:

CLNTCONN
Client Connection and Disconnection user exit

INITTERM
Initialization-Termination user exit

User exit types are defined in all SCI address spaces, as specified by OWNER(SCI), and include the following:

CLNTCONN
Client Connection and Disconnection user exit

INITTERM
Initialization-Termination user exit

Related Reading:
- See [IMS Version 8: Common Queue Server Guide and Reference](#) for more information about the CQS user exit routine types.
- See [IMS Version 8: Common Service Layer Guide and Reference](#) for more information about the OM, RM, and SCI user exit routine types.

OWNER(BPE | CQS | OM | RM | SCI)
An optional parameter that specifies the owner of the user exit type or types that you want to refresh. You can specify one of the following values:

BPE
For all IMS components that are running in a BPE address space.

CQS
For CQS address spaces only.

OM
For OM address spaces only.

RM
For RM address spaces only.

SCI
For SCI address spaces only.

The OWNER parameter acts as a filter to help you select the user exit types that you want to refresh. For example, you could specify NAME(*) OWNER(CQS) to refresh all of the CQS-defined user exit types in a CQS address space. If OWNER is omitted, then both BPE and component user exits can be refreshed (depending on the exits specified on NAME).

REFRESH USEREXIT Command Output:
The REFRESH USEREXIT command output consists of message, BPE0032I indicating that the command has completed:

BPE0032I REFRESH USEREXIT COMMAND COMPLETED

Command Example 1: Refresh all user exit modules.

Command:

F CQS1,REFRESH USEREXIT NAME(*)

Output:

BPE0032I REFRESH USEREXIT COMMAND COMPLETED

Command Example 2: Refresh all user exit modules for the OM command input and output exit types.

Command:

F OM,REF USRX NAME(INPUT,OUTPUT)
Output:

BPE0032I REF USRX COMMAND COMPLETED
BPE USEREXIT Commands
# Appendix A. DBCTL Commands

Table 162 is a list of commands and keywords valid in the Database Control (DBCTL) environment. All commands and keywords are valid in a DB/DC environment.

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<th>Commands</th>
<th>Keywords</th>
<th>Page or Topic</th>
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</thead>
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<td>ABORT, AUTOLOGON, CCTL, COMMIT, FDR,</td>
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</tr>
<tr>
<td></td>
<td>OASN, PASSWORD, PRTKN, RESET, SUBSYS,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TIMEOUT</td>
<td></td>
</tr>
<tr>
<td>/CHECKPOINT</td>
<td>ABDUMP, FREEZE, PURGE, STATISTICS</td>
<td>137</td>
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<tr>
<td>/DBDUMP</td>
<td>DATABASE, GLOBAL, LOCAL, NOFEOV, NOPFA</td>
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<tr>
<td>/DBRECOVERY</td>
<td>AREA, DATABASE, DATAGROUP, GLOBAL, LOCAL,</td>
<td>161</td>
</tr>
<tr>
<td></td>
<td>NOFEOV, NOPFA</td>
<td></td>
</tr>
<tr>
<td>/DELETE</td>
<td>DATABASE, PASSWORD, PROGRAM</td>
<td>169</td>
</tr>
<tr>
<td>DELETE LE</td>
<td>LTERM, PGM, TRAN, USERID</td>
<td>173</td>
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<td>/DEQUEUE</td>
<td>AOITOKEN</td>
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<td>/DISPLAY</td>
<td>ACTIVE, AOITOKEN, AREA, BKERR, CCTL,</td>
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<tr>
<td></td>
<td>DATABASE, DBD, FDR, FPVIRTUAL, HSSP,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>INDOUBT, MADSIO, MODIFY, MONITOR, OASN,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OLDS, OSAMGT, PI, POOL, PROGRAM, PSB,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RECOVERY, REGION, SHUTDOWN, STATUS,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SUBSYS, TABLE, TCO, TRACE, TRACKING</td>
<td></td>
</tr>
<tr>
<td></td>
<td>STATUS, XTRC</td>
<td></td>
</tr>
<tr>
<td>/ERESTART</td>
<td>CHECKPOINT, COLDBASE, COLDSYS, FORMAT,</td>
<td>345</td>
</tr>
<tr>
<td></td>
<td>NOBMP, OVERRIDE</td>
<td></td>
</tr>
<tr>
<td>INITIATE OLC</td>
<td>OPTION, PHASE, TYPE</td>
<td>373</td>
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<tr>
<td>/LOCK</td>
<td>DATABASE, PROGRAM</td>
<td>399</td>
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<tr>
<td>/LOG</td>
<td></td>
<td>403</td>
</tr>
<tr>
<td>/MODIFY</td>
<td>ABORT, COMMIT, PASSWORD, PREPARE</td>
<td>407</td>
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<tr>
<td>/NRESTART</td>
<td>CHECKPOINT, FORMAT</td>
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</tr>
<tr>
<td>/PSTOP</td>
<td>AOITOKEN, JOBNAME, REGION</td>
<td>443</td>
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<tr>
<td>QUERY LE</td>
<td>LTERM, PGM, SHOW, TRAN, USERID</td>
<td>457</td>
</tr>
<tr>
<td>QUERY MEMBER</td>
<td>ALL, ATTRIB, SHOW, STATUS, TYPE</td>
<td>457</td>
</tr>
<tr>
<td>QUERY OLC</td>
<td>LIBRARY, SHOW</td>
<td>457</td>
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<tr>
<td>/RECOVER</td>
<td>ALLENTRIES, AREA, CAGROUP, DATAGROUP, DB,</td>
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<td></td>
<td>DBDS, DBDSGRP, ERRORCONT, NOCHECK,</td>
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<tr>
<td></td>
<td>OFFLINE, PITR, RCVTIME, RCVTOKEN, READNUM,</td>
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</tr>
<tr>
<td></td>
<td>RECOVGRP, STAGLOBAL, STLLOCAL, USEAREA,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>USEDBDS</td>
<td></td>
</tr>
<tr>
<td>/RMxxxxxx</td>
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<td>537</td>
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<tr>
<td>/RTAKEOVER</td>
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<tr>
<td>/SSR</td>
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## DBCTL Commands

Table 162. Commands and Keywords Valid in DBCTL (continued)

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<td>/START</td>
<td>ACCESS, AREA, AUTOARCH, DATABASE, DATAGROUP, DBALLOC, GLOBAL, ISOLOG,</td>
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<tr>
<td></td>
<td>JOBNAME, LOCAL, MADSLOT, NOBACKOUT, NODBALLOC, OLDS, PROGRAM, REGION, SB,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SERVGRP, SSM, SUBSYS, THREAD, TRKAUTOARCH, WADS</td>
<td></td>
</tr>
<tr>
<td>/STOP</td>
<td>ABDUMP, ADS, AREA, AUTOARCH, CANCEL, DATABASE, DATAGROUP, GLOBAL, JOBNAME,</td>
<td>601</td>
</tr>
<tr>
<td></td>
<td>LOCAL, NOPFA, OLDS, PROGRAM, REGION, SB, SERVGRP, SUBSYS, THREAD, WADS</td>
<td></td>
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<td>/SWITCH</td>
<td>CHECKPOINT, OLDS, WADS</td>
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<tr>
<td>TERMINATE</td>
<td>OLC</td>
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<tr>
<td>/TRACE</td>
<td>COMP, MONITOR, NOCOMP, OPTION, OSAMGTF, PI, PROGRAM, PSB, SET, TABLE, TCO,</td>
<td>647</td>
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<td></td>
<td>VOLUME</td>
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<td>/UNLOCK</td>
<td>DATABASE, PROGRAM</td>
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<tr>
<td>UPDATE LE</td>
<td>LTERM, PGM, SET, TRAN, USERID</td>
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<tr>
<td>/VUNLOAD</td>
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Appendix B. DCCTL Commands

Table 163 is a list of commands and keywords valid in a Data Communications Control (DCCTL) environment. All commands and keywords are valid in a DB/DC environment.

<table>
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<th>Keywords</th>
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<td>/ACTIVATE</td>
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<td>/ALLOCATE</td>
<td>LUNAME, MODE, TPNAME</td>
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<td>CLASS, COMPONENT, CPRI, ICOMPONENT, INPUT, LINE, LMCT, LPRI, LTERM, NODE, NOSAVE, NPRI, OUTPUT, PARLIM, PLMCT, PTERM, REGION, SAVE, SEGNO, SEGSIZE, TRANSACTION, USER, VTAMPOOL</td>
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<td>ACTIVE, LINE, LTERM, MSNAME, NODE, PTERM, SYSID, USER</td>
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<tr>
<td>/CANCEL</td>
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<tr>
<td>/CHANGE</td>
<td>APPC, ASR, COLDSESS, CPLOG, CCTL, DESCRIPTOR, DIRECTORY, FORCSESS, ID, INTERVAL, LINK, LOGOND, LUNAME, MAXRGN, MODE, NODE, NOSAVE, QASN, PASSWORD, RESET, SAVE, SIDE, SUBSYS, SURVEILLANCE, SYCLEVEL, SYNCSESS, TIMEOUT, TPNAME, TRANSACTION, TYPE, UOR, USER</td>
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<tr>
<td>/CHECKPOINT</td>
<td>ABDUMP, DUMPQ, FREEZE, LEAVEGR, PURGE, QUIESCE, SNAPQ, STATISTICS</td>
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<tr>
<td>/CLSDST</td>
<td>FORCE, NODE, USER</td>
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<td>/COMPT</td>
<td>CNS, CRD, NODE, NOTRDY, PCH, PDS, PRT, RDR, READY, TDS, UDS, USER, VID, WPM1, WPM2, WPM3</td>
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<td>/CQCHKPT</td>
<td>SHAREDQ, STRUCTURE, SYSTEM</td>
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<td>/CQUERY</td>
<td>STATISTICS, STRUCTURE</td>
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<td>/CQSET</td>
<td>SHAREDQ, SHUTDOWN, STRUCTURE</td>
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<tr>
<td>/DELETE</td>
<td>LINE, LTERM, NODE, PASSWORD, PROGRAM, PTERM, TERMINAL, TRANSACTION</td>
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<tr>
<td>DEQUEUE</td>
<td>AOITOKEN, LINE, LTERM, LUNAME, MSNAME, NODE, PTERM, PURGE, PURGE1, SUSPEND, TMEMBER, TPIPE, TPNAME, TRANSACTION, USER</td>
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#### Table 163. Commands and Keywords Valid in DCCTL (continued)

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<th>Commands</th>
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</tr>
</thead>
<tbody>
<tr>
<td>/DISPLAY</td>
<td>ACTIVE, AFFINITY, AOITOKEN, APPC, ASSIGNMENT, AUTOLOGON, BALGRP, CLASS, CONVERSATION, CLOG, CQS, DC, DESCRIPTOR, EMHQ, HSB, INPUT, LINE, LINK, LTERM, LUNAME, MODE, MODIFY, MONITOR, MSGAGE, MSNAME, MSPLINK, NODE, OASN, OLDS, OTMA, OUTPUT, OVERFLOWQ, POOL, PRIORITY, PROGRAM, PSB, PTERM, Q, QCNT, REGION, REMOTE, RTCODE, SHUTDOWN, STATUS, STRUCTURE, SUBSYS, SYSID, TABLE, TCO, TIMEOUT, TIMEOVER, TMEMBER, TPIPE, TPNAME, TRACE, TRACKING STATUS, TRANSACTION, TRAP, UOR, USER, XTRC</td>
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</tr>
<tr>
<td>/END</td>
<td>LINE, NODE, PTERM, USER</td>
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</tr>
<tr>
<td>/ERESTART</td>
<td>BACKUP, BUILDQ, CHECKPOINT, CMDAUTH, CMDAUTHHE, COLDCOMM, COLDSYS, FORMAT, MULTSIGN, NOBMP, NOCMDAUTH, NOCMDAUTHHE, NOPASSWORD, NOTERMINAL, NOTRANAUTH, NOTRANCMDS, NOUSER, OVERRIDE, PASSWORD, SNGLSIGN, TERMINAL, TRANAUTH, TRANCMD, USER</td>
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<td>/EXCLUSIVE</td>
<td>LINE, NODE, PTERM, USER</td>
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<td>/EXIT</td>
<td>CONVERSATION, LINE, NODE, PTERM, USER</td>
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<td>/FORMAT</td>
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</tr>
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<td>/HOLD</td>
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<td>/IAM</td>
<td>DONE, LTERM, PTERM</td>
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<td>/IDLE</td>
<td>LINE, LINK, NODE, NOSHUT</td>
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<td>INITIATE OLC</td>
<td>OPTION, PHASE, TYPE</td>
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<tr>
<td>/LOG</td>
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<td>403</td>
</tr>
<tr>
<td>/LOOPTEST</td>
<td>LINE, PTERM</td>
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<td>/MODIFY</td>
<td>ABORT, COMMIT, LTERM, PASSWORD, PREPARE, TERMINAL, TRANCMD</td>
<td>407</td>
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<td>/MONITOR</td>
<td>LINE, PTERM</td>
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<td>/MSASSIGN</td>
<td>LINK, LOCAL, MSNAME, MSPLINK, SYSID, TRANSACTION</td>
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<td>/MSVERIFY</td>
<td>MSNAME, SYSID</td>
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<tr>
<td>/NRESTART</td>
<td>BUILDQ, CHECKPOINT, CMDAUTH, CMDAUTHHE, FORMAT, MULTSIGN, NOBUILDQ, NOCMDAUTH, NOCMDAUTHHE, NOPASSWORD, NOTERMINAL, NOTRANAUTH, NOTRANCMDS, NOUSER, PASSWORD, SNGLSIGN, TERMINAL, TRANAUTH, TRANCMD, USER</td>
<td>425</td>
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<tr>
<td>/OPNDST</td>
<td>ID, LOGOND, MODE, NODE, Q, UDATA, USER, USERD</td>
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<tr>
<td>/PSTOP</td>
<td>AOITOKEN, CLASS, FORCE, JOBNAME, LINE, LINK, LTERM, MSPLINK, PTERM, PURGE, REGION, TRANSACTION</td>
<td>443</td>
</tr>
<tr>
<td>Commands</td>
<td>Keywords</td>
<td>Page or Topic</td>
</tr>
<tr>
<td>----------</td>
<td>----------</td>
<td>---------------</td>
</tr>
<tr>
<td>/PURGE</td>
<td>APPC, CLASS, FPPROG, FPREGION, LINE, LTERM, MSNAME, PTERM, TRANSACTION</td>
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<tr>
<td>QUERY LE</td>
<td>LTERM, PGM, SHOW, TRAN, USERID</td>
<td>457</td>
</tr>
<tr>
<td>QUERY MEMBER</td>
<td>ALL, ATTRIB, SHOW, STATUS, TYPE</td>
<td>457</td>
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<tr>
<td>QUERY OLC</td>
<td>LIBRARY, SHOW</td>
<td>457</td>
</tr>
<tr>
<td>QUERY TRAN</td>
<td>CLASS, NAME, QCNT, SHOW, STATUS</td>
<td>457</td>
</tr>
<tr>
<td>/QUIESCE</td>
<td>NODE, USER</td>
<td>507</td>
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<tr>
<td>/RCLSDST</td>
<td></td>
<td>509</td>
</tr>
<tr>
<td>/RCOMPT</td>
<td>CNS, NOTRDY, PCH, PDS, PRT, RDR, READY, TDS, UDS, VID</td>
<td>511</td>
</tr>
<tr>
<td>/RDISPLAY</td>
<td></td>
<td>513</td>
</tr>
<tr>
<td>/RELEASE</td>
<td>CONVERSATION</td>
<td>533</td>
</tr>
<tr>
<td>/RESET</td>
<td></td>
<td>535</td>
</tr>
<tr>
<td>/RMxxxxxx</td>
<td>LTERM</td>
<td>537</td>
</tr>
<tr>
<td>/RSTART</td>
<td>CONTINUOUS, LINE, LINK, LOPEN, MODE, MSPLINK, NODE, PTERM, USER</td>
<td>545</td>
</tr>
<tr>
<td>/RTAKEOVER</td>
<td>FREEZE, DUMPQ, NOREVERSE, UNPLAN</td>
<td>551</td>
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<tr>
<td>/SECURE</td>
<td>APPC, OTMA</td>
<td>555</td>
</tr>
<tr>
<td>/SET</td>
<td>CONVERSATION, LTERM, TRANSACTION</td>
<td>559</td>
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<tr>
<td>/SIGN</td>
<td></td>
<td>563</td>
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<tr>
<td>/SMCOPY</td>
<td>MASTER, TERMINAL</td>
<td>569</td>
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<tr>
<td>/SSR</td>
<td></td>
<td>571</td>
</tr>
<tr>
<td>/START</td>
<td>APPC, AUTOARCH, CLASS, DC, GRSNAME, INPUT, ISOLOG, JOBNAME, LINE, LTERM, LUNAME, MSNAME, NODE, OLDS, OTMA, OUTPUT, PROGRAM, PTERM, REGION, RTCODE, SERVGRP, SSM, SUBSYS, SURVEILLANCE, TMEMBER, TPIPE, TPNAME, TRANSACTION, TRKAUTOARCH, USER, VGRS, WADS</td>
<td>573</td>
</tr>
<tr>
<td>/STOP</td>
<td>ABDUMP, APPC, AUTOARCH, BACKUP, CANCEL, CLASS, DC, INPUT, JOBNAME, LINE, LTERM, LUNAME, MSNAME, NODE, OLDS, OTMA, OUTPUT, PROGRAM, PTERM, REGION, RTCODE, SERVGRP, SUBSYS, SURVEILLANCE, TMEMBER, TPIPE, TPNAME, TRANSACTION, USER, VGRS, WADS</td>
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<td>/SWITCH</td>
<td>ABDUMP, ACTIVE, BACKUP, CHECKPOINT, FORCE, OLDS, SYSTEM, WADS</td>
<td>629</td>
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<tr>
<td>TERMINATE OLC</td>
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<td>633</td>
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<tr>
<td>/TEST</td>
<td>LINE, NODE, PTERM, USER</td>
<td>643</td>
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<tr>
<td>/TRACE</td>
<td>AUTO, EXIT, INPUT, LEVEL, LINE, LINK, LUNAME, MODULE, MONITOR, MSG, NODE, OPTION, OUTPUT, PROGRAM, SET, TABLE, TAKEOVER, TCO, TIMEOUT, TMEMBER, TPIPE, TPNAME, TRANSACTION, TRAP, UNITYPE, USER, VOLUME</td>
<td>647</td>
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### Table 163. Commands and Keywords Valid in DCCTL (continued)

<table>
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<tr>
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<th>Keywords</th>
<th>Page or Topic</th>
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<tr>
<td>UPDATE LE</td>
<td>LTERM, PGM, SET, TRAN, USERID</td>
<td>676</td>
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<tr>
<td>UPDATE TRAN</td>
<td>CLASS, CPR, LCT, LPRI, MAXRGN, NAME, NPRI, PARLIM, PLCT, SCOPE, SEGNO, SEGSZ, SET, START, STOP</td>
<td>676</td>
</tr>
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</table>
Appendix C. List of Reserved Words

Table 164 is a list of words that cannot be used to name resources such as transactions or databases. The words listed below are used and reserved only for IMS commands.

<table>
<thead>
<tr>
<th>Table 164. Words Used and Reserved Only for IMS Commands</th>
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<tbody>
<tr>
<td>A</td>
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<tr>
<td>ACT</td>
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<td>ADDS</td>
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<td>APMO</td>
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<td>C3INOP</td>
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<td>LA</td>
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<td>LEVEL</td>
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<td>Reserved Words</td>
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<td>Table 164. Words Used and Reserved Only for IMS Commands (continued)</td>
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<td>STA</td>
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<td>STATUS</td>
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<td>STRG</td>
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Table 164. Words Used and Reserved Only for IMS Commands (continued)

<table>
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<tr>
<th>Reserved Word 1</th>
<th>Reserved Word 2</th>
<th>Reserved Word 3</th>
<th>Reserved Word 4</th>
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<tr>
<td>SUBS</td>
<td>SUBPOOL</td>
<td>SUBSYS</td>
<td>SUBSYSTEMMEMBER</td>
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<td>SUBSYSTEMS</td>
<td>SUR</td>
<td>SURV</td>
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<td>SURVEILLANCE</td>
<td>SUSPEND</td>
<td>SWITCH</td>
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<td>TDS</td>
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<td>UNLOCK</td>
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<td>UOR</td>
<td>USDBDS</td>
<td>USER</td>
<td>USERD</td>
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<td>VGRS</td>
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<td>VIR</td>
<td>VOLUME</td>
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<td>VUNLOAD</td>
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<td>WPM2</td>
<td>WPM3</td>
<td>XKEY</td>
<td>XTRC</td>
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</tbody>
</table>
Reserved Words
The original advantage of a shared index database was that it saved a significant amount of main storage for buffers and some control blocks. However, when VSAM was enhanced with shared resources, the savings in storage became less significant. Now the possible disadvantages of using shared index databases generally outweigh the small amount of space they save.

Commands sometimes operate differently depending on whether they are issued for the first of the secondary indexes or for subsequent secondary indexes. The first secondary index is the first database name specified in the DBDUMP statement of the shared secondary index DBDGEN. This first database is the real database. Other secondary index databases are physically part of the real database but they are logically distinct.

In Table 165 the first column lists the issuing command, the second column lists where the command is issued, the third column lists the affects of the command that was issued, and the fourth column provides additional comments.

<table>
<thead>
<tr>
<th>Issuing the Commands...</th>
<th>On the...</th>
<th>Affects...</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>/STOP</td>
<td>First secondary index</td>
<td>Only the named database</td>
<td>If no applications are scheduled on any shared secondary indexes that cause the authorization of the real database by DBRC, the commands have the same effect as the /DBRECOVERY command on the first secondary index. When a /DISPLAY command is issued on the shared secondary index database, the subsequent secondary indexes are shown as stopped or locked only if the /STOP, /LOCK, or /DBRECOVERY command was issued. To undo the /STOP or /LOCK command, issue a /START or /UNLOCK command on the first secondary index.</td>
</tr>
<tr>
<td>/STOP</td>
<td>Subsequent secondary indexes</td>
<td>Only the named database</td>
<td>To undo the /STOP or /LOCK command, issue a /START or /UNLOCK command on the first secondary index.</td>
</tr>
<tr>
<td>/LOCK</td>
<td>Subsequent secondary indexes</td>
<td>Only the named database</td>
<td>To undo the /STOP or /LOCK command, issue a /START or /UNLOCK command on the named database.</td>
</tr>
<tr>
<td>/DBDUMP</td>
<td>First secondary index</td>
<td>All databases sharing the secondary index data set</td>
<td>The /DBDUMP command quiesses activity on all the indexes in the shared database. The database is then closed and reopened for input only. To undo the /DBDUMP command, issue a /START command on the first secondary index.</td>
</tr>
<tr>
<td>/DBDUMP</td>
<td>Subsequent secondary indexes</td>
<td>Only the named database</td>
<td>The secondary index is available for read only. To undo the /DBDUMP command, issue a /START command on the named database.</td>
</tr>
</tbody>
</table>
Table 165. Issuing Commands on Shared Secondary Index Databases (continued)

<table>
<thead>
<tr>
<th>Issuing the Commands...</th>
<th>On the...</th>
<th>Affects...</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>/DBRECOVERY</td>
<td>First secondary index</td>
<td>All databases sharing the secondary index data set</td>
<td>The /DBRECOVERY command quiesces activity on all the indexes in the shared database. The database is then closed and stopped. When the DISPLAY command is issued on the shared secondary index database, the subsequent secondary indexes are shown as stopped or locked only if the /STOP, /LOCK, or /DBRECOVERY command was issued. To undo the /DBRECOVERY command, issue a /START command on the first secondary index.</td>
</tr>
<tr>
<td>/DBRECOVERY</td>
<td>Subsequent secondary indexes</td>
<td>Only the named database</td>
<td>This command is the same as the /STOP command for the named database. However, the /DBRECOVERY command works immediately, but the /STOP command allows current work to quiesce. To undo the /DBRECOVERY command, issue a /START command on the named database.</td>
</tr>
</tbody>
</table>
Appendix E. Commands with the NODE USER Keyword Combination

Many commands using the NODE USER keyword combination can be used with dynamic terminals as well as with non-ISC nodes. Using the NODE USER combination from a dynamic terminal ensures that the command is valid only if the USER is still signed on to the NODE. Commands with the NODE USER keyword pair are valid only if:

- The USER is signed on to the NODE
- In an ISC environment, the USER is allocated to the NODE

Commands with the NODE USER keyword pair are only valid for existing nodes and users. No temporary control blocks are created to retain status data.

The following commands are valid for ISC and non-ISC nodes and users:

- `/CHANGE NODE p1 USER p2,...pn/all (ASR ON/OFF)/MODETABLE(modname)
- `/CLSDST NODE p1 USER p2...pn/all
- `/COMPT (1/2/3/4) NODE p1 USER p2 (READY/NOTRDY)
- `/DEQUEUE NODE p1 USER p2 (LTERM p3)
- `/DISPLAY ASMT NODE p1 USER p2 (LTERM p3)
- `/DISPLAY NODE p1 USER p2,...pn/all
- `/END NODE p1 USER p2
- `/OPNDEST NODE p1 USER p2...
- `/STOP NODE p1 USER p2,...pn/all
- `/TRACE NODE p1 USER p2,...pn/all

The following commands are valid for ISC nodes only:

- `/CHANGE NODE p1 USER p2,...pn/all (FORCSESS/SYNCSESS)
- `/QUIESCE NODE p1 USER p2,...pn/all

The following commands are valid for ISC, LUP, and 3600 nodes only:

- `/DEQUEUE NODE p1 USER p2 PURGE/LTERM p3 PURGE1
- `/EXIT (CONV) NODE p2 USER p3
- `/RSTART NODE p1 USER p2,...pn/all
- `/START NODE p1 USER p2,...pn/all
- `/TEST (MFS) NODE p1 USER p2,...pn/all
NODE USER Commands
Appendix F. Commands That Are Valid in ETO

Table 166. Commands Valid in ETO

<table>
<thead>
<tr>
<th>Commands</th>
<th>Dynamic Lterms That Are Valid</th>
<th>Dynamic Nodes That Are Valid</th>
<th>Dynamic Users That Are Valid</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ACTIVATE</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>/ASSIGN</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>/BROADCAST</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>/CHANGE</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>/CLSDST</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>/COMPT</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>/DEQUEUE</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>/DISPLAY</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>/END</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>/EXCLUSIVE</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>/EXIT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>/FORMAT</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>/IDLE</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>/LOCK</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>/MODIFY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>/OPNDST</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>/PSTOP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>/PURGE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>/QUIESCE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>/RMxxxxxx</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/RSTART</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>/SET</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>/SIGN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>/START</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>/STOP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>/TEST</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>/TRACE</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>/UNLOCK</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. Only valid for /ASSIGN LTERM USER.
2. Only valid for /ASSIGN USER.
ETO Commands
Appendix G. Status and Attributes for the /DISPLAY Command

A list of the attributes and status shown in the /DISPLAY command are shown in Table 167.

Table 167. Attributes and Status in the /DISPLAY Command

<table>
<thead>
<tr>
<th>Status or Attribute</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicated no status for the resource.</td>
<td></td>
</tr>
<tr>
<td>Indicates the OTMA client is ready.</td>
<td></td>
</tr>
<tr>
<td>Indicates mode table name actually used to initiate mode.</td>
<td></td>
</tr>
<tr>
<td>Indicates this node is in an XRF session, on the active system.</td>
<td></td>
</tr>
<tr>
<td>Indicates conversation in progress. For /DISPLAY MODIFY, indicates that the routing code (RTCODE) named is active or that the library is active. Indicates the IMS subsystem is the active subsystem. Indicates the current XRF surveillance mechanism is active. Indicates the OTMA client is in an active XCF group. Indicates the secondary master terminal is active.</td>
<td></td>
</tr>
<tr>
<td>Indicates an /DBD or /DBR command is in progress and waiting for the region to terminate before the /DBD or /DBR can complete.</td>
<td></td>
</tr>
<tr>
<td>Indicates, for a logical link, that link startup processing is complete and the line is available for message transfer.</td>
<td></td>
</tr>
<tr>
<td>Indicates that an ISC user is allocated. The node name to which the user is allocated or signed on follows in parenthesis.</td>
<td></td>
</tr>
<tr>
<td>Indicates a conversation is in the process of being allocated.</td>
<td></td>
</tr>
<tr>
<td>Indicates that database allocation failed.</td>
<td></td>
</tr>
<tr>
<td>Indicates that database allocation was successful.</td>
<td></td>
</tr>
<tr>
<td>The subset of a DEDB.</td>
<td></td>
</tr>
<tr>
<td>Indicates a session initiation option of ASR.</td>
<td></td>
</tr>
<tr>
<td>Indicates the OLDS can be reused. Indicates a region is available to schedule an application. Indicates a coupling facility structure is available for use by IMS.</td>
<td></td>
</tr>
<tr>
<td>Indicates an active terminal is waiting for a response.</td>
<td></td>
</tr>
<tr>
<td>Indicates the alternate subsystem is waiting for /CHE SNAPQ from the active subsystem.</td>
<td></td>
</tr>
<tr>
<td>Indicates the OLDS is potentially required for backout or, in the case of a database, there are incomplete backouts preventing the use of the database.</td>
<td></td>
</tr>
<tr>
<td>Indicates the IMS subsystem is the alternate subsystem.</td>
<td></td>
</tr>
<tr>
<td>Identifies a transaction eligible for load balancing (for example, with parallel limits specified). The current maximum number of regions that can be simultaneously scheduled to process the transaction follows in parentheses.</td>
<td></td>
</tr>
<tr>
<td>Indicates this node is in an XRF session, on the alternate system.</td>
<td></td>
</tr>
</tbody>
</table>
### Status for /DISPLAY Command

#### Table 167. Attributes and Status in the /DISPLAY Command (continued)

<table>
<thead>
<tr>
<th>Status or Attribute</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1INOP, C2INOP, C3INOP, C4INOP</td>
<td>Indicates the inoperable node or terminal component, where C1, C2, C3, and C4 refer to different components as defined by system definition. (Refer to the /COMPT and /RCOMPT commands for details on how to ready inoperable components.)</td>
</tr>
<tr>
<td>CANCEL</td>
<td>Indicates an APPC connection was stopped by the /STOP APPC CANCEL command.</td>
</tr>
<tr>
<td>CHECK</td>
<td>Indicates the OTMA client is using RACF for security verification.</td>
</tr>
<tr>
<td>CLSER</td>
<td>Indicates an error occurred when closing the OLDS.</td>
</tr>
<tr>
<td>CLSDST</td>
<td>Indicates that a /CLSDST or /STOP command has been entered for a VTAM node but has not yet taken effect. This condition can occur because of an outstanding input or output operation that has not completed. The VTAM network operator can issue an MVS/ESA VARY command to clear the condition.</td>
</tr>
<tr>
<td>COLD</td>
<td>For an MSC logical link, indicates that link startup processing is not complete. For SLUP or FINANCE terminal, indicates that the next session initiation is cold (message sequence numbers are initialized to 0.)</td>
</tr>
<tr>
<td>COMPINOP</td>
<td>Indicates an inoperable terminal component. For 3270 terminals, this is an indication the either the display or the printer is not ready.</td>
</tr>
<tr>
<td>CON</td>
<td>Indicates that a node is connected, or in session, with IMS.</td>
</tr>
<tr>
<td>CONN</td>
<td>Subsystem connection.</td>
</tr>
<tr>
<td>CONN, ACTIVE</td>
<td>Indicates an application program has established communication with a subsystem.</td>
</tr>
<tr>
<td>CONNECTED</td>
<td>Indicates IMS is connected to a coupling facility structure.</td>
</tr>
<tr>
<td>CONN IN PROGRESS</td>
<td>Subsystem connection in progress.</td>
</tr>
<tr>
<td>CONVACT, CONV-ACT</td>
<td>Indicates an active conversation on this terminal, node, or user.</td>
</tr>
<tr>
<td>CONVERSATION TERM/USER</td>
<td>Indicates for /DISPLAY MODIFY that the transaction to be changed or deleted or the transaction referencing a program or database to be changed or deleted is in conversation. The terminal originating the conversational transaction and the conversation ID are also displayed. The terminal displayed is:</td>
</tr>
<tr>
<td></td>
<td>• nodename for VTAM terminals</td>
</tr>
<tr>
<td></td>
<td>• nodename and username if an ETO user is signed on to the node</td>
</tr>
<tr>
<td></td>
<td>• username for ETO users who signed off while in conversation</td>
</tr>
<tr>
<td></td>
<td>• lin#-pte# (line and pterm number) for BTAM terminals</td>
</tr>
<tr>
<td></td>
<td>• 1- SC for the system console</td>
</tr>
<tr>
<td>CONVHLD, CONV-HLD</td>
<td>Indicates a held conversation on this terminal, node, or user.</td>
</tr>
<tr>
<td>COPY-PHASE</td>
<td>Indicates the CREATE utility is currently in COPY-PHASE for an ADS.</td>
</tr>
</tbody>
</table>
### Status for /DISPLAY Command

#### Table 167. Attributes and Status in the /DISPLAY Command (continued)

<table>
<thead>
<tr>
<th>Status or Attribute</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>CREATED</td>
<td>Indicates the XCF group has been created, but the OTMA client has not yet connected to it.</td>
</tr>
<tr>
<td>DB-STOPD</td>
<td>Indicates a database used by this program is stopped.</td>
</tr>
<tr>
<td>/DBD ACTIVE</td>
<td>A /DBDUMP command is in progress for a database to be changed or deleted.</td>
</tr>
<tr>
<td>/DBR ACTIVE</td>
<td>A /DBRECOVERY command is in progress for a database to be changed or deleted.</td>
</tr>
<tr>
<td>DEACT (DEACTIVATED)</td>
<td>Indicates a physical terminal/node or line has been permanently deactivated. Restart of BTAM node requires /STOP DC and /START DC commands. Message DFS2473 in the system console log might contain information regarding the reason this status was set. DFS2473 can occur more than once in the system console log.</td>
</tr>
<tr>
<td>DEADQ</td>
<td>Indicates a user with dead letter queues or whose last access time was outside the limit set by the DLQT JCL parameter. The DEADQ status can be removed by signing on the user or entering the /DEQUEUE or /ASSIGN command. For a further description and methods to reset the DEADQ status, refer to [IMS Version 8: Administration Guide][1]: Transaction Manager.</td>
</tr>
<tr>
<td>DEALLOCATION IN PROGRESS</td>
<td>Indicates a conversation is in the process of being deallocated.</td>
</tr>
<tr>
<td>DEQCT</td>
<td>Number of local message dequeues since the last IMS cold start or, in a shared-queue environment, since the last IMS restart. DEQCT is reset to zero when ENQCT reaches 32768. A DEQCT count can equal the sum of the DEQCTs of multiple destinations (logical terminals or transactions).</td>
</tr>
<tr>
<td>DISABLED</td>
<td>Indicates APPC/IMS is not known to APPC/MVS.</td>
</tr>
<tr>
<td>DISCONNECTED</td>
<td>Indicates a node is not in session. Indicates the OTMA client has disconnected from the XCF group. Indicates IMS is not connected to a coupling facility structure.</td>
</tr>
<tr>
<td>DQF</td>
<td>Indicates a dequeue request for OTMA REPResynch command failed.</td>
</tr>
<tr>
<td>DYNAMIC</td>
<td>A transaction was built in a shared-queues environment to allow transaction messages to be enqueued, but the transaction cannot run on the current IMS subsystem.</td>
</tr>
<tr>
<td>EEQE</td>
<td>Extended error queue element, indicates that one or more error queue elements are associated with the database.</td>
</tr>
<tr>
<td>ENABLED</td>
<td>Indicates APPC is started.</td>
</tr>
<tr>
<td>ENQCT</td>
<td>Number of local message enqueues since the last IMS cold start, or in a shared-queue environment, since the last IMS restart. ENQCT is reset to the number of messages on queue (QCT) when the counter reaches 32768 (QCT = ENQCT – DEQCT). The ENQCT can exceed 32768 if the DEQCT remains zero. The ENQCT will be reset to zero if the counter exceeds 65535. An ENQCT count can equal the sum of the ENQCTs of multiple destinations (logical terminals or transactions).</td>
</tr>
</tbody>
</table>

[1]: #/DISPLAY Command

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Appendix G. Status and Attributes for the /DISPLAY Command 795
Table 167. Attributes and Status in the /DISPLAY Command (continued)

<table>
<thead>
<tr>
<th>Status or Attribute</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERE</td>
<td>Indicates, for a logical link, that link startup processing is not complete. When the link is started, emergency restart synchronization will be performed, because the previous link shutdown was either not normal or an IMS emergency restart was performed.</td>
</tr>
<tr>
<td>EXCL</td>
<td>Indicates a node, terminal, or user is in exclusive mode.</td>
</tr>
<tr>
<td>FAILED</td>
<td>Indicates APPC failed to start. Indicates OTMA failed to start or that the XCF group failed initialization.</td>
</tr>
<tr>
<td>FILLING</td>
<td>Indicates a log gap is currently being filled.</td>
</tr>
<tr>
<td>FORCE, FORCES</td>
<td>Indicates a session initiation option of FORCE.</td>
</tr>
<tr>
<td>FORMAT-PHASE</td>
<td>Indicates the CREATE utility is currently in FORMAT-PHASE for an ADS.</td>
</tr>
<tr>
<td>FULL</td>
<td>Indicates the OTMA client is using RACF for security verification, including for dependent regions.</td>
</tr>
<tr>
<td>GLOBAL QUEUE COUNT</td>
<td>Indicates IMS is unable to access global queue counts or obtain storage to query the queue counts.</td>
</tr>
<tr>
<td>INTERNAL ERROR, G</td>
<td></td>
</tr>
<tr>
<td>GLOBAL QUEUE COUNT</td>
<td></td>
</tr>
<tr>
<td>STORAGE ERROR</td>
<td></td>
</tr>
<tr>
<td>IC</td>
<td>Indicates image copy is in progress for that area or database by an HSSP region.</td>
</tr>
<tr>
<td>IDENTIFICATION IN PROGRESS</td>
<td>Indicates that an the IMS logger is in the process of identifying to the Transport Manager Subsystem but has not yet completed.</td>
</tr>
<tr>
<td>IDENTIFIED</td>
<td>Indicates that an IMS logger has identified to the Transport Manager Subsystem.</td>
</tr>
<tr>
<td>IDLE</td>
<td>Indicates that no activity of any kind is in progress for a line, node, or logical link. This is a common condition for VTAM node channel-to-channel links, and processor storage-to-processor storage links.</td>
</tr>
<tr>
<td>INACTIVE, I</td>
<td>Indicates the current XRF surveillance mechanism is inactive. For /DISPLAY MODIFY, indicates the library is inactive. The RSR tracking subsystem is idle.</td>
</tr>
<tr>
<td>INOP</td>
<td>Indicates a terminal or node is inoperable.</td>
</tr>
<tr>
<td>IN-OVERFLOW</td>
<td>Indicates a coupling facility structure is in overflow mode.</td>
</tr>
<tr>
<td>INPUT IN PROGRESS</td>
<td>Indicates input in progress for an active terminal.</td>
</tr>
<tr>
<td>INQONLY</td>
<td>Indicates a /DBDUMP command was issued for the database.</td>
</tr>
<tr>
<td>IN SLOWDOWN</td>
<td>Indicates the OTMA client is experiencing a slowdown due to excessive message traffic or resource constraints.</td>
</tr>
<tr>
<td>INUSE, IN USE</td>
<td>Indicates that queuing is in process for this transaction. (either terminal input or program-to-program switch). Also indicates this is the OLDS currently being used.</td>
</tr>
<tr>
<td>INVALID SUBSYSTEM NAME = XXXX</td>
<td>Indicates that a subsystem name was not defined to IMS.</td>
</tr>
<tr>
<td>I/O PREVEN, I/O PREVENT, I/O PREV</td>
<td>Indicates a BMP program containing GSAM cannot complete scheduling because I/O prevention has not completed. Indicates further I/O requests to data sets are inhibited.</td>
</tr>
</tbody>
</table>
### Status for /DISPLAY Command

#### Table 167. Attributes and Status in the /DISPLAY Command (continued)

<table>
<thead>
<tr>
<th>Status or Attribute</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>I/O TOLERATION</td>
<td>Takeover process by which an alternate IMS subsystem ensures database integrity and enables new transaction processing as soon as possible.</td>
</tr>
<tr>
<td>LOCK</td>
<td>Indicates a node, terminal, transaction, program, or database is locked.</td>
</tr>
<tr>
<td>LOOPTEST</td>
<td>Indicates a line or terminal in looptest mode.</td>
</tr>
<tr>
<td>LOST</td>
<td>Indicates the VTAM LOSTERM EXIT has been scheduled for this node but has not yet been recognized by IMS. At the next interrupt for this node, IMS will interrogate the LOSTERM value. All values, with one exception, result in an immediate CLSDST, or disconnection, from IMS. For the LOSTERM exception, IMS must wait for VTAM to notify IMS (via another LOSTERM) of completion of recovery operation. Indicates an IMS logger's connection to the Transport Manager Subsystem is gone due to TMS or VTAM failure.</td>
</tr>
<tr>
<td>MESSAGES WAITING</td>
<td>Indicates there are system messages waiting to be sent, which prevents shutdown from completing.</td>
</tr>
<tr>
<td>MFSTEST, MFST</td>
<td>Indicates a terminal, node, or user in MFSTEST mode.</td>
</tr>
<tr>
<td>MSGS IN QUEUE</td>
<td>Indicates there are messages in the queue for an active terminal.</td>
</tr>
<tr>
<td>MSG CT</td>
<td>Number of messages on the queue for this destination (calculated by subtracting the DEQCT from ENQCT).</td>
</tr>
<tr>
<td>N/A</td>
<td>Indicates a link is not assigned or a user is signed on to a static terminal, in which case queues are not applicable.</td>
</tr>
<tr>
<td>NEEDED</td>
<td>Indicates the OLDS that needs to be archived.</td>
</tr>
<tr>
<td>NO ACTIVE CONVERSATION</td>
<td>Indicates there is no active conversation between a logger and a log router.</td>
</tr>
<tr>
<td>NODE-USR</td>
<td>Node name and user identifier.</td>
</tr>
<tr>
<td>NOIN</td>
<td>Indicates a line or terminal stopped for input.</td>
</tr>
<tr>
<td>NO INPUTTING LINES</td>
<td>Indicates no terminal activity.</td>
</tr>
<tr>
<td>NO LOG ROUTER SG DEFINED</td>
<td>Indicates that there is no Log Router Service Group defined to DBRC.</td>
</tr>
<tr>
<td>NONE</td>
<td>Indicates the OTMA client is using not using RACF for security verification.</td>
</tr>
<tr>
<td>NOOUTPUT</td>
<td>Indicates a line or terminal stopped for output.</td>
</tr>
<tr>
<td>NO OUTPUTTING LINES</td>
<td>Indicates no terminal activity.</td>
</tr>
<tr>
<td>NOQUEUE</td>
<td>Indicates a line or terminal that has had message queuing stopped for message switching.</td>
</tr>
<tr>
<td>NOT ADDR</td>
<td>Indicates an IMS logger is not identified to the Transport Manager Subsystem.</td>
</tr>
<tr>
<td>NOT CONN</td>
<td>No subsystem connection.</td>
</tr>
<tr>
<td>NOT IDENTIFIED</td>
<td>Indicates the OTMA client has left the XCF group.</td>
</tr>
<tr>
<td>NOT IDENTIFIED</td>
<td>Indicates an IMS logger is not identified to the Transport Manager Subsystem.</td>
</tr>
</tbody>
</table>
### Table 167. Attributes and Status in the /DISPLAY Command (continued)

<table>
<thead>
<tr>
<th>Status or Attribute</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NOTIDLE</strong> s</td>
<td>Indicates that a logical link is waiting for the completion of a synchronous event. The s represents the following subcodes:</td>
</tr>
<tr>
<td>A</td>
<td>Indicates a status of NOTIDLE-POST, which means that an event has completed but the link has not been dispatched to process it.</td>
</tr>
<tr>
<td>B</td>
<td>Indicates a status of NOTIDLE-IWAIT, which means the link is waiting for completion of internal I/O.</td>
</tr>
<tr>
<td>Cxx</td>
<td>Indicates a status of NOTIDLE-TP WAIT, which means the link is waiting for completion of a TP access method request. The two characters xx indicate the value of the access method operation code. Blanks appear if the link is VTAM.</td>
</tr>
<tr>
<td><strong>NOTINIT</strong></td>
<td>Indicates a database or program for which directory initialization failed or indicates DMB or PSB pool space not large enough to accommodate blocks.</td>
</tr>
<tr>
<td><strong>NOTOPEN, NOT-OPEN</strong></td>
<td>Indicates a database, area, line, terminal, or physical link that is not in open status. This status is not applicable to MSDBs.</td>
</tr>
<tr>
<td><strong>NOT USABLE</strong></td>
<td>Indicates a log data set (OLDS) is unusable because of previous error.</td>
</tr>
<tr>
<td><strong>NRE</strong></td>
<td>Indicates, for a logical link, that link startup processing is not complete. When the link is started, normal restart synchronization will be performed, because the previous link shutdown or IMS restart was normal.</td>
</tr>
<tr>
<td><strong>OFR</strong></td>
<td>Indicates that the database or area is being brought up to the current tracking level with online forward recovery.</td>
</tr>
<tr>
<td><strong>OPEN</strong></td>
<td>Indicates that the VTAM ACB is open. Indicates an area to be changed or deleted is open.</td>
</tr>
<tr>
<td><strong>OPNDST</strong></td>
<td>Indicates an OPNDST is in process for this node.</td>
</tr>
<tr>
<td><strong>OUTBOUND</strong></td>
<td>Indicates the alternate subsystem is APPC-enabled. Also shown on active subsystem when APPC processing cannot start.</td>
</tr>
<tr>
<td><strong>OUTPUT IN PROGRESS</strong></td>
<td>Indicates output in progress for an active terminal.</td>
</tr>
<tr>
<td><strong>PAGE</strong></td>
<td>Indicates an MFS paged message.</td>
</tr>
<tr>
<td><strong>PERMNT ERR</strong></td>
<td>Indicates there is a permanent error, such as a read error, that prevents a log gap from being filled.</td>
</tr>
<tr>
<td><strong>PLANNED TAKEOVER IN PROGRESS</strong></td>
<td>Indicates all active subsystems being tracked have successfully shut down and the tracker is now in the process of shutting down.</td>
</tr>
<tr>
<td><strong>PRE-OPEN FAILED</strong></td>
<td>Pre-open for ADS failed.</td>
</tr>
<tr>
<td><strong>PREV CLSER</strong></td>
<td>Indicates that the previous OLDS could not be closed because of an I/O error; therefore, this OLDS is required by the Log Recovery utility to correct the condition.</td>
</tr>
<tr>
<td><strong>PRI</strong></td>
<td>Indicates this node is the primary partner of an ISC session; or, for a link, indicates it is the primary partner of an MSC-VTAM session.</td>
</tr>
<tr>
<td><strong>PRIMARY MSTR</strong></td>
<td>Indicates the terminal is the primary master terminal.</td>
</tr>
</tbody>
</table>
### Table 167. Attributes and Status in the /DISPLAY Command (continued)

<table>
<thead>
<tr>
<th>Status or Attribute</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROFILE</td>
<td>Indicates the OTMA client is using values in the Security Data section of the message prefix for a transaction.</td>
</tr>
<tr>
<td>PRST</td>
<td>Indicates that a terminal or user is in preset destination mode. The destination trancode or logical terminal name follows in parentheses.</td>
</tr>
<tr>
<td>PSB SCHEDULED</td>
<td>A program referencing a database to be changed or deleted is scheduled.</td>
</tr>
<tr>
<td>PSTOPPED (PSTO, PSTOP)</td>
<td>Indicates a line, terminal, transaction, or logical link that has been pstopped. This status can indicate that a different, necessary resource is unavailable. For example, a transaction could show a status of PSTOP because the associated program is not initialized.</td>
</tr>
<tr>
<td>PUR, PURGING</td>
<td>Indicates a transaction, line, or terminal that is purging all of its output.</td>
</tr>
<tr>
<td>QCT</td>
<td>Number of messages on the queue for this destination (calculated by subtracting the DEQCT from ENQCT).</td>
</tr>
<tr>
<td>QERR, QERROR</td>
<td>Indicates that an I/O error has occurred on the queue for this LTERM, or remote transaction (MSC).</td>
</tr>
<tr>
<td>QLOCK</td>
<td>Indicates that the LTERM is locked from sending any further output or from receiving input which could create additional output for the same LTERM until the state is reset by a specific request received on the session.</td>
</tr>
<tr>
<td>QUEUING nn</td>
<td>Indicates that messages are queued to the transaction to be changed or deleted, and nn is the number of messages queued.</td>
</tr>
<tr>
<td>QUI</td>
<td>Indicates that a VTAM node has sent a VTAM Quiesce-End-of-Chain indicator to suspend IMS output.</td>
</tr>
<tr>
<td>QUIESCED</td>
<td>Indicates the XCF group is stopped. Indicates the node is stopped.</td>
</tr>
<tr>
<td>REBLD-INPROG</td>
<td>Indicates a CQS structure rebuild is in progress for a structure.</td>
</tr>
<tr>
<td>RECALL</td>
<td>Indicates database or area is in recall.</td>
</tr>
<tr>
<td>RECOVERY</td>
<td>Requests the display of recovery values that pertain to the node or user. For the /DISPLAY DATABASE command, indicates that ORS recovery is in progress for that database.</td>
</tr>
<tr>
<td>RECOVERY-NEEDED, RECOVERN</td>
<td>Indicates areas that need recovery.</td>
</tr>
<tr>
<td>RELREQ (NODE)</td>
<td>Indicates the VTAM RELREQ exit routine has been driven but IMS is waiting for an operation in progress to complete before releasing the node.</td>
</tr>
<tr>
<td>REP</td>
<td>Indicates IMS is waiting for an OTMA REPresynch command from the client.</td>
</tr>
<tr>
<td>REQ</td>
<td>Indicates IMS is sending an OTMA REQresynch command to the client.</td>
</tr>
<tr>
<td>RESP</td>
<td>Indicates the node, line, terminal, or user is in response mode and the response reply message is available for output or in the process of being sent.</td>
</tr>
</tbody>
</table>
### Table 167. Attributes and Status in the /DISPLAY Command (continued)

<table>
<thead>
<tr>
<th>Status or Attribute</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESPINP, RESP-INP</td>
<td>Indicates the terminal, line, node, or user is in response mode and the response mode input is still in-doubt; for example, the response reply message is not available for output.</td>
</tr>
<tr>
<td>RESYNC</td>
<td>Indicates that the positive acknowledgement for an IMS recoverable output message was not received when the connection with the VTAM node was terminated. This message will be subject to resynchronization when the next connection for this node is attempted.</td>
</tr>
<tr>
<td>RNL</td>
<td>Randomizer not loaded for a DEDB database.</td>
</tr>
<tr>
<td>RSF</td>
<td>Indicates a reset request failed for an OTMA REPResynch command.</td>
</tr>
<tr>
<td>SCHEDULED</td>
<td>Indicates that a conversation, transaction, or program has been received and queued. For a conversation, this status will be displayed from the time an input message is entered until the output message is dequeued. With /DISPLAY MODIFY, indicates that the named resource (a transaction or program to be changed or deleted, or a program referencing a database to be changed or deleted) is scheduled. With /DISPLAY OLDS, indicates an archive job had been generated.</td>
</tr>
<tr>
<td>SEC</td>
<td>Indicates this node is the secondary partner of an ISC session; or, for a link, indicates it is the secondary partner of an MSC-VTAM session.</td>
</tr>
<tr>
<td>SECOND MSTR</td>
<td>Indicates the terminal is the secondary master terminal.</td>
</tr>
<tr>
<td>SENDING LOGS</td>
<td>Indicates a logger has an active conversation with a log router and is sending logs to the tracking site.</td>
</tr>
<tr>
<td>SERVER</td>
<td>Indicates the OTMA client is acting as the server.</td>
</tr>
<tr>
<td>SEVERE-ERROR</td>
<td>Indicates ADS encountered a severe error.</td>
</tr>
<tr>
<td>SHUT</td>
<td>Indicates that normal processing has completed for the node and a VTAM shutdown-complete indicator was returned to IMS. The node can receive IMS output but cannot enter data while in this state.</td>
</tr>
<tr>
<td>SHUTDOWN-STRCHKP</td>
<td>Indicates CQS will take a structure checkpoint during normal shutdown.</td>
</tr>
<tr>
<td>SIGN</td>
<td>Indicates that a terminal or user is signed on to a node under enhanced security. The user signed on to the node is shown in parentheses following SIGN.</td>
</tr>
<tr>
<td>SIMLOGON</td>
<td>Indicates that a logon to IMS has been simulated.</td>
</tr>
<tr>
<td>SPND</td>
<td>Indicates that a transaction had messages on the suspend queue.</td>
</tr>
<tr>
<td>/STA ACTIVE</td>
<td>A /START DATABASE command is in progress for a database to be changed or deleted.</td>
</tr>
<tr>
<td>STARTING</td>
<td>Shown after /DIS CONV is issued and before the status is set to SCHEDULED. Indicates that a conversation has been received but is not eligible for scheduling to an application program until an end-of-message indication is received. Also shown after /START APPC is issued and before the status is set to ENABLED or FAILED.</td>
</tr>
</tbody>
</table>
### Table 167. Attributes and Status in the /DISPLAY Command (continued)

<table>
<thead>
<tr>
<th>Status or Attribute</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>STATIC</td>
<td>Indicates that the node, LTERM or user was defined during system definition.</td>
</tr>
<tr>
<td>STOP IN PROGRESS</td>
<td>Indicates a /STOP SUBSYS command is in progress.</td>
</tr>
<tr>
<td>STOPPED, STO, STOP</td>
<td>Indicates an area, line, LTERM, LU name, node, terminal, user, OLDS, subsystem, transaction, routing code (RTCODE), OTMA client, program, or database that is stopped. Indicates a subsystem connection is stopped. Indicates a /STOP SERVGRP command was issued. Indicates a transaction pipe is stopped.</td>
</tr>
<tr>
<td>STO-INP</td>
<td>Indicates the terminal is stopped with input messages enqueued to the LU name.</td>
</tr>
<tr>
<td>STO-OUTP</td>
<td>Indicates the terminal is stopped with output message enqueued to the LU name.</td>
</tr>
<tr>
<td>STRCHKPT-INPROG</td>
<td>Indicates a CQS structure checkpoint is in progress for a structure.</td>
</tr>
<tr>
<td>SUBSYSTEM XXXX NOT DEFINED BUT RECOVERY OUTSTANDING</td>
<td>Indicates that the subsystem was not defined but IMS has outstanding recovery elements.</td>
</tr>
<tr>
<td>SUSPENDED</td>
<td>Indicates that the transaction has been suspended. For /DISPLAY MODIFY, indicates that the transaction to be changed or deleted is on the suspend queue.</td>
</tr>
<tr>
<td>SUSPENDED LOGS</td>
<td>Indicates a logger has an active conversation with a log router but has suspended sending logs to the tracking site due to resource shortage. The conversation is still intact.</td>
</tr>
<tr>
<td>SYNCHRONIZING, SYN</td>
<td>Indicates the alternate subsystem is processing a /CHE SNAPQ command from the active subsystem. Indicates a transaction pipe is being synchronized.</td>
</tr>
<tr>
<td>SYS CONSOLE</td>
<td>Indicates the terminal is the system console.</td>
</tr>
<tr>
<td>TAKEOVER IN PROGRESS</td>
<td>Indicates the alternate subsystem is taking over workload from the active subsystem.</td>
</tr>
<tr>
<td>TAKEOVER REQUESTED</td>
<td>Indicates the active subsystem has requested a takeover by the alternate subsystem.</td>
</tr>
<tr>
<td>TBR</td>
<td>Indicates IMS is waiting for an OTMA TBResynch command from the client.</td>
</tr>
<tr>
<td>TERM IN PROGRESS</td>
<td>Indicates an internal termination of the subsystem.</td>
</tr>
<tr>
<td>TERMINATING</td>
<td>Indicates the application program is being terminated.</td>
</tr>
<tr>
<td>TEST</td>
<td>Indicates a line, node, terminal, or user in test mode.</td>
</tr>
<tr>
<td>TKOTRA</td>
<td>Indicates that a node, line, link, or terminal in an XRF session is to be traced only during takeover, to help diagnose XRF terminal switch problems.</td>
</tr>
<tr>
<td>TMP</td>
<td>Indicates a transaction pipe is temporary.</td>
</tr>
<tr>
<td>TRA</td>
<td>Indicates the physical terminal, node, logical link, LU name, transaction, program or transaction pipe is being traced.</td>
</tr>
<tr>
<td>TRACKING</td>
<td>Indicates the XRF alternate subsystem is tracking the active subsystem or an RSR tracking subsystem is tracking one or more active subsystems.</td>
</tr>
</tbody>
</table>
### Table 167. Attributes and Status in the /DISPLAY Command (continued)

<table>
<thead>
<tr>
<th>Status or Attribute</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNAVAILABLE, UNAVAIL</td>
<td>Indicates an ADS that is unavailable. Indicates a region is unavailable because an application is using it, even though the application is not currently scheduled. The region is not available to any other application for use. Indicates that there are no records of a log gap at the active site; these records may have been deleted. Indicates a coupling facility structure is not available for use by IMS.</td>
</tr>
<tr>
<td>UNKNOWN</td>
<td>Indicates the XCF group has an unknown status.</td>
</tr>
<tr>
<td>UNPLANNED TAKEOVER IN PROGRESS</td>
<td>Indicates an /RTAKEOVER command was entered on the tracking subsystem and an unplanned takeover is in progress.</td>
</tr>
<tr>
<td>USTOP, USTOPPED</td>
<td>Indicates scheduling of transactions has been stopped due to unavailable data.</td>
</tr>
<tr>
<td>VIR</td>
<td>Indicates that the DEDB area has the VSO option.</td>
</tr>
</tbody>
</table>
### Status for /DISPLAY Command

#### Table 167. Attributes and Status in the /DISPLAY Command (continued)

<table>
<thead>
<tr>
<th>Status or Attribute</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>WAIT cond</td>
<td>Indicates the application program is waiting for the completion of an event. The cond represents the reason for waiting. The cond can be:</td>
</tr>
<tr>
<td>AOI</td>
<td>indicates that an AO application issued a GMSG call with the wait option specified, but there are no messages for the application to retrieve.</td>
</tr>
<tr>
<td>BLOCKMOVER or BLKMVR</td>
<td>indicates that an application control block cannot be loaded because the ACB block mover is busy.</td>
</tr>
<tr>
<td>CMD/PENDING</td>
<td>indicates that a /DBD command or a /DBR command is in progress.</td>
</tr>
<tr>
<td>INPUT</td>
<td>indicates that the application program is in wait-for-input (WFI) mode.</td>
</tr>
<tr>
<td>INTENT or INTENT/POOL</td>
<td>indicates one of two conditions:</td>
</tr>
<tr>
<td></td>
<td>1. The application program’s intent for a database conflicts with the use of the database by a scheduled program.</td>
</tr>
<tr>
<td></td>
<td>2. A temporary shortage of DMB, PSB, or PSB work area pool space exists.</td>
</tr>
<tr>
<td>I/O PREVEN</td>
<td>indicates that a BMP region which accesses a GSAM database cannot schedule until I/O prevention has completed.</td>
</tr>
<tr>
<td>MESSAGE</td>
<td>indicates that the application program is in a pseudo wait-for-input mode. The application is scheduled and is waiting for a message.</td>
</tr>
<tr>
<td>POOLSPACE or POOLSP</td>
<td>indicates a temporary shortage of DMB, PSB, or PSB work area pool space exists.</td>
</tr>
<tr>
<td>SWITCHOVER or SWITCH</td>
<td>indicates that the alternate system is tracking the active system.</td>
</tr>
<tr>
<td>SYNCPOINT</td>
<td>indicates that the application in the region is now in sync point.</td>
</tr>
<tr>
<td>WAIT-EPCB POOL</td>
<td>indicates that there is a temporary shortage of EPCB pool space.</td>
</tr>
<tr>
<td>WAIT-RRS/OTMA PC</td>
<td>A program has a protected conversation with an OTMA client.</td>
</tr>
<tr>
<td>WAIT BID</td>
<td>Indicates that the OTMA client is processing a Client-Bid request.</td>
</tr>
<tr>
<td>WAITING</td>
<td>Indicates that the MPP region is waiting for work. Indicates a log gap is not being filled yet.</td>
</tr>
</tbody>
</table>
### Status for /DISPLAY Command

#### Table 167. Attributes and Status in the /DISPLAY Command (continued)

<table>
<thead>
<tr>
<th>Status or Attribute</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>WAIT RESPONSE</td>
<td>Indicates that the OTMA client is processing a message and is waiting for a response from the server.</td>
</tr>
<tr>
<td>WRTERR</td>
<td>Indicates a write I/O error on the OLDS or a database.</td>
</tr>
</tbody>
</table>
Appendix H. High Availability Large Database Commands

Seven IMS commands are processed on High Availability Large Databases (HALDBs). The commands are:

- `/DBDUMP DATABASE`
- `/DBRECOVERY DATABASE`
- `/DISPLAY DATABASE`
- `/LOCK DATABASE`
- `/START DATABASE`
- `/STOP DATABASE`
- `/UNLOCK DATABASE`

When you enter one of these commands, the database name can be an existing non-HALDB, a HALDB master, or a HALDB partition. A command against a HALDB partition operates exactly like a command against a non-HALDB. That is, the HALDB partition reflects conditions such as STOPPED, LOCKED, or NOTOPEN. When a HALDB partition is stopped, it must be explicitly started again. Commands with the keyword ALL and commands against a HALDB master do not change the STOPPED and LOCKED indicators in each HALDB partition.

When the command target is a HALDB master, processing acts on all HALDB partitions. For example, if the IMS command is `/DBR` on the HALDB master, all of the HALDB partitions are closed, deallocated, and unauthorized. Only the HALDB master displays STOPPED (each HALDB partition does not display STOPPED unless it was itself stopped). If a `/DBR` command was issued against a HALDB master, the display output of a `/DISPLAY DATABASE` command shows the HALDB master (as STOPPED), but does not display the status of the partitions.

Each partition inherits the access limitations of its HALDB master. If the `/DBD` command is issued against a HALDB master, all of its partitions close. A subsequent reference to any of the partitions results in the partition opening for input, although the partition’s access might be UPDATE or EXCLUSIVE. The DBRC authorization state reflects the limited access.
## Appendix I. IMS Commands, RACF Access Authorities and Resource Names Table

Table 168 lists by IMS command verb and keyword the resource name and authorization that are used for RACF security checking.

### Table 168. Resource Names and RACF Authority for IMS Commands

<table>
<thead>
<tr>
<th>Command Verb</th>
<th>Command Keyword</th>
<th>Authority</th>
<th>Resource Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT</td>
<td>LINK</td>
<td>UPDATE</td>
<td>IMS.plxname.ACT.LINK</td>
</tr>
<tr>
<td>ACT</td>
<td>NODE</td>
<td>UPDATE</td>
<td>IMS.plxname.ACT.NODE</td>
</tr>
<tr>
<td>ALL</td>
<td>LU</td>
<td>UPDATE</td>
<td>IMS.plxname.ALL.LU</td>
</tr>
<tr>
<td>ASS</td>
<td>CLASS</td>
<td>UPDATE</td>
<td>IMS.plxname.ASS.CLASS</td>
</tr>
<tr>
<td>ASS</td>
<td>CPRI</td>
<td>UPDATE</td>
<td>IMS.plxname.ASS.CPRI</td>
</tr>
<tr>
<td>ASS</td>
<td>INPUT</td>
<td>UPDATE</td>
<td>IMS.plxname.ASS.INPUT</td>
</tr>
<tr>
<td>ASS</td>
<td>LCT</td>
<td>UPDATE</td>
<td>IMS.plxname.ASS.LCT</td>
</tr>
<tr>
<td>ASS</td>
<td>LPRI</td>
<td>UPDATE</td>
<td>IMS.plxname.ASS.LPRI</td>
</tr>
<tr>
<td>ASS</td>
<td>LTERM</td>
<td>UPDATE</td>
<td>IMS.plxname.ASS.LTERM</td>
</tr>
<tr>
<td>ASS</td>
<td>NPRI</td>
<td>UPDATE</td>
<td>IMS.plxname.ASS.NPRI</td>
</tr>
<tr>
<td>ASS</td>
<td>OUTPUT</td>
<td>UPDATE</td>
<td>IMS.plxname.ASS.OUTPUT</td>
</tr>
<tr>
<td>ASS</td>
<td>PARLIM</td>
<td>UPDATE</td>
<td>IMS.plxname.ASS.PARLIM</td>
</tr>
<tr>
<td>ASS</td>
<td>PLCT</td>
<td>UPDATE</td>
<td>IMS.plxname.ASS.PLCT</td>
</tr>
<tr>
<td>ASS</td>
<td>SEGNO</td>
<td>UPDATE</td>
<td>IMS.plxname.ASS_SEGNO</td>
</tr>
<tr>
<td>ASS</td>
<td>SEGSZ</td>
<td>UPDATE</td>
<td>IMS.plxname.ASS_SEGZ</td>
</tr>
<tr>
<td>ASS</td>
<td>TRAN</td>
<td>UPDATE</td>
<td>IMS.plxname.ASS.TRAN</td>
</tr>
<tr>
<td>ASS</td>
<td>USER</td>
<td>UPDATE</td>
<td>IMS.plxname.ASS.USER</td>
</tr>
<tr>
<td>BRO</td>
<td>ACT</td>
<td>READ</td>
<td>IMS.plxname.BRO.ACT</td>
</tr>
<tr>
<td>BRO</td>
<td>LINE</td>
<td>READ</td>
<td>IMS.plxname.BRO.LINE</td>
</tr>
<tr>
<td>BRO</td>
<td>LTERM</td>
<td>READ</td>
<td>IMS.plxname.BRO_LTERM</td>
</tr>
<tr>
<td>BRO</td>
<td>MASTER</td>
<td>READ</td>
<td>IMS.plxname.BRO_MASTER</td>
</tr>
<tr>
<td>BRO</td>
<td>NODE</td>
<td>READ</td>
<td>IMS.plxname.BRO_NODE</td>
</tr>
<tr>
<td>BRO</td>
<td>PTERM</td>
<td>READ</td>
<td>IMS.plxname.BRO_PTERM</td>
</tr>
<tr>
<td>BRO</td>
<td>USER</td>
<td>READ</td>
<td>IMS.plxname.BRO_USER</td>
</tr>
<tr>
<td>CHA</td>
<td>APPC</td>
<td>UPDATE</td>
<td>IMS.plxname.CHAPPCC</td>
</tr>
<tr>
<td>CHA</td>
<td>CCTL</td>
<td>UPDATE</td>
<td>IMS.plxname.CH.CCTL</td>
</tr>
<tr>
<td>CHA</td>
<td>CPLOG</td>
<td>UPDATE</td>
<td>IMS.plxname.CH.CPLOG</td>
</tr>
<tr>
<td>CHA</td>
<td>DESC</td>
<td>UPDATE</td>
<td>IMS.plxname.CH.DESC</td>
</tr>
<tr>
<td>CHA</td>
<td>DIR</td>
<td>UPDATE</td>
<td>IMS.plxname.CH.DIR</td>
</tr>
<tr>
<td>CHA</td>
<td>FDR</td>
<td>UPDATE</td>
<td>IMS.plxname.CH.FDR</td>
</tr>
<tr>
<td>CHA</td>
<td>LINK</td>
<td>UPDATE</td>
<td>IMS.plxname.CH.LINK</td>
</tr>
<tr>
<td>CHA</td>
<td>NODE</td>
<td>UPDATE</td>
<td>IMS.plxname.CH.NODE</td>
</tr>
<tr>
<td>CHA</td>
<td>PSWD</td>
<td>UPDATE</td>
<td>IMS.plxname.CH.PSWD</td>
</tr>
<tr>
<td>CHA</td>
<td>SUBSYS</td>
<td>UPDATE</td>
<td>IMS.plxname.CH.SUBSYS</td>
</tr>
<tr>
<td>Command Verb</td>
<td>Command Keyword</td>
<td>Authority</td>
<td>Resource Name</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------</td>
<td>-----------</td>
<td>------------------------</td>
</tr>
<tr>
<td>CHA</td>
<td>SURV</td>
<td>UPDATE</td>
<td>IMS.plxname.CHA.SURV</td>
</tr>
<tr>
<td>CHA</td>
<td>TRAN</td>
<td>UPDATE</td>
<td>IMS.plxname.CHA.TRAN</td>
</tr>
<tr>
<td>CHA</td>
<td>UOR</td>
<td>UPDATE</td>
<td>IMS.plxname.CHA.UOR</td>
</tr>
<tr>
<td>CHA</td>
<td>USER</td>
<td>UPDATE</td>
<td>IMS.plxname.CHA.USER</td>
</tr>
<tr>
<td>CHE</td>
<td></td>
<td>UPDATE</td>
<td>IMS.plxname.CHE</td>
</tr>
<tr>
<td>CHE</td>
<td>DUMPQ</td>
<td>UPDATE</td>
<td>IMS.plxname.CHE.DUMPQ</td>
</tr>
<tr>
<td>CHE</td>
<td>FREEZE</td>
<td>UPDATE</td>
<td>IMS.plxname.CHE.FREEZE</td>
</tr>
<tr>
<td>CHE</td>
<td>PURGE</td>
<td>UPDATE</td>
<td>IMS.plxname.CHE.PURGE</td>
</tr>
<tr>
<td>CHE</td>
<td>STATISTICS</td>
<td>UPDATE</td>
<td>IMS.plxname.CHE.STATISTICS</td>
</tr>
<tr>
<td>CLS</td>
<td>NODE</td>
<td>UPDATE</td>
<td>IMS.plxname.CLS.NODE</td>
</tr>
<tr>
<td>CQC</td>
<td>SHRQ</td>
<td>UPDATE</td>
<td>IMS.plxname.CQC.SHRQ</td>
</tr>
<tr>
<td>CQC</td>
<td>SYSTEM</td>
<td>UPDATE</td>
<td>IMS.plxname.CQC.SYSTEM</td>
</tr>
<tr>
<td>CQQ</td>
<td>STATISTICS</td>
<td>READ</td>
<td>IMS.plxname.CQQ.STATISTICS</td>
</tr>
<tr>
<td>CQOS</td>
<td>SHUTDOWN</td>
<td>UPDATE</td>
<td>IMS.plxname.CQOS.SHUTDOWN</td>
</tr>
<tr>
<td>DBD</td>
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**IMS Queue Control Facility for z/OS: User’s Guide, V1 R2, SC26-9685**

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**MVS/ESA Operations: JES3 Commands, SC23-0074**

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